Ruckus Wireless™ ZoneDirector™

Release 9.13 CLI Reference Guide

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Contents

About This Guide

The *ZoneDirector Release 9.13 CLI Reference Guide* contains the syntax and commands for configuring and managing ZoneDirector from a command line interface.

This guide is written for service operators and system administrators who are responsible for managing, configuring, and troubleshooting Ruckus Wireless devices. Consequently, it assumes a basic working knowledge of local area networking, wireless networking, and wireless devices.

NOTE If release notes are shipped with your product and the information there differs from the information in this guide, follow the instructions in the release notes.

Most user guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) or HTML on the Ruckus Wireless Support Web site at

https://support.ruckuswireless.com/documents.

Document Conventions

The following two tables list the text and notice conventions that are used throughout this guide.

Table 1. Text conventions

Convention	Description	Example
`monospace`	Represents information as it appears on screen	`[Device name]>`
`monospace bold`	Represents information that you enter	`[Device name]>` **`set ipaddr 10.0.0.12`**
default font bold	Keyboard keys, software buttons, and field names	On the **Start** menu, click **All Programs.**
italics	Screen or page names	Click **Advanced Settings**. The *Advanced Settings* page appears.

Table 2. Notice conventions

Notice Type	Description
NOTE	Information that describes important features or instructions
CAUTION!	Information that alerts you to potential loss of data or potential damage to an application, system, or device
WARNING!	Information that alerts you to potential personal injury

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- Document title
- Document part number (on the cover page)
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For example:

- ZoneDirector Release 9.13 CLI Reference Guide
- Part number: 800-71237-001 Revision A
- Page 88

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https://training.ruckuswireless.com

Understanding the ZoneDirector Command Line Interface

1

In this chapter:

Introduction

The Ruckus Wireless ZoneDirector Command Line Interface (CLI) is a software tool that enables you to configure and manage ZoneDirector, Ruckus Wireless's wireless LAN controller.

Using the command line interface, you can configure controller system settings, access points, wireless networks and client connection settings, or view current status information for each component of your ZoneFlex network. Each command performs a specific action for configuring device settings or returning information about the status of a specific device feature.

Accessing the Command Line Interface

This section describes the requirements and the procedure for accessing the ZoneDirector CLI. The ZoneDirector CLI supports a maximum of 8 simultaneous SSH sessions, and maximum 4 sessions from the same IP address.

Requirements

To access the ZoneDirector CLI, you will need the following:

- A computer that you want to designate as administrative computer
- A network connection to ZoneDirector, or
- An RS-232 serial to Ethernet cable
- A Telnet or SSH (secure shell) client program

Step 1: Connecting the Administrative Computer to ZoneDirector

The ZoneDirector Command Line Interface can be accessed in one of two ways:

- Using an Ethernet Connection
- Using a Serial Connection

Using an Ethernet Connection

1. Ensure that ZoneDirector's IP address is reachable from the administrative computer. In factory default state, ZoneDirector's IP address is **`192.168.0.2`**.
2. Continue to "Step 2: Start and Configure the SSH Client".

Using a Serial Connection

Connecting ZoneDirector 1200/3000/5000

For ZoneDirector 1200/3000/5000, you need an RS-232 to Ethernet cable.

1. Connect the RJ-45 end of the cable to the port labeled *Console* on ZoneDirector.
2. Connect the RS-232 end of the cable to a COM port on the administrative computer.

Step 2: Start and Configure the SSH Client

Before starting this procedure, make sure that your SSH client is already installed on the administrative computer.

NOTE The following procedure uses PuTTY, a free and open source Telnet/SSH client, for accessing the ZoneDirector CLI. If you are using a different Telnet/SSH client, the procedure may be slightly different (although the connection settings should be the same). For more information on PuTTY, visit `www.putty.org`.

