

# **Moxa AWK Series Command Line Interface User Manual**

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**[www.moxa.com/products](http://www.moxa.com/products)**

**Models covered by this user's manual:**

AWK-1161A Series  
AWK-1165A Series  
AWK-1161C Series  
AWK-1165C Series



## **Moxa AWK Series Command Line Interface User Manual**

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# 1. Understanding the Command Line Interface

This chapter explains how to access the command line interface. In addition, this chapter will help you better understand the interface and the general concepts necessary to manage the device using commands.

## Accessing the AWK

Users can connect to the AWK's command line interface using one of two methods: through the serial console or through Telnet/SSH.

### Logging in Using the RS-232 Console

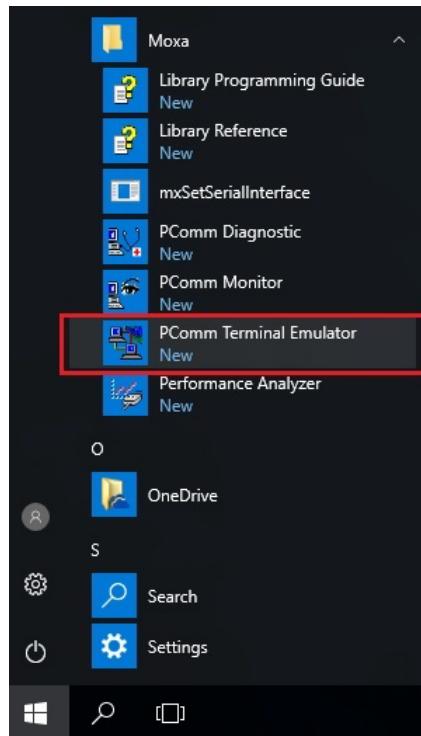
The Moxa AWK features an RJ45 serial console port to allow users to connect to the AWK and configure settings.



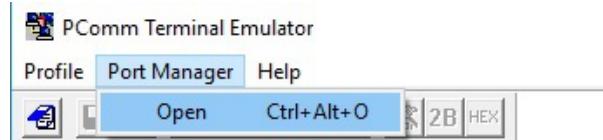
#### NOTE

Moxa recommends using PComm Terminal Emulator for serial communication. This software is available for free on the Moxa website. You can use other serial communication software, although the process may be different from the instructions provided below.

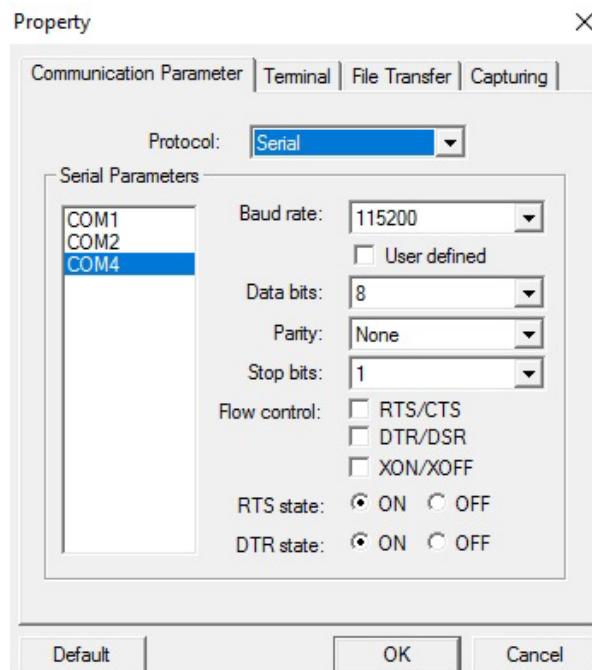
1. Connect the RJ45 end of the included serial cable to the console port on the AWK, and the other end to the serial port on the computer.
2. Download **PComm Terminal Emulator** from the Moxa website and install the software.
3. In Windows, click **Start > Moxa > PComm Terminal Emulator**.



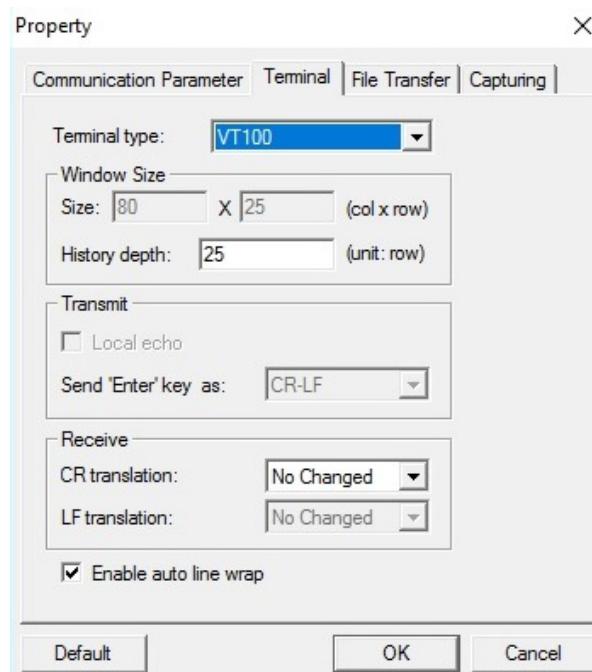
4. Click **Port Manager > Open** to establish a new connection.  
 The Property window will appear.



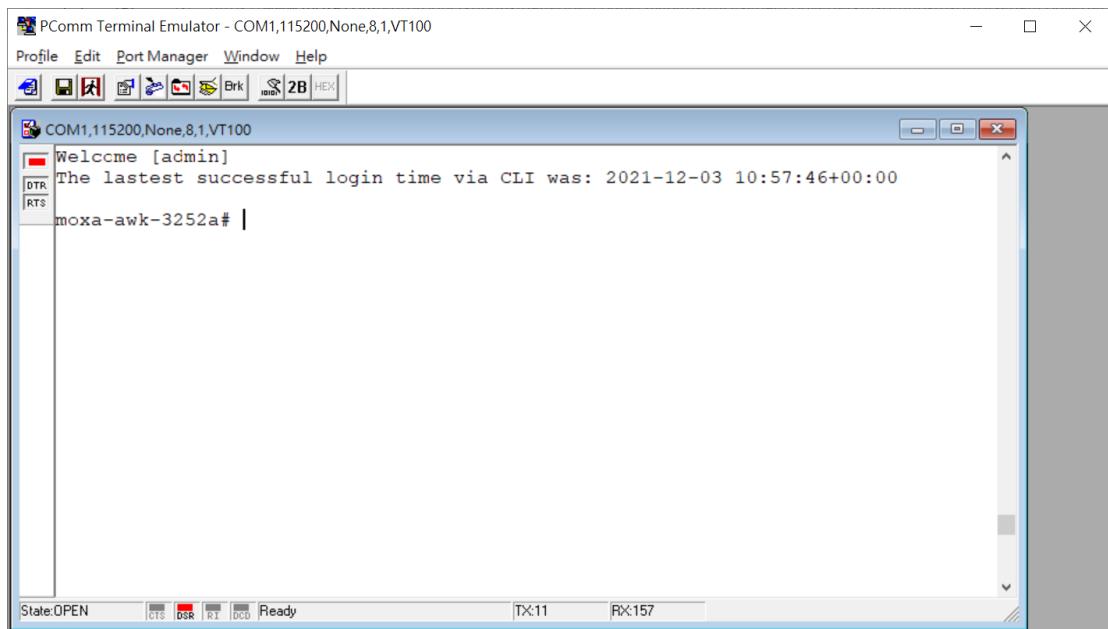
5. On the **Communication Parameter** tab, select the COM port that will be used for the console connection. Configure the fields as follows:  
**Baud rate:** 115200  
**Data bits:** 8  
**Parity:** None  
**Stop bits:** 1



6. On the **Terminal** tab, select **VT100** as the **Terminal Type**, and click **OK** to continue.



7. Log in to the console using your account name and password. For security reasons, there is no default username and password. If this is the first time logging in, you will be prompted to create a username and password.



8. When successfully connected to the AWK, you can start configuring the AWK parameters using command line instructions.

## Logging in Using SSH

Opening the Moxa AWK's Telnet or web console over a network requires that the PC host and Moxa AWK are on the same logical subnet. You may need to adjust your PC host's IP address and subnet mask. By default, the Moxa AWK's IP address is **192.168.127.253** and the subnet mask is **255.255.255.0**. Your PC's IP address must be configured with an IP of the form 192.168.127.xxx and a subnet mask of 255.255.255.0.



### NOTE

When connecting to the Moxa AWK through Telnet or the web console, first connect one of the Moxa AWK's Ethernet ports to an Ethernet LAN switch, or directly to your PC's Ethernet port. You may use either a straight-through or cross-over Ethernet cable.

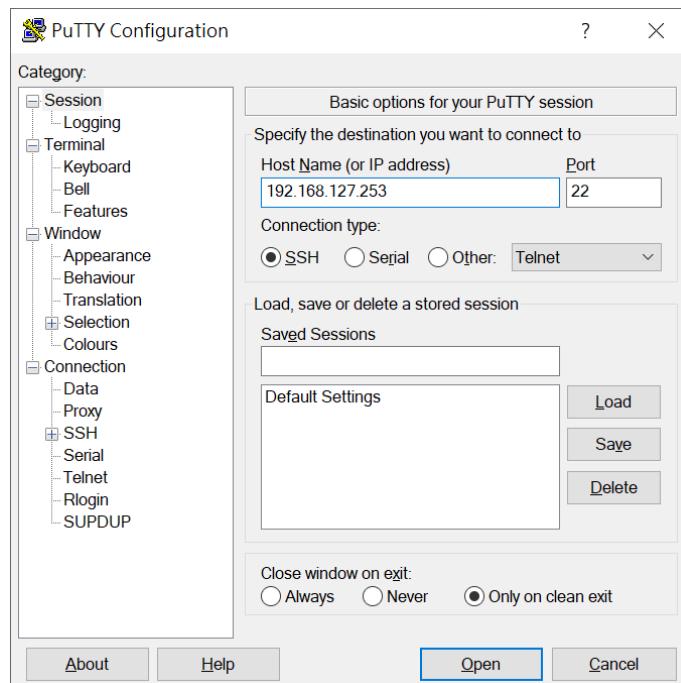


### NOTE

The Moxa AWK's default IP address is 192.168.127.253 with subnet mask of 255.255.255.0.

After making sure that the Moxa AWK is connected to the same LAN and logical subnet as your PC, open the Moxa AWK's CLI console as follows:

1. Enter the device's IP address into the Telnet tool and set the connection type to **SSH**. You may use any Telnet tool, in this case, we are using PuTTY.



2. Click **Open** to initiate a Telnet connection to the device and open the CLI login page
3. Log in to the console using your account name and password. For security reasons, there is no default username and password. If this is the first time logging in, you will be prompted to create a username and password. In the example below, we log in using the custom account "admin".

```
login as: admin
Pre-authentication banner message from server:

End of banner message from server
Keyboard-interactive authentication prompts from server:
Password: [REDACTED]
```

4. When successfully connected to the AWK, you can start configuring the AWK parameters by using command line instructions.

# Command Modes

## Basic Configuration

The CLI (Command Line Interface) for Moxa's Managed AWK can be accessed through either the serial console or the Telnet console. For either type of connection, access to the CLI is generally referred to as a Basic session.

The CLI is organized using different configuration levels. When you first enter the CLI, type "?" to view a list of basic commands and a description of each function. Type any of the commands shown on the screen to access the next configuration level. The help panel can be accessed from any configuration level by typing "?". The AWK will show all the commands for the current configuration mode.

```
moxa-awk-3252a# ?  
  
clear          Perform a clear action.  
cli           Configure CLI display parameters.  
configure      Enter configuration mode.  
copy          Perform a copy action.  
diag          Perform system diagnostics.  
end           Exit configure mode  
exit          Exit the session  
help          Show the available options for the entered command.  
list           List the folders and files on the external storage.  
logout         Terminate the session  
password       Change the account password.  
ping          Ping the target host.  
relay          Show and set the relay state.  
reload         Perform a warm restart or reset to factory default settings.  
show           Show the current settings and device status.  
unlock         Unlock the user.  
username       Configure user session
```

## Understanding the Command Modes

The CLI is organized in three configuration tiers:

**Basic Mode:** On the basic level, you can retrieve the device configuration, status, and logs. In addition, you can perform several basic actions (e.g., locate the device).

**Configuration Mode:** Configuration mode allows you to configure device parameters and functions.

**Specific Command Modes:** Some functions have additional parameters that can only be configured through a function-specific command mode. Any changes made in this mode will only apply to that specific function. Examples of specific command modes include ssid-ap, ssid-client, config-if, fw-I2, fw-I3, config-vlan, and config-nat.



### NOTE

In the specific command modes (e.g., ssid-ap, config-nat), commands will not apply immediately, but will only be applied after executing the "exit" or "end" command.

Mode	Access Method	Prompt	Exit Method	About This Mode
Basic	The default mode after successfully logging in.	moxa#	Enter the exit command to terminate the telnet session.	Use this mode to verify commands that you have entered.
Configuration	Enter the <b>configure</b> command while in Basic mode.	moxa (config)#	Enter the <b>exit</b> command to return to the previous configuration mode.	Use this mode to configure parameters that will apply to the entire AWK.
Specific Command Modes	Dependent on the command (outlined in corresponding sections below).	moxa (config-if)#	Enter the <b>exit</b> command to apply changes made and return to the previous configuration mode.	Use this mode to configure parameters for a specified interface, function, or feature group.

Refer to the following example to see how to change configuration modes.

Type **configure** at the command prompt to enter configuration mode.

```
moxa-awk-3252a# configure
moxa-awk-3252a (config) #
```

Type **exit** to return to the previous configuration mode.

```
moxa-awk-3252a (config) # exit
moxa-awk-3252a#
```

## Help Messages

The CLI supports several types of interactive commands. The **Help** commands are listed in the following table:

Command	Purpose
?	Shows a brief description of the Help feature in any command level.
Partial command?	Shows a list of commands that begin with the entered character. There should be no space between the command and the question mark.
Partial command<Tab>	Completes a partially entered command name along with its following syntax argument. There should be no space between the command and <Tab>.
Command ?	Shows a list of arguments that can complete the entered partial command. There should be a space between the command and the question mark.
Help	Displays a complete list with all usable commands in the current command level with syntax and argument information.

The "?" command will show all the available commands in the current command level. Use the Up and Down keyboard keys to scroll up and down the command list. Press Q to go to the end of the list and return to the command line prompt.

```

moxa-awk-3252a(config) # ?

clear                                Perform a screen clear.
clock                                 Configure system clock settings.
config                                Enable or disable Automatic Configuration
                                         Backups/Restore.
end                                   Exit configure mode
event-notification                     Configure event notification settings.
exit                                   Exit to the privileged Exec mode
fail-safe                            Configure Fail-Safe password settings.
firewall                             Configure firewall settings.
help                                  Show the available options for the entered
                                         command.
hw-if                                 Configure the hardware interface settings.
interface                           Configure network interface settings.
ip                                    Configure device network settings.
lldp                                 Configure LLDP settings.
logging                              Configure event log settings.
no                                    Reset settings to their default values.
ntp                                    Configure NTP settings.
password                            Configure password max-life-time
sys-info                             Configure system information.
user-iface                           Configure user interface settings.
username                            Configure user authority
vlan                                 Configure VLAN settings
wlan                                Configure Wi-Fi parameters.

```

```

moxa# help
EXEC commands :
  clear logging event-log
  clear screen
  cli pagination turn {on | off}
  configure [ terminal ]
  ...

```

If you want to narrow down the list of commands to a specific category, add the command prefix after the "help" string. In the following example, we narrow the command list down to "show" commands by adding the "show" prefix to the "help" command.

```

moxa-awk-3252a# help show

EXEC commands :

  show clock
  [Desc]: Show system clock settings.
  show config
  [Desc]: Show Automatic Configuration Backups/Restores settings.
  show device-firmware
  [Desc]: Show the current running and uploaded firmware version.
  show event-notification email-notification
  [Desc]: Show email notification settings.
  show event-notification snmp-trap
  [Desc]: Show SNMP trap Settings
  show event-notification {all | system-event | wifi-event | network-event}
  [Desc]: Show the event and its action
  show firewall l2-policy
  [Desc]: Show the Layer 2 firewall policy settings.
  show firewall l3-policy
  [Desc]: Show the Layer 3 firewall policy settings.
  show history
  [Desc]: Display command list history.
--More-- █

```

# Special Usage and Limitations

If the command contains any special characters, such as \*, #, and %, the special characters should be enclosed in quotation marks (""). Refer to the example below.

```
moxa-awk-3252a(config)# ip nat new  
You will create a new NAT rule with priority 1.  
moxa-awk-3252a(config-nat)# name "IPcam3#"  
moxa-awk-3252a(config-nat)#[red]
```

# Universal Commands

Universal commands are commands that can be used in multiple configuration modes. Refer to the table below for an overview of universal commands.

Command	Description
# no	All configuration modes support the "no" command, except for basic mode. Privilege requirement: Depends on the command. Refer to the <a href="#">Account Privilege and Authority</a> section for more information.
# show	All configuration modes support the "show" command. Privilege requirement: Depends on the command. Refer to the <a href="#">Account Privilege and Authority</a> section for more information.
# help [command]	All configuration modes support the "help" command.
# clear screen	All configuration modes support the "clear screen" command.
# end	All configuration modes support the "end" command. Executing this command will exit the current mode and return to the Basic configuration mode.
# exit	All configuration modes support the "exit" command. Executing this command will exit the current mode and return to the previous configuration mode level.
# abort	This command is used to leave the current command mode without making any configuration changes and return to the previous configuration mode level.
# show history	Show the command list history.

# Account Privilege and Authority

For security purposes, users are separated based on roles, each with different access rights. The AWK supports 4 types of account roles: Admin, Engineer, User, and Custom.

In order to perform certain configurations, the administrator needs to confirm that the user account performing these tasks has the necessary privileges and rights. Refer to the table below for an overview of each role and corresponding privileges.

	Admin	Engineer	User	Custom
Account Privileges	O	X	X	User-defined
Account System	O	O	X	User-defined
Auditor System	O	O	X	User-defined
Advanced Diagnostics	O	O	X	User-defined
Diagnostics	O	O	O	User-defined
Network Configurations	O	O	X	User-defined
Status Monitoring	O	O	O	User-defined
System Backup	O	X	X	User-defined
System Management	O	O	X	User-defined

# No and Default Forms of Commands

The “**no**” command can be used to perform the “delete”, “disable”, or “reset to default” functions. Type “**no ?**” to see how the command can be used.

## CLI Error Messages

You may encounter some error messages while configuring Moxa’s AWK Series device. Refer to the following table for an overview of error messages and solutions.

Error Message	Meaning	Solution
% Ambiguous command	The characters you entered are insufficient for the AWK to recognize the command.	Re-enter the command with a space between the command and the question mark (?). A list of all possible keywords with the command will appear.
% Incomplete command	The keywords or values you entered are incomplete.	Re-enter the command with a space between the command and the question mark (?). A list of all possible keywords with the command will appear.
% Invalid input detected at '^' marker.	The command you entered is incorrect. The point of invalid input will be indicated by a caret (^).	Enter a question mark (?) to display all the available commands in this command mode. A list of all possible keywords with the command will appear.

## Command History

Use the Up arrow and Down arrow keys to cycle through the history of previously entered commands.

Pressing the Up arrow will display the previously entered command. Pressing the Down arrow will display the next command in the history.

Users can connect to the AWK’s command line interface using one of two methods: through the serial console or through Telnet/SSH.

## 2. Commands

---

This chapter covers all available commands to configure the Moxa AWK.

# System

## System Management

### Firmware Upgrade

#### Upgrade the Firmware

##### Commands

```
copy {tftp://<server>/<filename> | sftp ://<account>:<password>@<server>/<pathname> | abc-02:<pathname> | <fw_version (v-. Build ----_----_----) >} device-firmware upgrade
```

Syntax Description	<b>copy</b>	Perform a copy action.
	<source>	Specify the source.
	<b>device-firmware</b>	Upload or upgrade the device firmware.
	<b>upgrade</b>	Upgrade the firmware.
Defaults	N/A	
Command Modes	Basic	
Usage Guidelines	N/A	
Examples	moxa# copy tftp://192.168.127.1/FWR_AWK-3252A_v0.1_20030415.rom device-firmware upgrade	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Management	

#### Show the Firmware Version

##### Commands

```
show device-firmware
```

Syntax Description	<b>show</b>	Show the current settings and device status.
	<b>device-firmware</b>	Show the current running and uploaded firmware version.
Defaults	N/A	
Command Modes	Basic	
Usage Guidelines	N/A	
Examples	moxa# show device-firmware	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Management	

# Configuration Backup and Restore

## Back Up the Running Configuration

### Commands

**copy running-cfg <storage-location>**

<b>Syntax Description</b>	<b>copy</b>	Perform a copy action.
	<b>running-cfg</b>	The current operating configuration.
	<storage-location>	Specify the storage location.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>}   abc-02}	
<b>Examples</b>	moxa# copy running-cfg abc-02	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Backup	

## Back Up the Startup Configuration

### Commands

**copy startup-cfg <storage-location>**

<b>Syntax Description</b>	<b>copy</b>	Perform a copy action.
	<b>startup-cfg</b>	The system startup configuration.
	<storage-location>	Specify the storage location.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>}   abc-02}	
<b>Examples</b>	moxa# copy running-cfg tftp://192.168.127.1/config.ini	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Backup	

## Restore the Startup Configuration

### Commands

**copy <storage-location> startup-cfg**

<b>Syntax Description</b>	<b>copy</b>	Perform a copy action.
	<storage-location>	Specify the storage location.
	<b>startup-cfg</b>	The system startup configuration.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>}   abc-02}	
<b>Examples</b>	moxa# copy tftp://192.168.127.1/config.ini startup-cfg	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Backup	

## Apply the Running Configuration to the Startup Configuration

### Commands

**copy running-cfg startup-cfg**

Syntax Description	copy	Perform a copy action.
	running-cfg	The current operating configuration.
	startup-cfg	The system startup configuration.
Defaults	N/A	
Command Modes	Basic	
Usage Guidelines	N/A	
Examples	moxa# copy running-cfg startup-cfg	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Management	

## Enable/Disable Automatic Configuration Backup to ABC-02

### Commands

**config auto-backup {enabled | disabled}**

Syntax Description	config	Enable or disable Automatic Configuration Backups/Restore.
	auto-backup	Automatically back up configurations to the ABC-02.
	enabled	Enable automatic configuration backups.
	disabled	Disable automatic configuration backups.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# config auto-backup enabled	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Backup	

## Enable/Disable Automatic Configuration Restoration

### Commands

**config auto-restore {enabled | disabled}**

Syntax Description	config	Enable or disable Automatic Configuration Backup/Restore.
	auto-restore	Automatically restore configurations from the ABC-02.
	enabled	Enable automatic configuration restores.
	disabled	Disable automatic configuration restores.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# config auto-restore enabled	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Backup	

## Show the Automatic Configuration Backup/Restoration Settings

### Commands

#### **show config**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>config</b>	Show automatic configuration backups/restores settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Backup	

## Reset to Factory Default Configuration

### Commands

#### **reload factory-default [keep {log}]**

<b>Syntax Description</b>	<b>reload</b>	Perform a warm restart or reset to factory default settings.
	<b>factory-default</b>	Reset to factory default settings.
	<b>keep</b>	Keep the specified item(s) when resetting to factory default settings.
	<b>log</b>	The system event logs.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# reload factory-default keep log	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

# Account Management

## Create a User Account

### Commands

**username** <username (len: 4-32)> [**password**] [**role** {admin | engr | user | custom}] [**status** {enabled | disabled}] [**email** <email (max len: 63)>]

Syntax Description	username	Create an account or configure user settings for this account.
	<username>	Specify the username of the account (4-32 characters).
	<b>password</b>	Configure the password of this account.
	<b>role</b>	Configure the authority of this account.
	{admin   engr   user   custom}	Set the authority of this account to Admin, Engineer, User, or Custom.
	<b>status</b>	Enable or disable this user account.
	{enabled   disabled}	Specify to enable or disable this user account.
	<b>email</b>	Configure the email of this account.
	<email (max len: 63)>	Specify the email of this account (max. 63 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# username Forky role admin (config)# username Forky password (config)# username Forky status enabled (config)# username Forky email forky@abc.com	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Account System	

## Remove an Account

### Commands

**no username** <username>

Syntax Description	no	Reset settings to their default values.
	<b>username</b>	Delete the user account.
	<username>	Specify the username of the account (4-32 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no username Forky	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Account System	

## Enable User Privileges for Custom Authority

### Commands

**username <username> custom-authority** [account] [adv-diag] [auditor] [diag] [net-cfg] [status-monitoring] [sys-backup] [sys-mgmt]

Syntax Description	username	Create an account or configure user settings for this account.
	<username>	Specify the username of the account (4-32 characters).
	<b>custom-authority</b>	Enable authorities for this account.
	account	Enable Account System authority for this account.
	adv-diag	Enable Advanced Diagnostics authority for this account.
	auditor	Enable Auditor System authority for this account.
	diag	Enable Diagnostics authority for this account.
	net-cfg	Enable Network Configuration authority for this account.
	status-monitoring	Enable Status Monitoring authority for this account.
	sys-backup	Enable System Backup authority for this account.
	sys-mgmt	Enable System Backup authority for this account.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# username Forky custom-authority account sys-mgmt	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Account System	

## Disable User Privileges for Custom Authority

### Commands

**no username <username> custom-authority** [account] [adv-diag] [auditor] [diag] [net-cfg] [status-monitoring] [sys-backup] [sys-mgmt]

Syntax Description	no	Reset settings to their default values.
	<b>username</b>	Create an account or configure user settings for this account.
	<username>	Specify the username of the account (4-32 characters).
	<b>custom-authority</b>	Disable authorities for this account.
	account	Disable Account System authority for this account.
	adv-diag	Disable Advanced Diagnostics authority for this account.
	auditor	Disable Auditor System authority for this account.
	diag	Disable Diagnostics authority for this account.
	net-cfg	Disable Network Configuration authority for this account.
	status-monitoring	Disable Status Monitoring authority for this account.
	sys-backup	Disable System Backup authority for this account.
	sys-mgmt	Disable System Backup authority for this account.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no username Forky account	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Account System	

## Show the Account Settings

### Commands

**show username config**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>username</b>	Show the account status or settings.
	<b>config</b>	Show the account settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show username config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Account System	

## Change the Account Password

### Commands

**Password**

<b>Syntax Description</b>	<b>password</b>	Change the account password.
	<b>Defaults</b>	N/A
	<b>Command Modes</b>	Basic
	<b>Usage Guidelines</b>	N/A
	<b>Examples</b>	moxa# password
	<b>Error Messages</b>	N/A
	<b>Related Commands</b>	N/A
	<b>Privilege Required</b>	Basic

## Management Interface

### Hardware Interface

#### Enable/Disable the USB Interface

##### Commands

**hw-if usb {enabled | disabled}**

<b>Syntax Description</b>	<b>hw-if</b>	Configure the hardware interface settings.
	<b>usb</b>	Enable or disable the USB interface.
	<b>enable</b>	Enable the USB interface.
	<b>disable</b>	Disable the USB interface.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# hw-if usb enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show the Hardware Configuration

### Commands

**show hw-if**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>hw-if</b>	Show the hardware interface settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show hw-if	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## List the Folders and Files on the ABC-02

### Commands

**list abc-02**

<b>Syntax Description</b>	<b>list</b>	List the folders and files on the external storage.
	<b>abc-02</b>	List the folders and files on the ABC-02.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# list abc-02	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Enable/Disable the Reset Button

### Commands

**hw-if reset-button {enabled |disabled [**active-duration** <active-duration (0-180 sec)>]}**

<b>Syntax Description</b>	<b>hw-if</b>	Configure the hardware interface settings.
	<b>reset-button</b>	Configure the reset button settings.
	<b>enabled</b>	Set the reset button to always be enabled.
	<b>disabled</b>	The reset button will remain active for the specified "active duration", after which it will be disabled.
	<b>active-duration</b>	Configure the duration the reset button will be active for.
	<active-duration>	Specify the active duration. If the reset button is disabled and the duration is set to 0, the reset will be disabled immediately (0-180 sec).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# hw-if reset-button enabled active-duration 120	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Reset the Reset Button Configuration Settings

### Commands

**no hw-if reset-button**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>hw-if</b>	Reset the hardware interface settings.
	<b>reset-button</b>	Reset the reset button configuration settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no hw-if reset-button	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Enable/Disable the Serial Port

### Commands

**hw-if serial-console {enabled | disabled}**

<b>Syntax Description</b>	<b>hw-if</b>	Configure the hardware interface settings.
	<b>serial-console</b>	Enable or disable the serial port.
	enabled	Enable the serial port.
	disabled	Disable the serial port.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# hw-if serial-console disabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show the Hardware Interface Settings

### Commands

**show hw-if**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings.
	<b>hw-if</b>	Show the hardware interface settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show hw-if	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

# User Interface

## Configure SNMP Access Settings

### Commands

**user-iface snmp status** {read-write | read-only | disabled}

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>snmp</b>	Configure SNMP settings.
	<b>status</b>	Configure SNMP status settings.
	read-write	Enable SNMP with Read/Write privilege.
	read-only	Enable SNMP with Read-only privilege.
	disable	Disable SNMP.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface snmp status read-only	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Access TCP/UDP Port of the User Interfaces

### Commands

**user-iface** {http | https | telnet | ssh | snmp} **port** <port-number (1-65535)>

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>http</b>	Configure HTTP settings.
	<b>https</b>	Configure HTTPS settings.
	<b>telnet</b>	Configure Telnet settings.
	<b>ssh</b>	Configure SSH settings.
	<b>snmp</b>	Configure SNMP settings.
	<b>port</b>	Configure the access TCP/UDP port of the user interface.
	<port-number>	Specify the access TCP/UDP port of the user interface (1-65535).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface https port 443	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Maximum Number of Concurrent Sessions for HTTP and HTTPS

### Commands

**user-iface http max-session <session-number (1-10)>**

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>http</b>	Configure HTTP settings.
	<b>max-session</b>	Configure the maximum number of concurrent sessions for HTTP and HTTPS.
	<session-number>	Specify the maximum number of concurrent sessions (1-10).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface http max-session 2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Maximum Number of Concurrent Sessions for the Serial Console, Telnet, and SSH

### Commands

**user-iface terminal max-session <session-number (1-10)>**

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>terminal</b>	Configure CLI settings.
	<b>max-session</b>	Configure the maximum number of concurrent sessions for HTTP and HTTPS.
	<session-number>	Specify the maximum number of concurrent sessions (1-10).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface terminal max-session 2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Time

### Configure the Clock Synchronization Source

#### Commands

**clock source {internal-clock | ntp}**

<b>Syntax Description</b>	<b>clock</b>	Configure system clock settings.
	<b>source</b>	Specify the clock synchronization source.
	internal-clock	Set the clock synchronization source to the system's internal clock.
	ntp	Set the clock synchronization source to NTP.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# clock source internal-clock	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure System Internal Clock Settings

### Commands

**clock set** <time (hh:mm:ss)> [{<month (1-12)> | jan | feb | mar | apr | may | jun | jul | aug | sep | oct | nov | dec }] [<date (1-31)>] [<year (2000-2037)>]

<b>Syntax Description</b>	<b>clock</b>	Configure system clock settings.
	<b>set</b>	Set the system time.
	<time>	Set the time (hh:mm:ss).
	<month>	Specify the month by integer (1-12).
	<date>	Set the date (1-31).
	<year>	Set the year (2000-2037).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# clock set 11:11:11 12 31 2022	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure NTP Server Settings

### Commands

**ntp remote-server ntp** <server-index (1-2)> <server-address (max len: 60)>"

<b>Syntax Description</b>	<b>ntp</b>	Configure NTP settings.
	<b>remote-server</b>	Configure NTP server settings.
	<b>ntp</b>	Configure NTP server settings.
	<server-index>	Specify the index of the NTP server (1-2).
	<server-address>	Specify the NTP server address (max. 60 characters).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ntp remote-server ntp 1 pool.ntp.org	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure NTP Server Synchronization Interval

### Commands

**ntp sync-interval** <sync-interval (10-1440 min)>

<b>Syntax Description</b>	<b>ntp</b>	Configure NTP settings.
	<b>sync-interval</b>	Configure the NTP sync interval.
	<sync-interval>	Specify the NTP sync interval (10-1440 min).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ntp sync-interval 150	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure Time Zone Settings

### Commands

**clock timezone** {"-12" | "-11" | "-10" | "-9:30" | "-9" | "-8" | "-7" | "-6" | "-5" | "-4" | "-3:30" | "-3" | "-2" | "-1" | "0" | "1" | "2" | "3" | "3:30" | "4" | "4:30" | "5" | "5:30" | "5:45" | "6" | "6:30" | "7" | "8" | "8:30" | "8:45" | "9" | "9:30" | "10" | "10:30" | "11" | "12" | "12:45" | "13" | "14"}

<b>Syntax Description</b>	<b>clock</b>	Configure system clock settings.
	<b>timezone</b>	Configure time zone settings.
	<timezone -12 ~ +14>	Set the integer -12 to +14 to define UTC -12 to UTC +14 correspondingly, or set special time zone such as 5:45 for time zone UTC+05:45.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# clock timezone -8	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure Fast Boot-up

### Commands

**fastboot** {enabled | disabled}

<b>Syntax Description</b>	<b>fastboot</b>	Configure fast boot-up settings.
	{enabled   disabled}	Specify to enable or disable fast boot-up. Default disabled.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# fastboot enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure System Information

### Configure the Device Name

#### Commands

**sys-info hostname** <device-name (len: 1-255)>

<b>Syntax Description</b>	<b>sys-info</b>	Configure system information.
	<b>hostname</b>	Configure the device name.
	<device-name>	Specify the device name (1-255 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# sys-info hostname "hostname exmpale"	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Device Location

### Commands

**sys-info location** <location (max len: 255)>

<b>Syntax Description</b>	<b>sys-info</b>	Configure system information.
	<b>location</b>	Configure the device location.
	<location>	Specify the device location (max. 255 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# sys-info location "assembly workstation"	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Device Description

### Commands

**sys-info description** <description (max len: 255)>

<b>Syntax Description</b>	<b>sys-info</b>	Configure system information.
	<b>description</b>	Configure the device description.
	<description>	Specify the device description (1-255 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# sys-info description "WLAN for assembly automation"	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## DHCP Server

### Set the DHCP Server Mode

#### Commands

**dhcp-server mode** {disabled | dhcp-and-static-mapping}

<b>Syntax Description</b>	<b>dhcp-server</b>	Configure DHCP server settings.
	<b>mode</b>	Set the DHCP server mode.
	{disabled   dhcp-and-static-mapping}	Disable the DHCP server or enable the DHCP server with static mapping.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later Only available in AP/Master/Client-Router mode	
<b>Examples</b>	moxa (config)# dhcp-server mode dhcp-and-static-mapping	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	moxa (config)# no dhcp-server mode	
<b>Privilege Required</b>	Network	

## Configure DHCP Server Settings

### Commands

**dhcp-server dhcp**

<b>Syntax Description</b>	<b>dhcp-server</b>	Configure DHCP server settings.
	<b>dhcp</b>	Enter DHCP configuration level to configure DHCP-related settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later	
<b>Examples</b>	moxa (config)# dhcp-server dhcp moxa (config-dhcp)#+	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	moxa (config-dhcp)#+ netmask <netmask (ipv4)> moxa (config-dhcp)#+ gateway <gateway(ipv4)> moxa (config-dhcp)#+ name-server <server-id (1 - 2)> <dns-server (ipv4)> moxa (config-dhcp)#+ ntp-server <ntp-server (ipv4)> moxa (config-dhcp)#+ lease-time <lease-time (2 - 14400)> moxa (config-dhcp)#+ pool range <start-ip (ipv4)> <end-ip (ipv4)> moxa (config-dhcp)#+ pool status {enabled   disabled}	
<b>Privilege Required</b>	Network	