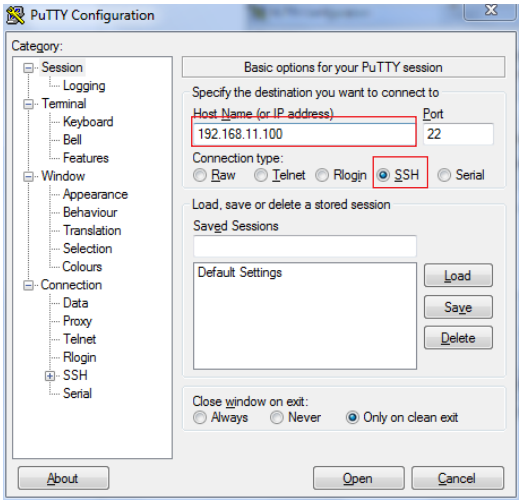
Using SSH

To start and configure the SSH client

1. Start PuTTY. The PuTTY Configuration dialog box appears, showing the *Session* screen.
2. In *Connection type*, select **SSH**.

NOTE Telnet access is disabled by default for security reasons. SSH is the recommended access method and you will not be allowed to access the ZoneDirector CLI via Telnet unless you have specifically enabled Telnet access.

Figure 1. Selecting SSH as the connection type



3 Enter the ZoneDirector IP address in the **Host Name (or IP address)** field.

4 Click **Open**. The PuTTY console appears and displays the login prompt.

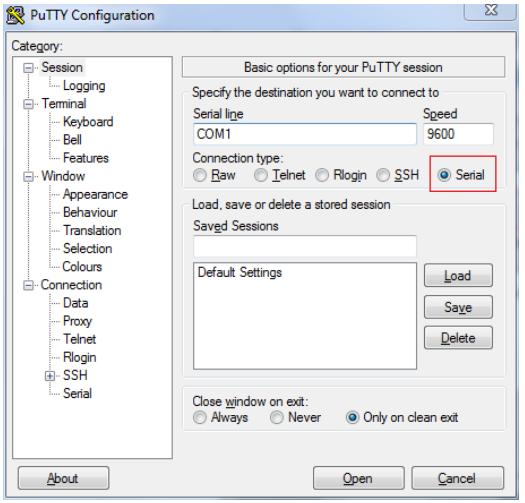
Using a Serial Connection

To start and configure the SSH client:

1 Start PuTTY. The PuTTY Configuration dialog box appears, showing the *Session* screen.

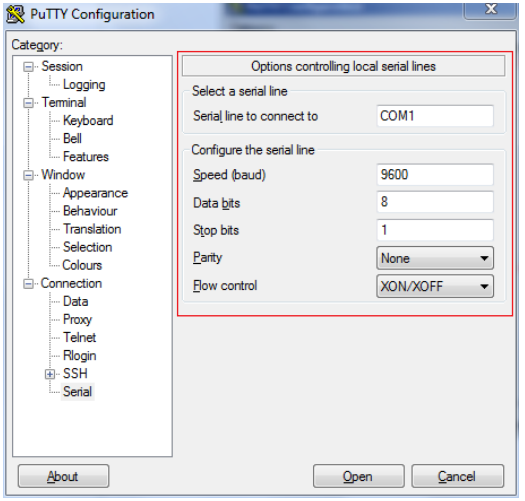
2 In *Connection type*, select **Serial** if you are connecting via serial cable.

Figure 2. Select Serial as the connection type



3 Under *Category*, click **Connection** > **Serial**. The serial connection options appear on the right side of the dialog box, displaying PuTTY's default serial connection settings.