## Configure the DHCP Server Static Mapping

### Commands

**static-mapping {new | <index (1 - 32)>}**

<b>Syntax Description</b>	<b>static-mapping</b>	Configure DHCP server settings.
	<b>mode</b>	Set the DHCP server mode.
	<b>new</b>	Create a new static map entry.
	<b>&lt;index&gt;</b>	Specify an index to modify the corresponding static map entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	config-dhcp	
<b>Usage Guidelines</b>	Firmware v2.0 and later	
<b>Examples</b>	moxa (config-dhcp)#+ static-mapping 1 You are editing DHCP static entry 1.	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	moxa (dhcp-static)#+ status {enabled   disabled} moxa (dhcp-static)#+ hostname <hostname> moxa (dhcp-static)#+ hardware-address <target-mac-address (mac)> moxa (dhcp-static)#+ assigned-ip <assigned-ip (ipv4)> moxa (dhcp-static)#+ exit moxa (config-dhcp)#+ no static-mapping {all   <index (1 - 32)>}	
<b>Privilege Required</b>	Network	

## Configure DHCPv6

### Commands

**dhcpv6-ra-server mode** {disabled | slaac-rdnss | stateless-dhcpv6 | stateful-dhcpv6 }

Syntax Description	<b>dhcpv6-ra-server mode</b>	Configure built-in DHCPv6 server mode.
	disabled	Disable DHCPv6 server service. Default disabled.
	slaac-rdnss	Enable the RA server.
	stateless-dhcpv6	Enable the DHCPv6/RA server.
	stateful-dhcpv6	Enable the DHCPv6 server.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Only for device operating under AP/Master/Client-Router mode.	
<b>Examples</b>	(config)# dhcpv6-ra-server mode stateless-dhcpv6	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Management	

## Reset DHCPv6

### Commands

**no dhcpv6-ra-server mode**

Syntax Description	<b>no</b>	Reset designated feature configuration to default.
	<b>dhcpv6-ra-server mode</b>	Specify to reset the DHCPv6 configuration.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no dhcpv6-ra-server mode	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Management	

## Configure DHCPv6 Lease Time

### Commands

**lease-time <lease-time (2 - 14400)>**

Syntax Description	<b>lease-time</b>	Configure the lease time.
	<lease-time (2 - 14400)>	Specify the lease time (unit: min).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	(config-dhcpv6)	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# dhcpv6-ra-server dhcpv6 (config-dhcpv6)# lease-time 1400	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Management	

# Wi-Fi

## Wi-Fi Settings

### Configure the Wireless Operation Mode

#### Commands

**wlan mode** {disabled | ap | client | client-router | master | slave | sniffer {5ghz | 2.4ghz | 2.4-and-5ghz}}

<b>Syntax Description</b>	<b>wlan</b>	Configure Wi-Fi settings.
	<b>mode</b>	Configure the Wi-Fi operation mode.
	disabled	Disable Wi-Fi.
	ap	Set the device to AP mode.
	client	Set the device to Client mode.
	client-router	Set the device to Client-router mode.
	master	Set the device to Master mode.
	slave	Set the device to Slave mode.
	sniffer	Set the device to Sniffer mode.
	{5ghz   2.4ghz   2.4-and-5ghz}	Specify to sniffer on 5 GHz, 2.4 GHz, or both bands.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# wlan mode sniffer 5ghz	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

### Reset the Wireless Operation Mode to Default Settings

#### Commands

**no wlan mode**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>wlan</b>	Reset Wi-Fi settings.
	<b>mode</b>	Reset the Wi-Fi operation mode.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no wlan mode	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure SSID Settings

### Commands

**wlan ap ssid <ssid> {5ghz | 2.4ghz}**

<b>Syntax Description</b>	<b>wlan</b>	Configure Wi-Fi settings.
	<b>ap</b>	Configure AP settings.
	<b>ssid</b>	Configure SSID settings by SSID name.
	<ssid>	Specify the SSID name (max. 32 characters).
	{5ghz   2.4ghz}	Assign this SSID to the 5 GHz or 2.4 GHz band.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Besides assigning a SSID, this command will automatically enter the configuration mode for the specified SSID	
<b>Examples</b>	(config)# wlan ap ssid "test ap1" 5ghz	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Enable/Disable the SSID

### Commands

**status {enabled | disabled}**

<b>Syntax Description</b>	<b>status</b>	Configure the SSID status.
	enabled	Enable the SSID.
	disabled	Disable the SSID.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap	
<b>Usage Guidelines</b>	After entering AP configuration mode	
<b>Examples</b>	(config)# wlan ap ssid "test ap1" 5ghz (ssid-ap)# status disabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Delete SSID Settings

### Commands

**no wlan ap {ssid <ssid> {5ghz | 2.4ghz} | ssid-idx <ssid-index>}**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>wlan</b>	Configure Wi-Fi settings.
	<b>ap</b>	Configure AP settings.
	<b>ssid</b>	Delete SSID settings by SSID name.
	<ssid>	Specify the SSID name (max. 32 characters).
	{5ghz   2.4ghz}	Delete this SSID from the 5 GHz or 2.4 GHz band.
	<b>ssid-idx</b>	Delete SSID settings by SSID index.
	<ssid-index>	Specify the SSID index (1-9).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no wlan ap ssid "test ap1" 5ghz (config)# no wlan ap ssid-idx 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the SSID List

### Commands

wlan ap show ssid

<b>Syntax Description</b>	wlan	Configure Wi-Fi settings.
	ap	Configure AP settings.
	show	Show the current settings and device status.
	ssid	Show the SSID list
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# wlan ap show ssid	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Enter Client Configuration Mode

### Commands

wlan client

<b>Syntax Description</b>	wlan	Configure Wi-Fi settings.
	client	Configure Client settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# wlan client	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure a Client SSID

### Commands

ssid <ssid>

<b>Syntax Description</b>	ssid	Configure the SSID name.
	<ssid>	Specify the SSID name (max. 32 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	After entering AP or client configuration mode	
<b>Examples</b>	(config)# wlan client (ssid-client)# ssid "test ap1"	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure Protected Management Frame Settings.

### Commands

**pmf** {disabled | 802.11w}

Syntax Description	pmf	Configure Protected Management Frame settings.
	disabled	Disable the Protected Management Frame.
	802.11w	Enable 802.11w Management Frame security.
Defaults	N/A	
Command Modes	ssid-ap ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-ap)# pmf disabled	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure SSID Broadcasting Settings.

### Commands

**ssid-broadcast** {enabled | disabled}

Syntax Description	ssid-broadcast	Configure SSID broadcasting settings.
	enabled	Enable SSID broadcasting.
	disabled	Disable SSID broadcasting.
Defaults	N/A	
Command Modes	ssid-ap	
Usage Guidelines	N/A	
Examples	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# ssid-broadcast enabled	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure SSID Security Settings

### Commands

**security** {open | wpa | wpa2 | wpa3 | wpa-wpa2-mixed | wpa2-wpa3-mixed}

Syntax Description	security	Configure security mode settings.
	open	Set the security mode to Open. This is not recommended.
	wpa	Set the security mode to WPA.
	wpa2	Set the security mode to WPA2.
	wpa3	Set the security mode to WPA3.
	wpa-wpa2-mixed	Set the security mode to WPA/WPA2 Mixed.
	wpa2-wpa3-mixed	Set the security mode to WPA2/WA3 Mixed.
Defaults	N/A	
Command Modes	ssid-ap	
Usage Guidelines	N/A	
Examples	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# security wpa3	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure WPA Mode Settings

### Commands

**wpa-mode** {personal | enterprise}

Syntax Description	wpa-mode	Configure WPA mode settings.
	personal	Set the WPA mode to Personal.
	enterprise	Set the WPA mode to Enterprise.
Defaults	N/A	
Command Modes	ssid-ap	
Usage Guidelines	N/A	
Examples	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# wpa-mode personal	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the WPA Encryption Method

### Commands

**wpa-encrypt** {aes | tkip-aes-mixed }

Syntax Description	wpa-encrypt	Configure the WPA encryption method.
	aes	Set the WPA encryption mode to AES.
	tkip-aes-mixed	Set the WPA encryption mode to TKIP/AES Mixed.
Defaults	N/A	
Command Modes	ssid-ap	
Usage Guidelines	N/A	
Examples	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# wpa-encrypt aes	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the EAPOL Version

### Commands

**wpa-eap-ver** {1 | 2}

Syntax Description	wpa-eap-ver	Configure the EAPOL version.
	1	Use EAPOL version 1.
	2	Use EAPOL version 2.
Defaults	N/A	
Command Modes	ssid-ap	
Usage Guidelines	N/A	
Examples	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# wpa-eap-ver 2	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the WPA Passphrase

### Commands

**wpa-key**

<b>Syntax Description</b>	<b>wpa-key</b>	Configure WPA passphrase and key renewal parameters.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan client moxa (ssid-client)# wpa-key Enter Passphrase: Retype Passphrase:	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the WPA Key Renewal Interval

### Commands

**wpa-key renewal <period (60-86400 sec)>**

<b>Syntax Description</b>	<b>wpa-key</b>	Configure the WPA key.
	<b>renewal</b>	Configure the WPA key renewal interval.
	<period>	Specify the key renewal interval (60-86400 seconds).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# wpa-key renewal 1000	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure EAPOL RADIUS Server Settings

### Commands

**eap radius-server host <server (ipv4)> auth-port <port (0-65535)>] { primary | secondary}**

<b>Syntax Description</b>	<b>eap</b>	Configure EAPOL-related parameters.
	<b>radius-server</b>	Configure the EAPOL RADIUS server.
	<b>host</b>	Configure the EAPOL RADIUS server host.
	<server>	Specify the EAPOL RADIUS server IP address (ipv4).
	<b>auth-port</b>	Configure the EAPOL RADIUS server authentication port.
	<port>	Specify the EAPOL RADIUS server TCP port number (0-65535).
	primary	Set the server as the primary RADIUS server.
	secondary	Set the server as the secondary RADIUS server.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan ap ssid "ap-1" 5g moxa (ssid-ap)# eap radius-server host "192.168.127.3" primary Enter Shared Key: Retype Shared Key:	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the EAPOL Protocol

### Commands

**eap proto {tls | ttls | peap}**

Syntax Description	eap	Configure EAPOL-related parameters.
	proto	Configure the EAPOL protocol.
	tls	Set the EAPOL protocol to TLS.
	ttls	Set the EAPOL protocol to TTLS.
	peap	Set the EAPOL protocol to PEAP.
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-client)# eap proto peap	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Upload a TLS Certification File

### Commands

**upload certification {tftp://<server>/<filename> | sftp ://<account>:<password>@<server>/<pathname>}**

Syntax Description	upload	Upload a file.
	certification	Upload a TLS certification files.
	<source>	Specify the source.
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	Source: {tftp://<server>/<filename>   sftp ://<account>:<password>@<server>/<pathname>}	
Examples	moxa (ssid-client)# upload certification tftp://192.168.127.123/abc Enter certification password: Retype certification password:	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure TTLS Inner Authentication Settings

### Commands

**eap ttls-inner-auth {pap | ms-chap | ms-chap-v2}**

Syntax Description	eap	Configure EAPOL-related settings.
	ttls-inner-auth	Configure TTLS inner authentication settings.
	pap	Set the authentication method to PAP.
	ms-chap	Set the authentication method to MS-CHAP.
	ms-chap-v2	Set the authentication method to MS-CHAP-V2.
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-client)# eap ttls-inner-auth pap	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure PEAP Inner Authentication Protocol Settings

### Commands

**eap peap-inner-auth {ms-chap-v2}**

<b>Syntax Description</b>	<b>eap</b>	Configure EAPOL-related settings.
	<b>peap-inner-auth</b>	Configure PEAP inner authentication protocol settings.
	ms-chap-v2	Set the authentication method to MS-CHAP-V2.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (ssid-client)# eap peap-inner-auth ms-chap-v2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Anonymous Name for EAPOL TTLS/PEAP

### Commands

**eap anonymous <anonymous name (max len: 32)>**

<b>Syntax Description</b>	<b>eap</b>	Configure EAPOL-related settings.
	<b>anonymous</b>	Configure the anonymous name for EAPOL TTLS/PEAP.
	<anonymous name>	Specify the anonymous name (max. 32 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (ssid-client)# eap anonymous agv_auth	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the EAPOL TTLS/PEAP Username

### Commands

**eap username <username (max len: 32)>**

<b>Syntax Description</b>	<b>eap</b>	Configure EAPOL-related settings.
	<b>username</b>	Configure the username for EAPOL TTLS/PEAP.
	<username>	Specify the username (max. 32 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (ssid-client)# eap username IT_Group	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the EAPOL TTLS/PEAP Password

### Commands

#### eap password

<b>Syntax Description</b>	<b>eap</b>	Configure EAPOL-related settings.
	<b>password</b>	Configure the password for EAPOL TTLS/PEAP (8-128 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan client moxa (ssid-client)# eap password Enter passphrase: Retype passphrase:	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Clear Client Settings

### Commands

#### no wlan client

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>wlan</b>	Reset Wi-Fi settings.
	<b>client</b>	Reset Client settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no wlan client	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Modify SSID RF Band Settings

### Commands

#### rf-band {5ghz | 2.4ghz | 2.4-or-5ghz}

<b>Syntax Description</b>	<b>rf-band</b>	[AP] Assign the SSID to a RF band. [Client] Enable the client to connect to the 5 GHz band.
	{5ghz   2.4ghz}	[AP] Assign the SSID to the 5GHz or 2.4GHz band. [Client] Enable the client to connect to the 2.4 GHz band.
	{2.4-or-5ghz}	[Client mode only] Enable the client to connect to either the 2.4 or 5 GHz band.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires either "ssid-ap" or "ssid-client" configuration mode. The function of this command depends on the configuration it is used in.	
<b>Examples</b>	[AP] (config)# wlan ap ssid "test ap" 5ghz (ssid-ap)# rf-band 2.4ghz  [Client] (config)# wlan client (ssid-client)# rf-band 2.4-or-5ghz	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Unicast Data Frame Transmission Rate

### Commands

**tx-rate {5ghz | 2.4ghz} data {auto | <rate>}**

Syntax Description	tx-rate	Configure the transmission rate.
	{5ghz   2.4ghz}	Configure the transmission rate for the 5 GHz or 2.4 GHz band.
	<b>data</b>	Configure the unicast data frame transmission rate.
	<b>auto</b>	Set the transmission rate to Auto.
	<rate>	Specify the transmission rate: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 (Mbps) 802.11b: 1, 2, 5.5, 11 (Mbps) 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 (Mbps) 802.11n: ht-mcs[0-15] 802.11ac: vht-mcs[0-9]-nss[1-2]
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires either "ssid-ap" or "ssid-client" configuration mode.	
<b>Examples</b>	(config)# wlan client (ssid-client)# tx-rate 5ghz data auto	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure Minimum Unicast Data Frame Transmission Rate

### Commands

**tx-rate {5ghz | 2.4ghz} min-data <rate>**

Syntax Description	tx-rate	Configure the transmission rate.
	{5ghz   2.4ghz}	Configure the transmission rate for the 5 GHz or 2.4 GHz band.
	<b>min-data</b>	Configure the minimum unicast data frame transmission rate.
	<rate>	Specify the minimum transmission rate (0-65 Mbps).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires either "ssid-ap" or "ssid-client" configuration mode.	
<b>Examples</b>	(config)# wlan client (ssid-client)# tx-rate 5ghz min-data 65	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Multicast/Broadcast Data Frame Transmission Rate

### Commands

**tx-rate {5ghz | 2.4ghz} mcast-bcast <rate>**

<b>Syntax Description</b>	<b>tx-rate</b>	Configure the transmission rate.
	{5ghz   2.4ghz}	Configure the transmission rate for the 5 GHz or 2.4 GHz band.
	<b>mcast-bcast</b>	Configure the multicast/broadcast data frame transmission rate.
	<rate>	Specify the transmission rate.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap	
<b>Usage Guidelines</b>	This command requires the "ssid-ap" configuration mode of the target SSID.	
<b>Examples</b>	(config)# wlan ap ssid "test ap" 5ghz (ssid-ap)# tx-rate 5ghz mcast-bcast 54	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Management Frame Transmission Rate

### Commands

**tx-rate {5ghz | 2.4ghz} mgmt <rate>**

<b>Syntax Description</b>	<b>tx-rate</b>	Configure the transmission rate.
	{5ghz   2.4ghz}	Configure the transmission rate for the 5 GHz or 2.4 GHz band.
	<b>mgmt</b>	Configure the management frame transmission rate.
	<rate>	Specify the transmission rate.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires the "ssid-ap" configuration mode of the target SSID.	
<b>Examples</b>	(config)# wlan ap ssid "test ap" 5ghz (ssid-ap)# tx-rate 5ghz mgmt 54	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset Unicast, Multicast, Broadcast, and Management Frame Transmission Rate Settings

### Commands

**no tx-rate**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>tx-rate</b>	Reset the transmission rate for unicast, multicast, broadcast, and management frames.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires either the "ssid-ap" or "ssid-client" configuration mode of the target SSID.	
<b>Examples</b>	(config)# wlan ap ssid "test ap" 5ghz (ssid-ap)# no tx-rate	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the RTS/CTS Threshold

### Commands

**rts-cts <rts-cts-threshold>**

<b>Syntax Description</b>	<b>rts-cts</b>	Configure the RTS/CTS threshold.
	<rts-cts-threshold>	Specify the RTS/CTS threshold (32-2346 Bytes).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires either the "ssid-ap" or "ssid-client" configuration mode of the target SSID.	
<b>Examples</b>	(config)# wlan ap ssid "test ap" 5ghz (ssid-ap)# rts-cts 2346	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset the RTS/CTS Threshold

### Commands

**no rts-cts**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>rts-cts</b>	Reset the RTS/CTS threshold.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap ssid-client	
<b>Usage Guidelines</b>	This command requires either the "ssid-ap" or "ssid-client" configuration mode of the target SSID.	
<b>Examples</b>	(config)# wlan ap ssid "test ap" 5ghz (ssid-ap)# no rts-cts	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the Wi-Fi Operation Mode and SSID Configuration

### Commands

**show wlan ssid-config**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>wlan</b>	Show the Wi-Fi configuration and status information.
	<b>ssid-config</b>	Show the Wi-Fi configuration.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show wlan ssid-config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the SSID Status of All Running SSIDs

### Commands

**show wlan ssid-status**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>wlan</b>	Show the Wi-Fi configuration and status information.
	<b>ssid-status</b>	Show the enabled SSID status.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show wlan ssid-status	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## Show the List of Associated Clients by SSID Name

### Commands

**show wlan associated-client-list {ssid <ssid> {5ghz | 2.4ghz} | ssid-idx <ssid-index>}**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>wlan</b>	Show the Wi-Fi configuration and status information.
	<b>associated-client-list</b>	Show the associated client list for the specified SSID.
	<b>ssid</b>	Show the list of associated clients by SSID name.
	<ssid>	Specify the SSID name (max. 32 characters).
	{5ghz   2.4ghz}	Show the SSID from the 5 GHz or 2.4 GHz band.
	<b>ssid-idx</b>	Show the list of associated clients by SSID index.
	<ssid-index>	Specify the SSID index (1-9).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show wlan associated-client-list ssid "Master 2" 5ghz	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## Show the MAC List of LAN Devices Connected to Slave Nodes

### Commands

**show wlan mac-list-connected-to-slave {ssid <ssid> {5ghz | 2.4ghz} | ssid-idx <ssid-index>}**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>wlan</b>	Show the Wi-Fi configuration and status information.
	<b>mac-list-connected-to-slave</b>	Show the MAC list of devices connected to Slave nodes.
	<b>ssid</b>	Show the MAC list of devices connected to Slave nodes by SSID name.
	<ssid>	Specify the SSID name (max. 32 characters).
	{5ghz   2.4ghz}	Show the SSID from the 5 GHz or 2.4 GHz band.
	<b>ssid-idx</b>	Show the MAC list of devices connected to Slave nodes by SSID index.
	<ssid-index>	Specify the SSID index (1-9).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	This command is only available for Master mode.	
<b>Examples</b>	moxa# show wlan mac-list-connected-to-slave ssid AP1-SSID 5ghz	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## Show the List of LAN Devices Connected to Client Nodes

### Commands

**show wlan client-lan-device-list**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>wlan</b>	Show the Wi-Fi configuration and status information.
	<b>client-lan-device-list</b>	Show the list of LAN devices connected to the Client node.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	This command is only available for Client mode.	
<b>Examples</b>	moxa# show wlan client-lan-device-list	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## Configure the 5 GHz Band RF Settings

### Commands

**wlan rf 5ghz** [rf-type {ac-only | n-ac-mixed | a-n-ac-mixed}] [channel <chan-no>] [channel-width {20 | 20-40 | 20-40-80}] [antenna {1 | 2 | all}] [txpower <tx-power (dBm)>] [antenna-gain <antenna-gain (0-18 dBi)>]

<b>Syntax Description</b>	<b>wlan</b>	Configure Wi-Fi settings.
	<b>rf</b>	Configure RF parameters.
	<b>5ghz</b>	Configure the 5 GHz band settings.
	<b>rf-type</b>	Configure the RF type.
	ac-only	Set the 5 GHz RF type to 802.11ac Only.
	n-ac-mixed	Set the 5 GHz RF type to 802.11n/ac Mixed.
	a-n-ac-mixed	Set the 5 GHz RF type to 802.11a/n/ac Mixed.
	<b>channel</b>	Configure the band channel.
	<chan-no>	Specify the channel number.
	channel-width	Configure the channel width (in MHz).
	20	Set the channel width to 20 MHz.
	20-40	Set the channel width to 20/40 MHz.
	20-40-80	Set the channel width to 20/40/80 MHz.
	<b>antenna</b>	Configure the antenna(s).
	1	Use antenna 1.
	2	Use antenna 2.
	all	Use all antennas.
	<b>tx-power</b>	Configure the maximum transmission power (in dBm).
	<tx-power>	Specify the maximum transmission power (in dBm).
	<b>antenna-gain</b>	Configure the antenna gain.
	<antenna-gain>	Specify the antenna gain (0-18 dBi).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan rf 5ghz rf-type ac-only	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the 2.4 GHz Band RF Settings

### Commands

**wlan rf 2.4ghz [rf-type {n-only | g-n-mixed | b-g-n-mixed}] [channel <chan-no>] [channel-width {20 | 20-40}] [antenna {1 | 2 | all}] [txpower <tx-power (dBm)>] [antenna-gain <antenna-gain (0-18 dBi)>]"**

<b>Syntax Description</b>	<b>wlan</b>	Configure Wi-Fi settings.
	<b>rf</b>	Configure RF parameters.
	<b>2.4ghz</b>	Configure the 2.4 GHz band settings.
	<b>rf-type</b>	Configure the RF type.
	n-only	Set the 2.4 GHz RF type to 802.11n Only.
	g-n-mixed	Set the 2.4 GHz RF type to 802.11g/n Mixed.
	b-g-n-mixed	Set the 2.4 GHz RF type to 802.11b/g/n Mixed.
	<b>channel</b>	Configure the band channel.
	<chan-no>	Specify the channel number.
	<b>channel-width</b>	Configure the channel width (in MHz).
	20	Set the channel width to 20 MHz.
	20-40	Set the channel width to 20/40 MHz.
	<b>antenna</b>	Configure the antenna(s).
	1	Use antenna 1.
	2	Use antenna 2.
	all	Use all antennas.
	<b>tx-power</b>	Configure the maximum transmission power (in dBm).
	<tx-power>	Specify the maximum transmission power (in dBm).
	<b>antenna-gain</b>	Configure the antenna gain.
	<antenna-gain>	Specify the antenna gain (0-18 dBi).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan rf 2.4ghz rf-type n-only	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Channel Plan

### Commands

**wlan rf {2.4ghz | 5ghz} **channel-plan** <channel-list>**

<b>Syntax Description</b>	<b>wlan</b>	Configure Wi-Fi settings.
	<b>rf</b>	Configure RF parameters.
	<b>2.4ghz</b>	Configure the 2.4 GHz band settings.
	<b>5ghz</b>	Configure the 5 GHz band settings.
	<b>channel-plan</b>	Configure the channel plan. To use all available channels, use the "no" version of this command.
	<b>channel-list</b>	Specify the channels to add to the channel plan. Enter the channel numbers separated by a comma (,). For example, '36,40,44'.
	<b>Defaults</b>	N/A
	<b>Command Modes</b>	Config
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan rf 5ghz channel-plan 36,40,44	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Beacon Interval

### Commands

**wlan rf {2.4ghz | 5ghz} beacon-interval <beacon-interval (40-1000 ms)>**

<b>Syntax Description</b>	<b>wlan</b>	Configure Wi-Fi settings.
	<b>rf</b>	Configure RF parameters.
	2.4ghz	Configure the 2.4 GHz band settings.
	5ghz	Configure the 5 GHz band settings.
	<b>beacon-interval</b>	Configure the beacon interval (in ms).
	<beacon-interval>	Specify the beacon interval (40-1000 ms)
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan rf 5ghz beacon-interval 100	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset RF Settings

### Commands

**no wlan rf {2.4ghz | 5ghz} [channel-plan]**

<b>Syntax Description</b>	<b>no</b>	Reset the parameters.
	<b>wlan</b>	Reset Wi-Fi settings.
	<b>rf</b>	Reset the 2.4/5 GHz band RF settings.
	2.4ghz	Reset 2.4 GHz band RF settings.
	5ghz	Reset 5 GHz band RF settings.
	channel-plan	Reset the channel plan of the specified RF band.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no wlan rf 2.4ghz channel-plan	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the RF Settings and the List of Available Channels

### Commands

**show wlan rf [channel-txpower]**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings.
	<b>wlan</b>	Show Wi-Fi-related status information.
	<b>rf</b>	Show the RF settings.
	<b>channel-txpower</b>	Show the list of available channels and their maximum transmission power.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show wlan rf	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Execute a Site Survey

### Commands

wlan site-survey

Syntax Description	wlan	Configure Wi-Fi settings.
	site-survey	Execute a site survey.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	moxa (config)# wlan site-survey	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Turbo Roaming and MAC Cloning

### Enable/Disable Turbo Roaming Analyzer

### Commands

client-based-troam {enabled | disabled}

Syntax Description	client-based-troam	Configure Client-based Turbo Roaming settings.
	enabled	Enable Client-based Turbo Roaming.
	disabled	Disable Client-based Turbo Roaming.
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-client)# client-based-troam enabled	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the Roaming Threshold

### Commands

client-based-troam threshold {snr [5ghz <roam-thr-snr (5-60 dB)>] [2.4ghz <roam-thr-snr (5-60 dB)>] | signal-strength [5ghz <roam-thr-signal-strength (-100 - -35 dBm)>] [2.4ghz <roam-thr-signal-strength (-100 - -35 dBm)>]}

Syntax Description	client-based-troam	Configure Client-based Turbo Roaming settings.
	threshold	Configure the roaming threshold.
	snr	Configure the SNR roaming threshold.
	5ghz	Configure the roaming threshold for the 5 GHz band.
	2.4ghz	Configure the roaming threshold for the 2.4 GHz band.
	<roam-thr-snr>	Specify the roaming SNR threshold (5-60 dB).
	signal-strength	Configure the signal strength roaming threshold.
	<roam-thr-signal-strength>	Specify the roaming signal strength threshold (-100 - -35 dBm).
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-client)# client-based-troam threshold snr 5ghz 30	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the Roaming Difference

### Commands

**client-based-troam diff <roam-diff (5-30)>**

<b>Syntax Description</b>	<b>client-based-troam</b>	Configure Client-based Turbo Roaming settings.
	<b>diff</b>	Configure the signal strength or SNR difference between the AP candidate and the connecting APs.
	<roam-diff>	Specify the SNR and signal strength roaming difference (5-30).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (ssid-client)# client-based-troam diff 10	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset Client-based Turbo Roaming Settings

### Commands

**no client-based-troam**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>client-based-troam</b>	Reset Client-based Turbo Roaming settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-client	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (ssid-client)# no client-based-troam	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show Client-based Turbo Roaming Settings

### Commands

**show wlan client-based-troam**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings.
	<b>wlan</b>	Show Wi-Fi-related status information.
	<b>client-based-troam</b>	Show Client-based Turbo Roaming settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show wlan client-based-troam	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure MAC Cloning Settings

### Commands

**mac-cloning**{enabled [method {auto [ethernet <interface-id (1-2)>] | static [mac <clone-mac-addr (MAC addr)>]}] | disabled }

Syntax Description	mac-cloning	Configure MAC cloning settings.
	enabled	Enable MAC cloning.
	method	Configure the MAC cloning method.
	auto	Set the cloning method to Auto.
	ethernet	Configure the Ethernet interface that the Wi-Fi client will clone the MAC address from.
	<interface-id>	Specify the index of the Ethernet interface that the Wi-Fi client will clone the MAC address from (1-2).
	static	Set the cloning method to Static.
	<clone-mac-addr>	Specify the static clone MAC address (e.g., 00:11:22:aa:bb:cc).
	disabled	Disable MAC cloning.
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-client)# mac-cloning enable method auto ethernet 2	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Local Link Fault Pass-Through

### Commands

**lftp local** {enabled | disabled} **etherent** <index (1-5)>

Syntax Description	lftp local	Configure local link fault pass-through settings.
	{enabled   disabled}	Specify to enable or disable Link Fault Pass-Through. Default disabled.
	<b>etherent</b>	Configure the Ethernet interface to monitor for link down.
	<index (1-5)>	Specify the Ethernet LAN port number to monitor link down.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# lftp local enabled ethernet 1	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network	

## Remote Link Fault Pass-Through

### Commands

**lfpt remote** {enabled <remote-host (max len: 60)> | disabled} **timeout** <timout (100-1000)> **disconn-interval** <disconnection-interval (1-30)> **disconn-retry-cnt** <disconnection-retry-count (1-5)> **recovery-interval** <recovery-interval (1-30)> **recovery-retry-cnt** <recovery-retry-count (1-5)>

<b>Syntax</b>	<b>lfpt remote</b>	Configure local link fault pass-through settings.
<b>Description</b>	{enabled   disabled}	Specify to enable or disable Link Fault Pass-Through. Default disabled. When enabled append the remote host IP address max length 60 char..
	<b>timeout</b>	Specify timeout criteria in milliseconds.
	<timout (100-1000)>	Timeout range 100 ~ 1000 milliseconds.
	<b>disconn-interval</b>	Disconnect detection, specify the detection interval in seconds for device to check connectivity with remote host.
	<disconnection-interval (1-30)>	Check interval frequency every 1 ~ 30 seconds.
	<b>disconn-retry-cnt</b>	Disconnect criteria, specify the number of timeout retries for device to deem connectivity with remote host lost.
	<disconnection-retry-count (1-5)>	Retry count range 1 ~ 5 attempts.
	<b>recovery-interval</b>	Connection recovered detection, specify the detection interval in seconds for device to check if connectivity with remote host has been restored.
	<recovery-interval (1-30)>	Check interval frequency every 1 ~ 30 seconds.
	<b>recovery-retry-cnt</b>	Remote host connection restored criteria, specify the number retries for device to receive reply from remote host within specified timeout period.
	<recovery-retry-count (1-5)>	Retry count range 1 ~ 5 attempts.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# lfpt remote enabled 192.168.127.15 timeout 400 disconn-interval 15 disconn-retry-cnt 3 recovery-interval 15 recovery-retry-cnt 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Reset Link Fault Pass-Through

### Commands

**no lfpt**

<b>Syntax Description</b>	<b>no</b>	Reset designated feature configuration to default.
	<b>lfpt</b>	Specify the feature to restore to its default configuration.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no lfpt	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Show Link Fault Pass-Through

### Commands

**show lfpt {status | config}**

<b>Syntax Description</b>	<b>show</b>	Display the target info for the designated feature that follows.
	<b>lfpt</b>	Display the designated info of Link Fault Pass-Through that follows.
	{status   config}	Specify to show the lfpt status or the lfpt configuration details.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# show lfpt config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Ethernet

### Access Config-if Mode to Configure Network Interfaces

### Commands

**interface {ethernet <interface-id(1-2)> | ssid-ap <ssid (rf-band/ssid-name)> | ssid-client}**

<b>Syntax Description</b>	<b>interface</b>	Configure network interface settings.
	<b>ethernet</b>	Configure LAN interface settings.
	<interface-id>	Specify the LAN interface index (1-2).
	ssid-ap	Configure Wi-Fi interface settings for AP mode.
	<ssid>	Specify the RF band and SSID name (e.g. 5ghz/ssid-1).
	ssid-client	Configure Wi-Fi interface settings for Client-based mode.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# interface ethernet 2 moxa (config-if)#[	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management or Network Configuration	

### Enable the Ethernet Interfaces

### Commands

**no shutdown**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>shutdown</b>	Enable the interface.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-if	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config-if)# no shutdown	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Disable the Ethernet Interfaces

### Commands

#### Shutdown

<b>Syntax Description</b>	<b>shutdown</b>	Disable the interface.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-if	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config-if)# shutdown	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Interface Description.

### Commands

**description <description (max len: 127)>**

<b>Syntax Description</b>	<b>description</b>	Configure the description.
	<description>	Enter a description (max. 127 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-if	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config-if)# description ETH_LAN1	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show the Interface Status

### Commands

**show interface [status]**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings.
	<b>interface</b>	Show interface-related information.
	<b>status</b>	Show interface status.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show interface status	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

# Connection Check & Recovery

## Configure Client-to-AP Link Check Settings

### Commands

```
ap-link-check {enabled | disabled}[check-timeout <check-timeout (10-60 sec)>] [reset-conn {enabled | disabled}] [reset-conn-cnt <retry-count (1-5)>] [reboot {enabled | disabled}] [reboot-cnt <reboot-count (1-5)>]
```

Syntax Description	ap-link-check	Configure Client-to-AP Link Check settings.
	enabled	Enable Client-to-AP Link Check.
	disabled	Disable Client-to-AP Link Check.
	check-timeout	Configure the Client-to-AP Link Check timeout threshold.
	<check-timeout>	Specify the Client-to-AP Link Check timeout threshold (10-60 sec).
	reset-conn	Configure the Reset Connection Recovery action.
	enabled	Reset the Wi-Fi connection if the Client-to-AP Link Check fails.
	disabled	Do not reset the Wi-Fi connection if the Client-to-AP Link Check fails.
	reset-conn-cnt	Configure the maximum number of times the device will perform the Reset Wi-Fi Connection recovery action.
	<retry-count>	Specify the maximum number of times the device will perform the Reset Wi-Fi Connection recovery action (1-5).
	reboot	Configure the Reboot Recovery action.
	enabled	Reboot the device if the Client-to-AP Link Check fails.
	disabled	Do not reboot the device if the Client-to-AP Link Check fails.
	reboot-cnt	Configure the maximum number of times the device will perform the Reboot Device recovery action.
	<reboot-count>	Specify the maximum number of times the device will perform the Reboot Device recovery action (1-5).
Defaults	N/A	
Command Modes	ssid-client	
Usage Guidelines	N/A	
Examples	moxa (ssid-client)# ap-link-check enabled check-timeout 20 reset-conn enabled reset-conn-cnt 3 reboot enabled reboot-cnt 3	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the Candidate AP Criteria for the AP Alive Check Function

### Commands

```
wlan ap-alive-check ap-threshold {snr [5ghz <snr (5-60 dB)>] [2.4ghz <snr (5-60 dB)>] | signal-strength [5ghz <signal-strength (-100 - -35 dBm)>] [2.4ghz <signal-strength (-100 - -35 dBm)>]}
```

<b>Syntax Description</b>	wlan	Configure Wi-Fi settings.
	ap-alive-check	Configure AP Alive Check settings.
	ap-threshold	Configure the candidate AP criteria for the AP Alive Check function.
	snr	Configure the SNR candidate threshold.
	signal-strength	Configure the signal strength threshold for candidate APs.
	5ghz	Configure the threshold for the 5 GHz band of the AP.
	2.4ghz	Configure the threshold for the 2.4 GHz band of the AP.
	<snr>	Specify the SNR threshold (5-60 dB).
	<signal-strength>	Specify the signal strength threshold (-100 - -35 dBm).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan ap-alive-check ap-threshold snr 5ghz 30	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure Wi-Fi Remote Host Check Settings

### Commands

```
wlan remote-host-check {enabled | disabled}[host-type {static <host (max len: 60)> | dynamic}] [check-interval <check-interval (1-60 sec)>] [check-timeout <check-timeout (100-1000 ms)>] [retry-interval <retry-interval (1-30 sec)>] [retry-cnt <retry-count (1-5)>]
```

<b>Syntax Description</b>	wlan	Configure Wi-Fi settings.
	remote-host-check	Configure Wi-Fi Remote Host Check settings.
	enabled	Enable Remote Host Check.
	disabled	Disable Remote Host Check.
	host-type	Configure the host type.
	static	Set the host type to Static.
	<host>	Specify the remote host to check (max. 60 characters).
	dynamic	Set the host type to Dynamic.
	check-interval	Configure the Remote Host Check interval.
	<check-interval>	Specify the Remote Host Check interval (1-60 sec).
	check-timeout	Configure the Remote Host Check timeout.
	<check-timeout>	Specify the Remote Host Check timeout (10-1000 ms).
	retry-interval	Configure the Remote Host Check retry interval.
	<retry-interval>	Specify the Remote Host Check retry interval (1-30 sec).
	retry-cnt	Configure the Remote Host Check retry count.
	<retry-count>	Specify the Remote Host Check retry count (1-5).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# wlan remote-host-check enabled host-type static www.moxa.com check-interval 10 check-timeout 500 retry-interval 5 retry-cnt 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

# AP-based Connection Management

## Wireless Connection Management

### Terminate the Wi-Fi Connection

#### Commands

**wlan terminate <mac-addr>**

<b>Syntax Description</b>	<b>wlan</b>	Manage Wi-Fi connections.
	<b>terminate</b>	Terminate a client's Wi-Fi connection
	<mac-addr>	Specify the MAC address of the client.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later	
<b>Examples</b>	moxa# wlan disconn 00:90:e8:11:22:33	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Connection Management

### Enable or Disable AP-based Disconnection

#### Commands

**ap-based-disconnection {enabled | disabled}**

<b>Syntax Description</b>	<b>ap-based-disconnection</b>	Configure AP-based Disconnection settings.
	enable	Enable AP-based Disconnection.
	disable	Disable AP-based Disconnection.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap	
<b>Usage Guidelines</b>	Firmware v2.0 and later	
<b>Examples</b>	moxa (ssid-ap)#ap-based-disconnection enable	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Configure the AP-based Disconnection Threshold

### Commands

**ap-based-disconnection threshold** {snr [5ghz <disconn-thr-snr (5-60 dB)>] [2.4ghz <disconn-thr-snr (5-60 dB)>] | signal-strength [5ghz <disconn-thr-signal-strength (-100 - -35 dBm)>] [2.4ghz <disconn-thr-signal-strength (-100 - -35 dBm)>]}

<b>Syntax Description</b>	<b>ap-based-disconnection threshold</b>	Configure AP-based Disconnection settings.
	snr [5ghz <disconn-thr-snr (5-60 dB)>] [2.4ghz <disconn-thr-snr (5-60 dB)>]	Configure the AP-based Disconnection threshold.
	signal-strength [5ghz <disconn-thr-signal-strength (-100 - -35 dBm)>] [2.4ghz <disconn-thr-signal-strength (-100 - -35 dBm)>]	Set Signal-to-Noise Ratio (SNR) as the mechanism for AP-based Disconnection and specify the dB threshold for the 2.4 and 5 GHz band.
	signal-strength [5ghz <disconn-thr-signal-strength (-100 - -35 dBm)>] [2.4ghz <disconn-thr-signal-strength (-100 - -35 dBm)>]	Set Signal Strength as the mechanism for AP-based Disconnection and specify the dBm threshold for the 2.4 and 5 GHz band.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	ssid-ap	
<b>Usage Guidelines</b>	Firmware v2.0 and later	
<b>Examples</b>	moxa (ssid-ap)#ap-based-disconnection threshold snr 5ghz 30 dB 2.4ghz 30 dB	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	moxa (ssid-ap)# no ap-based-disconnection	
<b>Privilege Required</b>	Network	

## IP Configuration

### Configure the Device Management IP Address

#### Commands

**ip management** {lan | wan} address {dhcp | <device-ip (ipv4)> <netmask> [<gateway (ipv4)>]}

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>management</b>	Configure device network interface settings.
	<b>lan</b>	Configure LAN settings.
	<b>wan</b>	Configure WAN settings.
	<b>address</b>	Configure the device management IP address.
	<b>dhcp</b>	Assign the management IP address using DHCP.
	<b>&lt;device-ip&gt;</b>	Specify the device IP address (ipv4).
	<b>&lt;netmask&gt;</b>	Specify the netmask.
	<b>&lt;gateway&gt;</b>	Specify the gateway (ipv4).
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip management wan address 192.168.127.44 255.255.255.0 192.168.128.254	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Device DNS Server Address

### Commands

**ip management {lan | wan} name-server <server-id (1-2)> <dns-server (ipv4)>**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>management</b>	Configure device network interface settings.
	<b>lan</b>	Configure LAN settings.
	<b>wan</b>	Configure WAN settings.
	<b>name-server</b>	Configure the device DNS server address.
	<b>&lt;server-id&gt;</b>	Specify the index of the DNS server (1-2).
	<b>&lt;dns-server&gt;</b>	Specify the DNS server address (IPv4).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip management lan name-server 1 192.168.127.5	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Reset the Device Management IP Address

### Commands

**no ip management {lan | wan} address**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>ip</b>	Reset device network settings.
	<b>management</b>	Reset device network interface settings.
	<b>lan</b>	Reset LAN network settings.
	<b>wan</b>	Reset WAN network settings.
	<b>address</b>	Reset the device management IP address.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no ip management lan address	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Reset the Device DNS Server Settings

### Commands

**no ip management {lan | wan} name-server <server-index (1-2)>**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>ip</b>	Reset device network settings.
	<b>management</b>	Reset device network interface settings.
	<b>lan</b>	Reset LAN network settings.
	<b>wan</b>	Reset WAN network settings.
	<b>name-server</b>	Reset the DNS server settings.
	<b>&lt;server-index&gt;</b>	Specify the DNS server index (1-2).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no ip management lan name-server 2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show the Device Network Management IP Status

### Commands

**show ip management [status]**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings
	<b>ip</b>	Show device network settings.
	<b>management</b>	Show device network interface settings or status.
	<b>status</b>	Show the device management IP address status.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show ip management status	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the Default Gateway

### Commands

**default-gateway <gateway (ipv4)>**

<b>Syntax Description</b>	<b>default-gateway</b>	Configure the DHCP pool default gateway.
	<gateway (ipv4)>	Specify the default gateway address.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	dhcp-pool	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(dhcp-pool)# default-gateway 192.168.127.200	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the DHCP IP Lease Time

### Commands

**lease <duration (10-14400 min)>**

<b>Syntax Description</b>	<b>lease</b>	Configure the DHCP IP address lease time.
	<duration (10-14400 min)>	Specify the IP address lease time (10-14400 min).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	dhcp-pool	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(dhcp-pool)# lease 10000	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the DNS Servers

### Commands

**dns-server <DNS server 1 (ipv4)> [<DNS server 2 (ipv4)>]**

<b>Syntax Description</b>	<b>dns-server</b>	Configure DNS server settings.
	<DNS server 1 (ipv4)>	Specify the primary DNS server.
	<DNS server 2 (ipv4)>	Specify the secondary DNS server.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	dhcp-pool	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(dhcp-pool)# dns-server 192.168.127.202	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the NTP Server

### Commands

**ntp-server <NTP server>**

<b>Syntax Description</b>	<b>ntp-server</b>	Configure NTP server settings.
	<NTP server>	Specify the NTP server.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	dhcp-pool	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(dhcp-pool)# ntp-server 1.pool.ntp.org	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure LAN IPv6 Address

### Commands

**ipv6 management lan address {disable | dynamic | <device-ipv6/prefix-length> [<gateway (ipv6)>]}**

<b>Syntax Description</b>	<b>ipv6 management lan address</b>	Configure LAN interface IPv6 address.
	disabled	Disable IPv6 address. Default disabled.
	dynamic	Enable IPv6 address and acquire IPv6 address via dynamic option using SLAAC/DHCPv6.
	device-ipv6/prefix-length [<gateway (ipv6)>]	Enable IPv6 address and statically specify the IPv6 address/prefix length and optional IPv6 gateway.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# ipv6 management lan address 2001:b011:20e0:cb8:211:32ff:fe88:1d16/64	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure WAN IPv6 Address

### Commands

**ipv6 management wan address** {disable | dynamic | relay | dhcpv6-pd | <device-ipv6/prefix-length> [<gateway (ipv6)>]}

Syntax Description	ipv6 management wan address	Configure WAN interface IPv6 address.
	disabled	Disable IPv6 address. Default disabled.
	dynamic	Enable IPv6 address and acquire IPv6 address via dynamic option using SLAAC/DHCPv6.
	relay	Enable IPv6 address and acquire IPv6 address through SLAAC/DHCPv6 method while also acting as an SLAAC/DHCPv6 Relay.
	dhcpv6-pd	Enable IPv6 address and acquire IPv6 address through SLAAC/DHCPv6 and dynamically assign IPv6 addresses using delegated IPv6 prefixes.
	device-ipv6/prefix-length [<gateway (ipv6)>]	Enable IPv6 address and statically specify the IPv6 address/prefix length and optional IPv6 gateway.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# ipv6 management lan address dhcpv6-pd	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Management	

## Reset IPv6 Address Configurations

### Commands

**no ipv6 management {lan | wan} address**

Syntax Description	no	Reset designated feature configuration to default.
	ipv6 management	Specify ipv6 network interface to restore to its default configuration.
	{lan   wan}	Specify to reset the WAN or LAN interface to default configuration.
	address	Specify to reset the ipv6 address configuration.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# no ipv6 management lan address	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	System Management	

## Show ipv6 Parameters

### Commands

**show ipv6 management {status | config}**

<b>Syntax Description</b>	<b>show</b>	Display the target info for the designated feature that follows.
	<b>ipv6 management</b>	Display the ipv6 network interface information.
	{status   config}	Specify to show the current interface status or the configuration details.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# show ipv6 management config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Routing and NAT

### Static Route

#### Create a New Static Route Entry

##### Commands

**ip route <index (1-32)> <ip-addr> <netmask> <next-hop> <metric (1-32766)> [iface {lan | wan}]**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>route</b>	Configure static route settings.
	<index>	Specify the index of the routing entry(1-32).
	<ip-addr>	Specify the destination address (IPv4).
	<netmask>	Specify the destination subnet mask of the route entry.
	<next-hop>	Specify the next hop of the route entry (IPv4).
	<metric>	Specify the metric of the route entry (1-32766).
	<b>iface</b>	Configure the interface of the route entry (default: WAN).
	lan	Set the route interface to LAN.
	wan	Set the route interface to WAN.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip route 2 192.168.127.10 255.255.255.0 192.168.127.251 10 iface lan	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Enable/Disable the Static Route

### Commands

**ip route <index (1-32)> {enabled | disabled}**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>route</b>	Configure static route settings.
	<index>	Specify the index of the routing entry (1-32).
	enabled	Enable this static route entry.
	disabled	Disable this static route entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip route 3 enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Static Route Name

### Commands

**ip route <index (1-32)> name <name (max len: 31)>**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>route</b>	Configure static route settings.
	<index>	Specify the index of the routing entry (1-32).
	name	Configure the name of the static route entry.
	<name>	Enter the name of the static route entry (max. 31 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip route 3 name AGV_PLC	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset the Static Routing Table

### Commands

**no ip route [<index (1-32)>]**

<b>Syntax Description</b>	<b>no</b>	Delete or reset.
	<b>ip</b>	Configure device network settings.
	<b>route</b>	Reset the static routing table.
	<index>	Specify the index of the routing table (1-32).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no ip route 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the Static Routing Table

### Commands

**ip route show**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>route</b>	Configure static route settings.
	<b>show</b>	Show the static routing table settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip route show	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the Routing Table Settings

### Commands

**show ip route config**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings.
	<b>ip</b>	Configure device network settings.
	<b>route</b>	Show the routing table.
	<b>config</b>	Show the routing table settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show ip route config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the Routing Table

### Commands

**show ip route [status]**

<b>Syntax Description</b>	<b>show</b>	Show all modified settings.
	<b>ip</b>	Configure device network settings.
	<b>route</b>	Show the routing table.
	<b>status</b>	Show the routing table status.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show ip route status	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

# NAT

## Configure NAT Settings

### Commands

**ip nat {enabled | disabled}**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>nat</b>	Configure NAT settings.
	<b>enabled</b>	Enable NAT.
	<b>disabled</b>	Disable NAT.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip nat disabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure N-to-1 NAT Settings

### Commands

**ip nat n-to-1 {enabled | disabled} [<name (max len: 31)>]**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>nat</b>	Configure NAT settings.
	<b>n-to-1</b>	Configure N-to-1 NAT settings.
	<b>enabled</b>	Enable N-to-1 NAT.
	<b>disabled</b>	Disable N-to-1 NAT.
	<b>&lt;name&gt;</b>	Specify the name of the N-to-1 NAT rule (Max. 31 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip nat n-to-1 enabled IPcam2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Create a New Rule or Edit a Rule With a Specific Priority

### Commands

**ip nat {new | <priority (1-31)>}**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>nat</b>	Configure NAT settings.
	<b>new</b>	Create a new rule without specifying a priority. A priority will be assigned automatically.
	<b>&lt;priority&gt;</b>	Specify the priority of the rule (1-31).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Executing this command will enter “config-nat” mode to configure the rule details.	
<b>Examples</b>	moxa (config)# ip nat new moxa (config)# ip nat 1	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Enable/Disable a NAT Rule

### Commands

**ip nat <priority (1-31)> {enabled | disabled}**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>nat</b>	Configure NAT settings.
	<priority>	Specify the NAT rule priority (1-31) to enable or disable.
	enabled	Enable the NAT rule.
	disabled	Disable the NAT rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip nat 3 disabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Enable/Disable the Specified NAT Rule in Config-nat Mode

### Commands

**status {enabled | disabled}**

<b>Syntax Description</b>	<b>status</b>	Configure the status of this rule.
	enabled	Enable the NAT rule.
	disabled	Disable the NAT rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-nat	
<b>Usage Guidelines</b>	Refer to the " <a href="#">Create a New Rule or Edit a Rule With a Specific Priority</a> " command for how to enter config-nat mode.	
<b>Examples</b>	moxa (config-nat)# status enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Change the Mode of the NAT Rule in Config-nat Mode

### Commands

**mode {1-to-1 | pat}**

<b>Syntax Description</b>	<b>mode</b>	Configure the NAT mode of this rule.
	1-to-1	Set the NAT mode to 1-to-1.
	pat	Set the NAT mode to Port Forwarding.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-nat	
<b>Usage Guidelines</b>	Refer to the " <a href="#">Create a New Rule or Edit a Rule With a Specific Priority</a> " command for how to enter config-nat mode.	
<b>Examples</b>	moxa (config-nat)# mode pat	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Change the Priority of the NAT Rule in Config-nat Mode

### Commands

**priority <priority (1-31)>**

<b>Syntax Description</b>	<b>priority</b>	Configure the priority of this rule.
	<priority>	Specify the priority of this rule (1-31).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-nat	
<b>Usage Guidelines</b>	Refer to the " <a href="#">Create a New Rule or Edit a Rule With a Specific Priority</a> " command for how to enter config-nat mode.	
<b>Examples</b>	moxa (config-nat)# priority 1	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure 1-to-1 NAT/Port Forwarding Settings

### Commands

**original [dst-ip {any | <dest-ipaddr (ipv4)> | <dest-ipaddr-range (ip1-ip2)>}] [dst-port {any | <dest-port (0-65535)> | <dest-port-range (port1-port2)>}]** **translated dst-ip {any | <dest-ipaddr (ipv4)> [dst-port {any | <dest-port (0-65535)>}]** **protocol {tcp | udp | tcp-udp}**

<b>Syntax Description</b>	<b>original</b>	Configure the condition of this rule.
	<b>translated</b>	<b>Configure the translating action.</b>
	<b>dst-ip</b>	Configure the destination IP address.
	<b>any</b>	Set the destination IP address to Any.
	<b>&lt;dest-ipaddr&gt;</b>	Specify the destination IP address (IPv4).
	<b>&lt;range-of-dest-ip&gt;</b>	Specify the destination IP range (ip1-p2, e.g., 192.168.127.1-192.168.127.10).
	<b>dst-port</b>	Configure the destination port.
	<b>any</b>	Set the destination port to Any.
	<b>&lt;dest-port&gt;</b>	Specify the destination port (0-65535).
	<b>&lt;range-of-dest-port&gt;</b>	Specify the destination port range (port1-port2, e.g., 404-410).
	<b>protocol</b>	Configure the protocol of this rule.
	<b>tcp</b>	Set the protocol to TCP.
	<b>udp</b>	Set the protocol to UDP.
	<b>tcp-udp</b>	Set the protocol to TCP and UDP.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-nat	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config-nat)# original dst-ip 192.168.128.10-192.168.128.20 moxa (config-nat)# translated dst-ip 192.168.127.110 moxa (config-nat)# protocol tcp-udp moxa (config-nat)# original dst-port 100 moxa (config-nat)# translated dst-ip 192.168.127.110 dst-port 3030	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Name of the NAT Rule in Config-nat Mode

### Commands

**name** <name (max len: 31)>

<b>Syntax Description</b>	<b>name</b>	Configure the name of this rule.
	<name>	Specify the name of this rule (max. 31 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-nat	
<b>Usage Guidelines</b>	Refer to the " <a href="#">Create a New Rule or Edit a Rule With a Specific Priority</a> " command for how to enter config-nat mode.	
<b>Examples</b>	moxa (config-nat)# name IPcam2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Description of the Rule in Config-nat Mode

### Commands

**desc** <description (max len: 127)>

<b>Syntax Description</b>	<b>desc</b>	Configure the description of this rule.
	<description>	Enter a description for this rule (max. 127 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config-nat	
<b>Usage Guidelines</b>	Refer to the " <a href="#">Create a New Rule or Edit a Rule With a Specific Priority</a> " command for how to enter config-nat mode.	
<b>Examples</b>	moxa (config-nat)# desc rule for WAN to IPcam2 IP translation	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset all NAT Settings

### Commands

**no ip nat**

<b>Syntax Description</b>	<b>no</b>	Reset or delete configurations.
	<b>ip</b>	Reset device network settings.
	<b>nat</b>	Reset NAT settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no ip nat	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset a NAT Rule

### Commands

**no ip nat [<priority (1-32)>]**

<b>Syntax Description</b>	<b>no</b>	Reset or delete configurations.
	<b>ip</b>	Reset device network settings.
	<b>nat</b>	Reset NAT settings.
	<priority>	Reset the specified NAT rule (1-32).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# no ip nat 2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show a NAT Rule

### Commands

**ip nat show [<priority (1-32)>]**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>nat</b>	Configure NAT settings.
	<b>show</b>	Show NAT rule settings.
	<priority>	Specify the priority of the NAT rule (1-32).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip nat show 2	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show All NAT Rules

### Commands

**ip nat show**

<b>Syntax Description</b>	<b>ip</b>	Configure device network settings.
	<b>nat</b>	Configure NAT settings.
	<b>show</b>	Show NAT rule settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# ip nat show	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Failsafe Password

### Commands

**fail-safe**

Syntax Description	<b>fail-safe</b>	Configure failsafe password settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# fail-safe Enter New Password: Retype New Password:	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

# Firewall

## Layer 2 Policy

### Configure the Layer 2 Firewall Policy and the Default Action

### Commands

**firewall l2-policy {enabled | disabled} [default-action {drop | accept}]**

Syntax Description	<b>firewall</b>	Configure firewall settings.
	<b>l2-firewall</b>	Configure Layer 2 firewall policy settings.
	enabled	Enable the Layer 2 firewall policy.
	disabled	Disable the Layer 2 firewall policy.
	<b>default-action</b>	Configure the default action of the Layer 2 firewall policy.
	drop	Drop all packets that do not match any rules.
	accept	Accept all packets that do not match any rules.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# firewall l2-policy enabled default-action drop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

### Show the L2 Policy List in Configuration Mode

### Commands

**firewall l2-policy show**

Syntax Description	<b>firewall</b>	Configure firewall settings.
	<b>l2-firewall</b>	Configure Layer 2 firewall policy settings.
	<b>show</b>	Show the Layer 2 firewall policy settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# firewall l2-policy show	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Create a New L2 Policy Rule or Edit an Existing Rule With a Specific Priority

### Commands

**firewall l2-policy {new | <priority (1-64)>}**

Syntax Description	firewall	Configure firewall settings.
	l2-firewall	Configure Layer 2 firewall policy settings.
	new	Create a new rule without specifying a priority. A priority will be assigned automatically.
	priority	Specify the priority of the rule (1-64).
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	Create a new rule or edit an existing rule with the specified priority. Executing this command will automatically enter "fw-l2" configuration mode.	
Examples	moxa (config)# firewall l2-policy new moxa (config)# firewall l2-policy 3	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Enable/Disable the L2 Policy Rule

### Commands

**status {enabled | disabled}**

Syntax Description	status	Enable or disable this rule.
	enabled	Enable this rule.
	disabled	Disable this rule.
Defaults	N/A	
Command Modes	fw-l2	
Usage Guidelines	Enable or disable this rule. Refer to <a href="#">Create a New L2 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l2" mode.	
Examples	moxa (fw-l2)# status enabled	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the Priority of the L2 Policy Rule

### Commands

**priority <priority (1-64)>**

Syntax Description	priority	Configure the priority of this rule.
	<priority>	Specify the priority of the rule (1-64).
Defaults	N/A	
Command Modes	fw-l2	
Usage Guidelines	Set the priority of this rule. Refer to <a href="#">Create a New L2 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l2" mode.	
Examples	moxa (fw-l2)# priority 5	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Network Configuration	

## Configure the Action of the L2 Policy Rule

### Commands

**action** {accept | drop}

Syntax Description	action	Configure the action of this rule.
	accept	Accept any packets that match this rule.
	drop	Drop any packets that match this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l2	
<b>Usage Guidelines</b>	Configure the action of this rule. Refer to <a href="#">Create a New L2 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l2" mode.	
<b>Examples</b>	moxa (fw-l2)# action drop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Source MAC of the L2 Policy Rule

### Commands

**src-mac** <src-mac-address>

Syntax Description	src-mac	Configure the source MAC address of this rule.
	<src-mac-address>	Specify the source MAC address of this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l2	
<b>Usage Guidelines</b>	Refer to <a href="#">Create a New L2 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l2" mode.	
<b>Examples</b>	moxa (fw-l2)# src-mac 00:90:E8:01:02:03	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Destination MAC of the L2 Policy Rule

### Commands

**dst-mac** <dst-mac-address>

Syntax Description	dst-mac	Configure the destination MAC address of this rule.
	<dst-mac-address>	Specify the destination MAC address of this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l2	
<b>Usage Guidelines</b>	Refer to <a href="#">Create a New L2 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l2" mode.	
<b>Examples</b>	moxa (fw-l2)# dst-mac 00:90:E8:01:02:08	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Delete a Specific or All L2 Policy Rules

### Commands

**no firewall l2-policy {all | <priority (1-64)>}**

Syntax Description	no	Delete a configuration.
	firewall	Configure firewall settings.
	l2-firewall	Configure Layer 2 firewall policy settings.
	all	Delete all Layer 2 firewall policy rules.
	priority	Delete the Layer 2 firewall policy rule with the specified priority (1-64).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Delete Layer 2 firewall policy rules.	
<b>Examples</b>	moxa (config)# no firewall l2-policy all moxa (config)# no firewall l2-policy 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Layer 3 Policy

### Configure the Layer 3 Firewall Policy and the Default Action

### Commands

**firewall l3-policy {enabled | disabled} [default-action {drop | accept}]**

Syntax Description	firewall	Configure firewall settings.
	l3-firewall	Configure the Layer 3 firewall policy.
	enabled	Enable the Layer 3 firewall policy.
	disabled	Disable the Layer 3 firewall policy.
	default-action	Configure the default action of the Layer 3 firewall policy.
	drop	Drop all packets that do not match any rules.
	accept	Accept all packets that do not match any rules.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# firewall l3-policy enabled default-action drop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

### Show the L3 Policy List in Configuration Mode

### Commands

**firewall l3-policy show**

Syntax Description	firewall	Configure firewall settings.
	l3-firewall	Configure Layer 3 firewall policy settings.
	show	Show the Layer 3 firewall policy settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# firewall l3-policy show	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Create a New L3 Rule or Edit an Existing Rule With a Specific Priority

### Commands

**firewall l3-policy {new | <priority (1-64)>}**

<b>Syntax Description</b>	<b>firewall</b>	Configure firewall settings.
	<b>l3-firewall</b>	Configure Layer 3 firewall policy settings.
	<b>new</b>	Create a new rule without specifying a priority. A priority will be assigned automatically.
	<b>priority</b>	Specify the priority of the rule (1-64).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Create a new rule or edit an existing rule with the specified priority. Executing this command will automatically enter "fw-l3" configuration mode.	
<b>Examples</b>	moxa (config)# firewall l3-policy new moxa (config)# firewall l3-policy 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Enable/Disable the L3 Policy Rule

### Commands

**status {enabled | disabled}**

<b>Syntax Description</b>	<b>status</b>	Enable or disable this rule.
	<b>enabled</b>	Enable this rule.
	<b>disabled</b>	Disable this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	Enable or disable this rule. Refer to <a href="#">Create a New L3 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l3" mode.	
<b>Examples</b>	moxa (fw-l3)# status enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Priority of the L3 Policy Rule

### Commands

**priority <priority (1 - 64)>**

<b>Syntax Description</b>	<b>priority</b>	Configure the priority of this rule.
	<priority>	Specify the priority of the rule (1-64).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	Set the priority of this rule. Refer to <a href="#">Create a New L3 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l3" mode.	
<b>Examples</b>	moxa (fw-l3)# priority 5	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Action of the L3 Policy Rule

### Commands

**action** {accept | drop}

Syntax Description	action	Configure the action of this rule.
	accept	Accept any packets that match this rule.
	drop	Drop any packets that match this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	Configure the action of this rule. Refer to <a href="#">Create a New L3 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l3" mode.	
<b>Examples</b>	moxa (fw-l3)# action drop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Protocol of the L3 Policy Rule

### Commands

**protocol** {all | icmp | tcp | udp}

Syntax Description	protocol	Configure the protocol(s) this rule will apply to.
	all	This rule applies to all IP frames.
	icmp	This rule applies to all ICMP frames.
	tcp	This rule applies to all TCP frames.
	udp	This rule applies to all UDP frames.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	Refer to <a href="#">Create a New L3 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l3" mode.	
<b>Examples</b>	moxa (fw-l3)# protocol all	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Source IP of the L3 Policy Rule

### Commands

**src-ip** <net-id> <netmask>

Syntax Description	src-ip	Configure the source network of this rule.
	<net-id>	Specify the IP address of the source network of this rule.
	<netmask>	Specify the subnet mask of the source network of this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	Refer to <a href="#">Create a New L3 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l3" mode.	
<b>Examples</b>	moxa (fw-l3)# src-ip 192.168.127.88 255.255.255.0	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Source Port Range of the L3 Policy Rule

### Commands

**src-port** <port-start (0-65535)> [<port-end (0-65535)>]

<b>Syntax Description</b>	<b>src-port</b>	Configure the source TCP/UDP port range of this rule.
	<port-start>	Specify the starting port of the source port range (0-65535).
	<port-end>	Specify the ending port of the source port range (0-65535).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	Refer to <a href="#">Create a New L3 Rule or Edit an Existing Rule With a Specific Priority</a> for how to enter "fw-l3" mode.	
<b>Examples</b>	moxa (fw-l3)# src-port 50 80	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Destination IP of the L3 Policy Rule

### Commands

**dst-ip** <net-id> <netmask>

<b>Syntax Description</b>	<b>dst-ip</b>	Configure the destination network of this rule.
	<net-id>	Specify the IP address of the destination network of this rule.
	<netmask>	Specify the subnet mask of the destination network of this rule.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (fw-l3)# dst-ip 192.168.127.253 255.255.255.0	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the Destination Port Range of the L3 Policy Rule

### Commands

**dst-port** <port-start (0-65535)> [<port-end (0-65535)>]

<b>Syntax Description</b>	<b>dst-port</b>	Configure the destination TCP/UDP port range of this rule.
	<port-start>	Specify the starting port of the source port range (0-65535).
	<port-end>	Specify the ending port of the source port range (0-65535).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	fw-l3	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (fw-l3)# dst-port 50 80	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Delete a Specific or All L3 Policies Rules

### Commands

**no firewall l3-policy {all | <priority (1-64)>}**

<b>Syntax Description</b>	<b>no</b>	Delete configuration
	<b>firewall</b>	Configure firewall settings.
	<b>l3-firewall</b>	Configure Layer 3 firewall policy settings.
	<b>all</b>	Delete all Layer 3 firewall policy rules.
	<b>priority</b>	Delete the Layer 3 firewall policy rule with the specified priority (1-64).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Delete Layer 3 firewall policy rules.	
<b>Examples</b>	moxa (config)# no firewall l3-policy all moxa (config)# no firewall l3-policy 3	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

# Security

## Device Security

### Show the Security Status

#### Commands

**show security {feature group}**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>security</b>	Show the status of the specified security feature, sorted by security risk level from Highest to Lowest. If no feature group is specified, the status of all security features will be shown.
	feature group	Optional parameter. Specify a feature to show the status for.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# show security moxa# show security event-log-notification	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## Configure Layer 2 Trusted Access

### Commands

**trusted-access l2-policy {enabled | disabled}**

<b>Syntax Description</b>	<b>trusted-access</b>	Configure Trusted Access settings.
	<b>l2-policy</b>	Configure Layer 2 Trusted Access policy settings.
	<b>enabled</b>	Enable L2 Trusted Access.
	<b>disabled</b>	Disable L2 Trusted Access.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa(config)# trusted-access l2-policy enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Reset Layer 2 Trusted Access Policy Settings

### Commands

**no trusted-access l2-policy**

<b>Syntax Description</b>	<b>no</b>	Reset or clear settings.
	<b>trusted-access</b>	Reset Trusted Access settings.
	<b>l2-policy</b>	Reset Layer 2 Trusted Access policy settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# no trusted-access l2-policy	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Create a Layer 2 Trusted Access Entry

### Commands

**entry new <mac-address> {enabled | disabled}**

<b>Syntax Description</b>	<b>entry</b>	Configure Layer 2 Trusted Access entries.
	<b>new</b>	Create a new entry without specifying an index.
	<mac-address>	Specify the MAC address of the new entry (e.g., 00:12:34:56:78:9A).
	<b>enabled</b>	Enable the L2 Trusted Access entry.
	<b>disabled</b>	Disable the L2 Trusted Access entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l2	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l2)# entry new <mac-address> enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Create a Layer 2 Trusted Access Entry by Index

### Commands

**entry idx <index (1-20)> <mac-address> {enabled | disabled}**

Syntax Description	entry	Configure Layer 2 Trusted Access entries.
	idx	Create a new entry with a specific index.
	<index>	Specify the index of the entry (1 to 20).
	<mac-address>	Specify the MAC address of the new entry (e.g., 00:12:34:56:78:9A).
	enabled	Enable the L2 Trusted Access entry.
	disabled	Disable the L2 Trusted Access entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l2	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l2)# entry idx index 1 <mac-address> enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Delete a Layer 2 Trusted Access Entry

### Commands

**no entry <index (1-20)>**

Syntax Description	no	Reset or clear settings.
	entry	Delete a Layer 2 Trusted Access entry.
	<index>	Specify the index of the entry to delete (1 to 20).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l2	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l2)# no entry index 1	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show Layer 2 Trusted Access Settings

### Commands

**show**

Syntax Description	show	Show the Layer 2 Trusted Access settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l2	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l2)# show	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure Layer 3 Trusted Access

### Commands

**trusted-access l3-policy {enabled | disabled}**

<b>Syntax Description</b>	<b>trusted-access</b>	Configure Trusted Access settings.
	<b>L3-policy</b>	Configure Layer 3 Trusted Access policy settings.
	enabled	Enable L3 Trusted Access.
	disabled	Disable L3 Trusted Access.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa(config)# trusted-access l3-policy enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Reset Layer 3 Trusted Access Policy Settings

### Commands

**no trusted-access l3-policy**

<b>Syntax Description</b>	<b>no</b>	Reset or clear settings.
	<b>trusted-access</b>	Reset Trusted Access settings.
	<b>L3-policy</b>	Reset Layer 3 Trusted Access policy settings.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# no trusted-access l3-policy	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Create a Layer 3 Trusted Access Entry

### Commands

**entry new <net-id (ipv4)> <netmask> {enabled | disabled}**

<b>Syntax Description</b>	<b>entry</b>	Configure Layer 3 Trusted Access entries.
	<b>new</b>	Create a new entry without specifying an index.
	<net-id>	Specify the network ID of this entry (IPv4)
	<netmask>	Specify the subnet mask of this entry (e.g. 255.255.255.0).
	enabled	Enable the L3 Trusted Access entry.
	disabled	Disable the L3 Trusted Access entry.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	trusted-access-l3	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l3)# entry new 192.168.127.10 255.255.255.0 enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Create a Layer 3 Trusted Access Entry by Index

### Commands

**entry idx <index (1-20)> <net-id (ipv4)> <netmask> {enabled | disabled}**

Syntax Description	entry	Configure Layer 3 Trusted Access entries.
	idx	Create a new entry with a specific index.
	<index>	Specify the index of the entry (1 to 20).
	<net-id>	Specify the network ID of this entry (IPv4)
	<netmask>	Specify the subnet mask of this entry (e.g. 255.255.255.0).
	enabled	Enable the L3 Trusted Access entry.
	disabled	Disable the L3 Trusted Access entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l3	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l3)# entry idx index 1 192.168.127.10 255.255.255.0 enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Delete a Layer 3 Trusted Access Entry

### Commands

**no entry <index (1-20)>**

Syntax Description	no	Reset or clear settings.
	entry	Delete a Layer 3 Trusted Access entry.
	<index>	Specify the index of the entry to delete (1 to 20).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l3	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l3)# no entry index 1	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show Layer 3 Trusted Access Settings

### Commands

**show**

Syntax Description	show	Show the Layer 3 Trusted Access settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	trusted-access-l3	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (trusted-access-l3)# show	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Show the Device Unique Key

### Commands

**show device-unique-key**

<b>Syntax Description</b>	<b>show</b>	Show information for the specified parameter.
	<b>device-unique-key</b>	Show the device unique key information.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# show device-unique-key	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Renew the Device Unique Key

### Commands

**reload device-unique-key**

<b>Syntax Description</b>	<b>reload</b>	Renew information for the specified parameter.
	<b>device-unique-key</b>	Renew the device unique key information.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later. This action will reboot the device.	
<b>Examples</b>	moxa# reload device-unique-key	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure Static Wi-Fi ACL Settings

### Commands

**wlan acl static {enabled | disabled} mode {accept | block}**

<b>Syntax Description</b>	<b>wlan</b>	Configure WLAN settings.
	<b>acl</b>	Configure Wi-Fi Access Control List (ACL) settings.
	<b>static</b>	Configure Static ACL settings.
	<b>enabled</b>	Enable the Static ACL policy.
	<b>disabled</b>	Disable the Static ACL policy.
	<b>mode</b>	Configure the Wi-Fi ACL mode.
	<b>accept</b>	Set the ACL mode to Accept. Traffic matching the policy rules will be accepted.
	<b>block</b>	Set the ACL mode to Block. Traffic matching the policy rules will be blocked.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# wlan acl static enabled mode block	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Reset Static Wi-Fi ACL Settings

### Commands

**no wlan acl static**

<b>Syntax Description</b>	<b>no</b>	Reset or clear settings.
	<b>wlan</b>	Reset WLAN settings.
	<b>acl</b>	Reset Wi-Fi ACL settings.
	<b>static</b>	Reset Static Wi-Fi ACL settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# no wlan acl static	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Create a new Static Wi-Fi ACL Entry

### Commands

**entry new <mac-addr> {enabled | disabled}**

<b>Syntax Description</b>	<b>entry</b>	Configure Static Wi-Fi ACL entries.
	<b>new</b>	Create a new entry without specifying an index.
	<mac-address>	Specify the MAC address of the new entry (e.g., 00:12:34:56:78:9A).
	enabled	Enable the Wi-Fi ACL entry.
	disabled	Disable the Wi-Fi ACL entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	config-wifi-acl-static	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# wlan acl static moxa (config-wifi-acl-static)# moxa (config-wifi-acl-static)# entry new <mac-addr> enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Create a new Static Wi-Fi ACL Entry by Index

### Commands

**entry idx <index (1-200)> <mac-addr> {enabled | disabled}**

<b>Syntax Description</b>	<b>entry</b>	Configure Static Wi-Fi ACL entries.
	<b>index</b>	Specify the index of the entry (1 to 200).
	<mac-address>	Specify the MAC address of the new entry (e.g., 00:12:34:56:78:9A).
	enabled	Enable the Wi-Fi ACL entry.
	disabled	Disable the Wi-Fi ACL entry.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	config-wifi-acl-static	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# wlan acl static moxa (config-wifi-acl-static)# moxa (config-wifi-acl-static)# entry idx index 18 <mac-addr> enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Delete a Static Wi-Fi ACL Entry

### Commands

**no entry <index (1-200)>**

<b>Syntax Description</b>	<b>no</b>	Reset or clear settings.
	<b>entry</b>	Delete a Static Wi-Fi ACL entry.
	<index>	Specify the index of the entry to delete (1 to 200).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	config-wifi-acl-static	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# wlan acl static moxa (config-wifi-acl-static)# moxa (config-wifi-acl-static)# no entry idx index 18	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Show the Static Wi-Fi ACL

### Commands

**show**

<b>Syntax Description</b>	<b>show</b>	Show the Static Wi-Fi ACL entries.
	<b>Defaults</b>	N/A
	<b>Command Modes</b>	config-wifi-acl-static
	<b>Usage Guidelines</b>	Firmware v2.0 and later.
	<b>Examples</b>	moxa (config)# wlan acl static moxa (config-wifi-acl-static)# moxa (config-wifi-acl-static)# show
	<b>Error Messages</b>	N/A
	<b>Related Commands</b>	N/A
	<b>Privilege Required</b>	System Management

## Configure Automatic Wi-Fi ACL Settings

### Commands

**wlan acl auto {enabled | disabled} attempts <retry-failure-threshold (1-10)>**

<b>Syntax Description</b>	<b>wlan</b>	Configure WLAN settings.
	<b>acl</b>	Configure Wi-Fi Access Control List (ACL) settings.
	<b>auto</b>	Configure Automatic ACL settings.
	<b>enabled</b>	Enable the Automatic ACL policy.
	<b>disabled</b>	Disable the Automatic ACL policy.
	<b>attempts</b>	Configure the number of Wi-Fi authentication failure retry attempts. If exceeded, the connecting device will be added to the block list until unblocked by an authorized user, the device is rebooted, or the Wi-Fi interface is reset.
	<retry-failure-threshold>	Specify the number of Wi-Fi authentication failure retry attempts (1-10).
	<b>Defaults</b>	N/A
	<b>Command Modes</b>	Configuration
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# wlan acl auto enabled attempts retry-failure-threshold 4	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Show the Static and Automatic Wi-Fi ACL Configuration

### Commands

#### **show wlan acl config**

<b>Syntax Description</b>	<b>show</b>	Show configuration settings.
	<b>wlan</b>	Show WLAN configuration settings.
	<b>acl</b>	Show Wi-Fi ACL settings.
	<b>config</b>	Show the Automatic and Static Wi-Fi ACL configuration settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# show wlan acl config [Automatic Wi-Fi ACL] Status : enabled Retry Failure Threshold : 4  [Static Wi-Fi ACL] ...	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Show the Status of Wi-Fi ACL Entries

### Commands

#### **show wlan acl**

<b>Syntax Description</b>	<b>show</b>	Show configuration settings.
	<b>wlan</b>	Show WLAN configuration settings.
	<b>acl</b>	Show the status of Wi-Fi ACL entries.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# show wlan acl Idx MAC Address Status Type ----- 1 00:90:E8:11:22:33 accepted static 2 00:90:E8:11:22:44 blocked automatic & static 3 00:90:E8:11:22:55 blocked manual & static	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Block or Unblock Devices in the Wi-Fi ACL

### Commands

**wlan acl {block | unblock} <mac-addr>**

<b>Syntax Description</b>	<b>wlan</b>	Configure WLAN settings.
	<b>acl</b>	Configure Wi-Fi Access Control List (ACL) settings.
	<b>block</b>	Block the specified device.
	<b>unblock</b>	Unblock the specified device.
	<b>&lt;mac-addr&gt;</b>	Specify the MAC address of the device.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# wlan acl unblock 00:90:e8:11:22:33 Are you sure you want to unblock this client? [y/N]	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Configure Client Isolation Settings by SSID Index

### Commands

**client-isolation ssid-idx <ssid-index (1-9)>**

<b>Syntax Description</b>	<b>client-isolation</b>	Configure Client Isolation settings.
	<b>ssid-idx</b>	Configure Client Isolation settings by SSID index.
	<b>&lt;ssid-index&gt;</b>	Specify the SSID index (1-9).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Configuration	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config)# client-isolation ssid-idx 1 moxa (config-cliso)#	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network	

## Configure the Client Isolation Mode

### Commands

**mode {disabled | same-ssid | same-subnet}**

<b>Syntax Description</b>	<b>mode</b>	Configure Client Isolation mode.
	<b>disabled</b>	Disable Client Isolation.
	<b>same-ssid</b>	Isolate clients connected to the same SSID.
	<b>same-subnet</b>	Isolate clients within the same subnet.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	config-cliso	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config-cliso)#  mode same-subnet	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	moxa (config-cliso)#  subnet-type {static   dhcp} moxa (config-cliso)#  iso-subnet <gateway> <netmask> moxa (config-cliso)#  no mode moxa (config-cliso)#  no subnet-type moxa (config-cliso)#  no iso-subnet moxa (config-cliso)#  iso-subnet <gateway> <netmask>	
<b>Privilege Required</b>	Network	

## Configure Allowed Subnets for Client Isolation

### Commands

**allowed-subnet {new | <subnet-index (1-8)>}**

<b>Syntax Description</b>	<b>allowed-subnet</b>	Configure the allowed subnets for Client Isolation.
	new	Create a new allowed subnet entry.
	<subnet-index>	Specify the subnet index (1-9).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	config-cliso	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa (config-cliso)# allowed-subnet 1 moxa (cliso-allow)#	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	moxa (cliso-allow)# status {enabled   disabled} moxa (cliso-allow)# subnet <ip-domain-name (max len: 63)> <netmask> moxa (cliso-allow)# protocol {all   icmp   tcp   udp} moxa (cliso-allow)# port <port-start (0-65535)> <port-end (0-65535)> moxa (cliso-allow)# exit moxa (config-cliso)# no allowed-subnet {all   <subnet-index (1-8)>}	
<b>Privilege Required</b>	Network	

## Show the Client Isolation Configuration

### Commands

**show client-isolation config**

<b>Syntax Description</b>	<b>show</b>	Show configuration settings.
	<b>client-isolation</b>	Show Client Isolation information.
	<b>config</b>	Show the Client Isolation settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# show client-isolation config  [Index: 1] SSID : RF Band : 5ghz Client Isolation : disabled Subnet Type : static Static Netmask : 255.255.255.0 Static Gateway : 192.168.127.1  Allowed Subnets Idx Status Subnet Proto. Port ----- 1 enabled 192.168.127.200/32 all 123 - 456 2 disabled 192.168.127.100/32 tcp 123 - 456 3 disabled all 0 - 0 4 disabled all 0 - 0 5 disabled all 0 - 0 6 disabled all 0 - 0 7 disabled all 0 - 0 8 disabled all 0 - 0  [Index: 2] ... Error Messages N/A Related Commands N/A Privilege Required Network	

# Device Certificates

## Show Certificates

### Commands

**show cert-mgmt**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>cert-mgmt</b>	Show all certificates under the certification management feature.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# show cert-mgmt	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring/System Backup/Diagnostics/Advanced Diagnostic/Network	

## Generate or Upload the Device Certificate for HTTPS

### Commands

**cert-mgmt cert https {generate | <source>}**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>cert</b>	Generate or upload device certificates.
	<b>https</b>	Generate or upload a device certificate for HTTPS.
	<b>generate</b>	Generate a certificate locally through the AWK device.
	<b>&lt;source&gt;</b>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt cert https generate moxa# cert-mgmt cert https sftp://user:password@192.168.127.28/http-cert.crt moxa# cert-mgmt cert https sftp://user:password@192.168.127.28/folder-1/cert.pem folder-2/key.key	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Export the Device Certificate for HTTPS

### Commands

**cert-mgmt csr https <storage-location>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>csr</b>	Export the certificate signing request.
	<b>https</b>	Export the device certificate for HTTPS.
	<b>&lt;storage-location&gt;</b>	Specify the storage location for the exported file.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt csr https sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Generate or Upload the Device Certificate for Syslog

### Commands

**cert-mgmt cert syslog <server-id (1-3)> {generate | <source>}**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>cert</b>	Generate or upload device certificates.
	<b>syslog</b>	Generate or upload a device certificate for Syslog.
	<server id (1-3)>	Specify the index of the Syslog server (1 to 3).
	<b>generate</b>	Generate a certificate locally through the AWK device.
	<source>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt cert syslog server-id 1 sftp://user:password@192.168.127.28/syslog-cert.crt	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor System	

## Export the Device Certificate for Syslog

### Commands

**cert-mgmt csr syslog <storage-location>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>csr</b>	Export the certificate signing request.
	<b>syslog</b>	Export the device certificate for Syslog.
	<server id (1-3)>	Specify the index of the Syslog server (1 to 3).
	<storage-location>	Specify the storage location for the exported file.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt csr syslog <server-id (1-3)> sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Upload the CA Certificate for Syslog

### Commands

**cert-mgmt ca-cert syslog <server-id (1-3)> <source>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Generate or upload device certificates.
	<b>syslog</b>	Upload the server CA certificate for Syslog.
	<server id (1-3)>	Specify the index of the Syslog server (1 to 3).
	<source>	Specify the file source to upload a certificate from.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt ca-cert syslog <server-id (1-3)> sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor System	

## Remove the CA Certificate for Syslog

### Commands

**no cert-mgmt ca-cert syslog <server-id (1-3)>**

<b>Syntax Description</b>	<b>no</b>	Remove or reset settings.
	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Remove a CA certificate.
	<b>syslog</b>	Remove the CA certificate for Syslog.
	<server id (1-3)>	Specify the index of the Syslog server (1 to 3).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# no cert-mgmt ca-cert syslog <server-id (1-3)>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor System	

## Upload the CA Certificate for Email Notifications

### Commands

**cert-mgmt ca-cert email-notification <source>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Generate or upload device certificates.
	<b>syslog</b>	Upload the server CA certificate for Email Notifications.
	<source>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt ca-cert email-notification sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor System	

## Remove the CA Certificate for Email Notifications

### Commands

**no cert-mgmt ca-cert email-notification**

<b>Syntax Description</b>	<b>no</b>	Remove or reset settings.
	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Remove a CA certificate.
	<b>email-notification</b>	Remove the CA certificate for Email Notifications.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# no cert-mgmt ca-cert email-notification	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor System	

## Upload the CA Certificate for Device Data

### Commands

**cert-mgmt ca-cert device-data <source>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Generate or upload device certificates.
	<b>device-data</b>	Upload the server CA certificate for functions related to device data, including configuration restore.
	<source>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt ca-cert device-data sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Backup	

## Remove the CA Certificate for Device Data

### Commands

**no cert-mgmt ca-cert device-data**

<b>Syntax Description</b>	<b>no</b>	Remove or reset settings.
	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Remove a CA certificate.
	<b>device-data</b>	Remove the CA certificate for device data.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# no cert-mgmt ca-cert device-data	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Backup	

## Upload the CA Certificate for Wi-Fi WPA TLS

### Commands

**cert-mgmt ca-cert wlan-wpa <source>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Generate or upload device certificates.
	<b>wlan-wpa</b>	Upload the server CA certificate for Wi-Fi WPA TLS.
	<source>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt ca-cert wlan-wpa sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Remove the CA Certificate for Wi-Fi WPA TLS

### Commands

**no cert-mgmt ca-cert wlan-wpa**

<b>Syntax Description</b>	<b>no</b>	Remove or reset settings.
	<b>cert-mgmt</b>	Manage certificates.
	<b>ca-cert</b>	Remove a CA certificate.
	<b>wlan-wpa</b>	Remove the CA certificate for Wi-Fi WPA TLS.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# no cert-mgmt ca-cert wlan-wpa	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Generate or Upload the Device Certificate for Device Data Transfer

### Commands

**cert-mgmt cert data-transfer {generate | <source>}**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>cert</b>	Generate or upload device certificates.
	<b>data-transfer</b>	Generate or upload a device certificate for data-transferring functions including Configuration Backup, One Key Information, Data Collection, Event Log Backup, Diagnostic Support, Wi-Fi Mirroring Results, and Ping Results.
	<b>generate</b>	Generate a certificate locally through the AWK device.
	<b>&lt;source&gt;</b>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt cert data-transfer sftp://<account>:<password>@<server>/<certificate filename> [<key filename>]  moxa# cert-mgmt cert data-transfer generate	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring/System Backup/Diagnostics/Advanced Diagnostic	

## Export the Device Certificate for Device Data Transfer.

### Commands

**cert-mgmt csr data-transfer <storage-location>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>csr</b>	Export the certificate signing request.
	<b>data-transfer</b>	Export the device certificate for device data transfer.
	<b>&lt;storage-location&gt;</b>	Specify the storage location for the exported file.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt csr data-transfer sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring/System Backup/Diagnostics/Advanced Diagnostic	

## Generate or Upload the Device Certificate for Wi-Fi WPA TLS

### Commands

**cert-mgmt cert wlan-wpa {generate | <source>}**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>cert</b>	Generate or upload device certificates.
	<b>wlan-wpa</b>	Generate or upload a device certificate for Wi-Fi WPA TLS.
	<b>generate</b>	Generate a certificate locally through the AWK device.
	<b>&lt;source&gt;</b>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	cert-mgmt cert wlan-wpa sftp://<account>:<password>@<server>/<certificate filename> [<key filename>]	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Export the Device Certificate for Wi-Fi WPA TLS

### Commands

**cert-mgmt csr wlan-wpa <storage-location>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>csr</b>	Export the certificate signing request.
	<b>wlan-wpa</b>	Export the device certificate for Wi-Fi WPA TLS.
	<b>&lt;storage-location&gt;</b>	Specify the storage location for the exported file.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt csr wlan-wpa sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Generate or Upload the Device Certificate for Wi-Fi Sniffer and Wi-Fi Mirroring

### Commands

**cert-mgmt cert wlan-sniffer-mirror {generate | <source>}**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>cert</b>	Generate or upload device certificates.
	<b>wlan-sniffer-mirror</b>	Generate or upload a device certificate for Wi-Fi Sniffer and Wi-Fi Mirroring.
	<b>generate</b>	Generate a certificate locally through the AWK device.
	<b>&lt;source&gt;</b>	Specify the file source to upload a certificate from.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt cert wlan-sniffer-mirror sftp://<account>:<password>@<server>/<certificate filename> [<key filename>]	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostic/Network Configuration	

## Export the Device Certificate for Wi-Fi Sniffer and Wi-Fi Mirroring

### Commands

**cert-mgmt csr wlan-sniffer-mirror <storage-location>**

<b>Syntax Description</b>	<b>cert-mgmt</b>	Manage certificates.
	<b>csr</b>	Export the certificate signing request.
	<b>wlan-sniffer-mirror</b>	Export the device certificate for Wi-Fi Sniffer and Wi-Fi Mirroring.
	<storage-location>	Specify the storage location for the exported file.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Firmware v2.0 and later.	
<b>Examples</b>	moxa# cert-mgmt csr wlan-sniffer-mirror sftp://<account>:<password>@<server>/<filename>	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostic/Network Configuration	

## Diagnostics

### SNMP

#### Configure the SNMP Server Version

##### Commands

**user-iface snmp version {v1-v2c-v3 | v1-v2c | v3}**

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>snmp</b>	Configure SNMP settings.
	<b>version</b>	Configure the SNMP server version.
	v1-v2c-v3	Set the SNMP server version to v1-v2c-v3 mixed.
	v1-v2c	Set the SNMP server version to v1-v2c mixed.
	v3	Set the SNMP server version to v3 only.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface snmp version v1-v2c	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the SNMP Read-only Community

### Commands

**user-iface snmp community read-only** <read-community (max len: 31)>

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>snmp</b>	Configure SNMP settings.
	<b>community</b>	Configure the SNMP community.
	<b>read-only</b>	Configure the SNMP read-only community.
	<read-community>	Specify the SNMP read-only community (max. 31 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface snmp community read-only NMS	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Configure the SNMP Read-Write Community

### Commands

**user-iface snmp community read-write** <read-write-community (max len: 31)>

<b>Syntax Description</b>	<b>user-iface</b>	Configure user interface settings.
	<b>snmp</b>	Configure SNMP settings.
	<b>community</b>	Configure the SNMP community.
	read-write	Configure the SNMP read-write community.
	<read-write-community>	Specify the SNMP read-write community (max. 31 characters).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa (config)# user-iface snmp community read-write NMSadmin	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Network Status

### LDDP

#### Enable/Disable LLDP

##### Commands

**lldp {enabled | disabled}**

<b>Syntax Description</b>	<b>lldp</b>	Configure LLDP settings.
	<b>enable</b>	Enable LLDP.
	<b>disable</b>	Disable LLDP.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# lldp enabled	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Configure the LLDP Transmission Interval

### Commands

**lldp transmit-interval <interval (5-32768 sec)>**

<b>Syntax Description</b>	<b>lldp</b>	Configure LLDP settings.
	<b>transmit-interval</b>	Configure the LLDP transmission interval.
	<interval>	Specify the transmission interval (5-32768 sec).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# lldp transmit-interval 1000	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Reset LLDP Settings

### Commands

**no lldp**

<b>Syntax Description</b>	<b>no</b>	Reset settings to their default values.
	<b>lldp</b>	Reset LLDP settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	(config)# no lldp	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the LLDP Settings

### Commands

**show lldp config**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>lldp</b>	Show the LLDP configuration and status.
	<b>config</b>	Show the LLDP configuration.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show lldp config	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Network Configuration	

## Show the List of Discovered Neighbor Devices

### Commands

**show lldp neighbors**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>lldp</b>	Show the LLDP configuration and status.
	<b>neighbors</b>	Show the list of discovered neighbor devices.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show lldp neighbors	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## Bridge Table

### Commands

**show net bridge**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>net</b>	Show network-related status information.
	<b>bridge</b>	Show the bridge table.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show net bridge	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Status Monitoring	

## ARP Table

### Show the ARP Table

### Commands

**show net arp**

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>net</b>	Show network-related status information.
	<b>arp</b>	Show the ARP table.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show net arp	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Account System Auditor System Advanced Diagnostics Diagnostics Network Configuration Status Monitoring System Backup System Management	

# Event Logs and Notifications

## Enable Event Logs for Specific or All Event Groups

### Commands

**logging group** {all | wi-fi | network | system | account | config | pwr} [**action** [local] [syslog]]

Syntax Description	logging	Configure event log settings.
	group	Enable event logs for event groups.
	all	Enable event logs for all event groups.
	wi-fi	Enable Wi-Fi event logs.
	network	Enable network event logs.
	system	Enable system event logs.
	account	Enable account event logs.
	config	Enable configuration event logs.
	pwr	Enable power event logs.
	action	Configure the event log action.
	local	Record the event logs locally.
	syslog	Send the event logs to the syslog server.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# logging group all action local	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Auditor Systems	

## Disable Event Logs for Specific or All Event Groups

### Commands

**no logging group** {all | wi-fi | network | system | account | config | pwr } [**action** [local] [syslog]]

Syntax Description	no	Reset settings to their default values.
	logging	Reset event log settings.
	group	Disable event logs for event groups.
	all	Disable event logs for all event groups.
	wi-fi	Disable Wi-Fi event logs.
	network	Disable network event logs.
	system	Disable system event logs.
	account	Disable account event logs.
	config	Disable configuration event logs.
	pwr	Disable power event logs.
	action	Disable the event log action.
	local	Do not record event logs locally.
	syslog	Do not send the event logs to the syslog server.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	N/A	
Examples	(config)# no logging group all action local	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Auditor Systems	

## Show the Event Log Group Settings

### Commands

show logging group

<b>Syntax Description</b>	<b>show</b>	Show the current settings and device status.
	<b>logging</b>	Show recorded event logs or event log settings.
	<b>group</b>	Show the settings for each event log group.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# show logging group	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor Systems	

## Configure System Event Notifications and Actions

### Commands

**event-notification system-event** {all | event-name} [**action** [trap] [email] [relay]]

<b>Syntax Description</b>	<b>event-notification</b>	Configure event notification settings.
	<b>system-event</b>	Configure system event notification settings.
	all	Enable notifications for all system events.
	event-name	Specify the type of event notification to enable.
	<b>action</b>	Configure the event notification action.
	trap	Enable event notifications through SNMP Traps.
	email	Enable event notifications through email.
	relay	Enable event notifications through the relay.
	<b>Defaults</b>	N/A
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Event names and description: cold-start: The system was cold started. warm-start: The system warm started. config-changed: The system configuration was changed. reaching-log-capacity: The log capacity has been reached. cleared-event-logs: The logs have been cleared. auth-failure: A user failed to log in. pwr1-turned-on: Power 1 was turned on. pwr1-turned-off: Power 1 was turned off. pwr2-turned-on: Power 2 was turned on. pwr2-turned-off: Power 2 was turned off. poe-received: Receiving PoE power. poe-not-received: Not Receiving PoE power. di1-triggered: DI 1 was triggered. di1-disabled: DI 1 was disabled. di2-triggered: DI 2 was triggered. di2-disabled: DI 2 was disabled.	
<b>Examples</b>	(config)# event-notification system-event warm-start action trap (config)# event-notification system-event all action trap email	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor Systems	

## Configure Wi-Fi Event Notifications and Actions

### Commands

**event-notification wifi-event {all | event-name} [action [trap] [email] [relay]]**

Syntax Description	event-notification	Configure event notification settings.
	wifi-event	Configure Wi-Fi event notification settings.
	all	Enable notifications for all Wi-Fi events.
	event-name	Specify the type of event notification to enable.
	action	Configure the event notification action.
	trap	Enable event notifications through SNMP Traps.
	email	Enable event notifications through email.
	relay	Enable event notifications through the relay.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Event names and description: client-joined: A client has joined the network. client-left: A client has left the network.	
<b>Examples</b>	(config)# event-notification wifi-event all action email (config)# event-notification wifi-event client-joined action email	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor Systems	

## Configure Network Event Notifications and Actions

### Commands

**event-notification network-event {all | event-name} [action [trap] [email] [relay]]**

Syntax Description	event-notification	Configure event notification settings.
	network-event	Configure network event notification settings.
	all	Enable notifications for all network events.
	event-name	Specify the type of event notification to enable.
	action	Configure the event notification action.
	trap	Enable event notifications through SNMP Traps.
	email	Enable event notifications through email.
	relay	Enable event notifications through the relay.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Config	
<b>Usage Guidelines</b>	Event names and description: lan1-link: A link is established on LAN 1. no-lan1-link: The link on LAN 1 was disconnected. lan2-link: A link is established on LAN 2. no-lan2-link: The link on LAN 2 was disconnected.	
<b>Examples</b>	(config)# event-notification network-event all action email (config)# event-notification network-event no-lan1-link action trap	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Auditor Systems	

## Disable System Event Notifications and Actions

### Commands

**no event-notification system-event {all | event-name} [action [trap] [email] [relay]]**

Syntax Description	no	Reset settings to their default values.
	event-notification	Disable event notifications.
	system-event	Disable system event notifications.
	all	Disable notifications for all events.
	event-name	Specify the type of event notifications to disable.
	action	Disable event notifications actions.
	trap	Disable event notifications through SNMP Traps.
	email	Disable event notifications through email.
	relay	Disable event notifications through the relay.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	<p>Event names and description: cold-start: The system was cold started. warm-start: The system warm started. config-changed: The system configuration was changed. reaching-log-capacity: The log capacity has been reached. cleared-event-logs: The logs have been cleared. auth-failure: A user failed to log in. pwr1-turned-on: Power 1 was turned on. pwr1-turned-off: Power 1 was turned off. pwr2-turned-on: Power 2 was turned on. pwr2-turned-off: Power 2 was turned off. poe-received: Receiving PoE power. poe-not-received: Not Receiving PoE power. di1-triggered: DI 1 was triggered. di1-disabled: DI 1 was disabled. di2-triggered: DI 2 was triggered. di2-disabled: DI 2 was disabled.</p>	
Examples	(config)# no event-notification system-event warm-start action trap (config)# no event-notification system-event all action trap email	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Auditor Systems	

## Disable Wi-Fi Event Notifications and Actions

### Commands

**no event-notification wifi-event {all | event-name} [action [trap] [email] [relay]]**

Syntax Description	no	Reset settings to their default values.
	event-notification	Disable event notification settings.
	wifi-event	Disable Wi-Fi event notification settings.
	all	Disable notifications for all Wi-Fi events.
	event-name	Specify the type of event notification to disable.
	action	Disable event notifications actions.
	trap	Disable event notifications through SNMP Traps.
	email	Disable event notifications through email.
	relay	Disable event notifications through the relay.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	Event names and description: client-joined: A client has joined the network. client-left: A client has left the network.	
Examples	(config)# no event-notification wifi-event all action email (config)# no event-notification wifi-event client-joined action email	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Auditor Systems	

## Disable Network Event Notifications and Actions

### Commands

**no event-notification network-event {all | event-name} [action [trap] [email] [relay]]**

Syntax Description	no	Reset settings to their default values.
	event-notification	Disable event notification settings.
	network-event	Disable network event notification settings.
	all	Disable notifications for all network events.
	event-name	Specify the type of event notification to disable.
	action	Disable event notifications actions.
	trap	Disable event notifications through SNMP Traps.
	email	Disable event notifications through email.
	relay	Disable event notifications through the relay.
Defaults	N/A	
Command Modes	Config	
Usage Guidelines	Event names and description: lan1-link: A link is established on LAN 1. no-lan1-link: The link on LAN 1 was disconnected. lan2-link: A link is established on LAN 2. no-lan2-link: The link on LAN 2 was disconnected.	
Examples	(config)# no event-notification network-event all action email (config)# no event-notification network-event no-lan1-link action trap	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Auditor Systems	

## Show Event Notification Settings

### Commands

**show event-notification {all | system-event | wifi-event | network-event}**

Syntax Description	show	Show the current settings and device status.
	event-notification	Show the event notification settings.
	all	Show the notification settings for all events.
	system-event	Show the notification settings for system events.
	wifi-event	Show the notification settings for Wi-Fi events.
	network-event	Show the notification settings for network events.
Defaults	N/A	
Command Modes	Basic	
Usage Guidelines	N/A	
Examples	moxa# show event-notification all moxa# show event-notification system-event	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Auditor Systems	

## Tools

### System Data Collection

#### Create a Snapshot of the System Configuration and Status

### Commands

**diag one-key <storage-location>**

Syntax Description	diag	Perform system diagnostics.
	one-key	Create a snapshot of the system configuration and status.
	<storage-location>	Specify the storage location.
Defaults	N/A	
Command Modes	Basic	
Usage Guidelines	storage-location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>   abc-02}	
Examples	moxa# diag one-key tftp://192.87.87.87	
Error Messages	N/A	
Related Commands	N/A	
Privilege Required	Diagnostics	

## Configure Data Collection Settings

### Commands

**diag data-collect data** [wifi-statistic] [wifi-conn] [wifi-txrx] [network] [service] [system]

Syntax Description	diag	Perform system diagnostics.
	data-collect	Configure data collection settings.
	data	Configure which data is collected.
	[wifi-statistic]	Collect Wi-Fi statistics.
	[wifi-conn]	Collect Wi-Fi connection information.
	[wifi-txrx]	Collect Wi-Fi data transmission and reception information.
	[network]	Collect network status information.
	[service]	Collect device service status information.
	[system]	Collect system status information.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag data-collect data wifi-statistic system	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Configure the Data Collection Interval and Stopping Time

### Commands

**diag data-collect interval <interval** (1-30 sec) **stop** <end-time (hh:mm:ss) > <end-month (1-12) > <end-date (1-31) > <end-year (2000-2037) >

Syntax Description	diag	Perform system diagnostics.
	data-collect	Configure data collection settings.
	interval	Configure data collection interval settings.
	<interval>	Specify the collection interval (1-30 sec).
	Stop	Specify the data collection stopping time.
	<end-time>	Specify the stop time (hh:mm:ss, e.g., 01:02:03).
	<end-month>	Specify the ending month (1-12).
	<end-date>	Specify the ending date (1-31).
	<end-year>	Specify the ending year (2000-2037).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag data-collect interval 25 stop 01:02:03 1 30 2023	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Start Data Collection

### Commands

**diag data-collect start <storage-location>**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>data-collect</b>	Configure data collection settings.
	<b>start</b>	Start data collection.
	<storage-location>	Specify the storage location.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>   abc-02}	
<b>Examples</b>	moxa# diag data-collect start abc-02	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Stop Data Collection

### Commands

**diag data-collect stop**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>data-collect</b>	Configure data collection settings.
	<b>stop</b>	Stop data collection.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag data-collect stop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## View the Data Collection Result

### Commands

**diag data-collect list**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>data-collect</b>	Configure data collection settings.
	<b>list</b>	Show the data collection results.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag data-collect list	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Upload the Data Collected Result

### Commands

**diag data-collect upload <storage-location>**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>data-collect</b>	Configure data collection settings.
	<b>upload</b>	Upload the data collection results.
	<storage-location>	Specify the storage location.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>   abc-02}	
<b>Examples</b>	moxa# diag data-collect upload tftp://192.168.127.84	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Channel Scan

### Perform a Channel Analysis

### Commands

**diag wlan channel-analyze**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>wlan</b>	Perform a Wi-Fi action.
	<b>channel-analyze</b>	Perform a channel analysis.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag wlan channel-analyze Wi-Fi performance will be affected during the channel analysis. Are you sure you want to continue? [Y/N] Y	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Advanced Diagnostics	

# Ping

## Ping the Target Host

### Commands

**ping** <host> **round** <round (3-86400)> [**stop** <end-time (hh:mm:ss)> <end-month (1-12)> <end-date (1-31)> <end-year (2000-2037)> [**interval** <interval (1-30 sec)>]

Syntax Description	<b>ping</b>	Ping target host.
<host>		Specify the target host to ping (IPv4 Address/Host).
<b>round</b>		Stop pinging after a specified number of rounds.
<round>		Specify the number of pinging rounds (3-86400).
<b>stop</b>		Stop pinging after a specified period of time.
<end-time>		Specify the stop time (hh:mm:ss, e.g., 01:02:03).
<end-month>		Specify the ending month (1-12).
<end-date>		Specify the ending date (1-31).
<end-year>		Specify the ending year (2000-2037).
<b>interval</b>		Configure the ping interval. The default interval is 1 sec.
<interval>		Specify the ping interval (1-30 sec).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# ping 192.168.127.10 round 3 moxa# ping 192.168.127.10 stop 01:02:03 1 1 2004 interval 5	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Stop Pinging

### Commands

**ping stop**

Syntax Description	<b>ping</b>	Ping the target host.
	<b>stop</b>	Stop pinging the target host.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# ping stop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Show the Ping Result

### Commands

**ping result** [<storage-location>]

Syntax Description	<b>ping</b>	Ping the target host.
	<b>result</b>	Retrieve the ping result.
<storage-location>		Specify the storage location.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: [tftp://<server>/<filename>   sftp :://<account>:<password>@<server>/<pathname>]	
<b>Examples</b>	moxa# ping result	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Show the Ping Status

### Commands

**ping state**

<b>Syntax Description</b>	<b>ping</b>	Ping the target host.
	<b>state</b>	Show the ping status.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# ping state	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Wi-Fi Mirroring

### Start the Wi-Fi Mirror Capture

### Commands

**diag wlan mirror {local <mirror-period (1-60 min)> | remote}**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>wlan</b>	Perform a Wi-Fi action.
	<b>mirror</b>	Configure Wi-Fi mirroring settings.
	<b>local</b>	Set the Wi-Fi mirroring type to Local.
	<b>&lt;mirror-period&gt;</b>	Specify the mirroring period (1-60 min).
	<b>remote</b>	Set the Wi-Fi mirroring type to Remote.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag wlan mirror remote	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

### Stop the Wi-Fi Mirror Capture

### Commands

**diag wlan mirror stop**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>wlan</b>	Perform a Wi-Fi action.
	<b>mirror</b>	Configure Wi-Fi mirroring settings.
	<b>stop</b>	Stop Wi-Fi mirroring.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag wlan mirror stop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Upload the Mirroring Result to a SFTP/TFTP Server

### Commands

**diag wlan mirror result <storage-location>**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>wlan</b>	Perform a Wi-Fi action.
	<b>mirror</b>	Configure Wi-Fi mirroring settings.
	<b>result</b>	Upload the mirroring results to an SFTP/TFTP server or delete the mirroring results.
	<storage-location>	Specify the storage location.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	Storage location: {tftp://<server>   sftp ://<account>:<password>@<server>/<folder>}	
<b>Examples</b>	moxa# diag wlan mirror result tftp://192.168.127.84	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Delete the Wi-Fi Mirroring Result

### Commands

**diag wlan mirror result delete**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>wlan</b>	Perform a Wi-Fi action.
	<b>mirror</b>	Configure Wi-Fi mirroring settings.
	<b>result</b>	Upload the mirroring results to an SFTP/TFTP server or delete the mirroring results.
	<b>delete</b>	Delete the mirroring results.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag wlan mirror result delete	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

# Maintenance and Tools

## Locator

### Activate the Device Locator

#### Commands

**diag locator [<duration (1-300 sec)>]**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>locator</b>	Start or stop the device locator.
	<duration (1-300 sec)>	Specify the duration the device locator will be active for (1-300 sec).
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag locator moxa# diag locator 60	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

### Stop the Device Locator

#### Commands

**diag locator stop**

<b>Syntax Description</b>	<b>diag</b>	Perform system diagnostics.
	<b>locator</b>	Start or stop the device locator.
	<b>stop</b>	Deactivate the device locator.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# diag locator stop	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	Diagnostics	

## Reboot

### Perform a Warm Reboot

#### Commands

**reload**

<b>Syntax Description</b>	<b>reload</b>	Perform a warm restart.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# reload	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	

## Perform Reset to Factory Default

### Commands

**reload factory-default** [keep log]

<b>Syntax Description</b>	<b>reload</b>	Perform a warm restart or reset to factory default settings.
	<b>factory-default</b>	Reset to factory default settings.
	keep log	Keep the system event logs when resetting to factory default settings.
<b>Defaults</b>	N/A	
<b>Command Modes</b>	Basic	
<b>Usage Guidelines</b>	N/A	
<b>Examples</b>	moxa# reload factory-default Are you sure you want to reset the device to factory default settings? [Y/N] y	
<b>Error Messages</b>	N/A	
<b>Related Commands</b>	N/A	
<b>Privilege Required</b>	System Management	