Figure 3. PuTTY's default serial connection settings

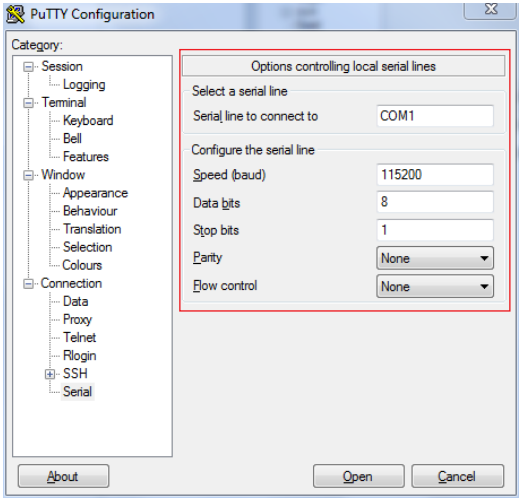


4 Configure the serial connection settings as follows:

- *Serial line to connect to*: Type the COM port name to which you connected the RS-232 cable.

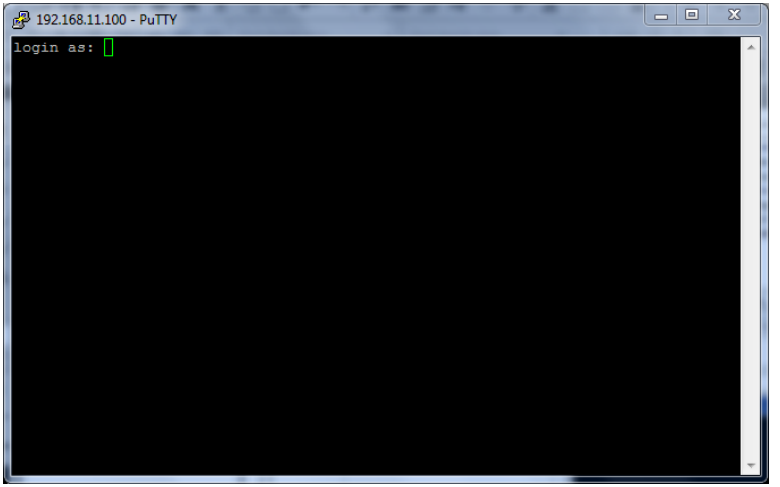
- *Bits per second*: 115200
- *Data bits*: 8
- *Stop bits*: 1
- *Parity*: None
- *Flow control*: None

Figure 4. PuTTY's serial connection settings for connecting to ZoneDirector



5 Click **Open**. The PuTTY console appears and displays the login prompt.

Figure 5. The PuTTY console displaying the login prompt



You have completed configuring the Telnet/SSH client to connect to ZoneDirector.

Step 3: Log Into the CLI

1. At the `login as` prompt, press <Enter> once.
1. At the `Please login` prompt, enter the ZoneDirector login name (default: **`admin`**), and then press `<Enter>`.
2. At the `Password` prompt, enter the ZoneDirector login password (default: **`admin`**), and then press `<Enter>`. The Ruckus Wireless ZoneDirector CLI welcome message and the `ruckus>` prompt appears.

You are now logged into the ZoneDirector CLI as a user with limited privileges. As a user with limited privileges, you can view a history of commands that were previously executed and ping a device. If you want to run more commands, you can switch to privileged mode by entering **`enable`** at the root prompt.

To view a list of commands that are available at the root level, enter **`help`** or **`?`**.

NOTE You can tell if you are logged into the CLI in limited or privileged mode by looking at the `ruckus` prompt. If you are in limited mode, the prompt appears as `ruckus>` (with a *greater than* sign). If you are in privileged mode, the prompt appears as `ruckus#` (with a pound sign).

NOTE To enable privileged mode when another user session is enabled, use the <force> option with the enable command to force disconnect of the previous user session. (i.e., **`enable force`**).

Using the ? Command

To display a brief list of commands that are available within a specific context, use the `?` command.

Example

To display commands within the `debug` context, enter the following command:

```
ruckus# debug
ruckus(debug)# ?
```

`help`	Shows available commands.
`list-all`	Lists all available commands.
`history`	Shows a list of previously run commands.
`quit`	Exits the debug context.
`fw_upgrade`	Upgrades the controller's firmware.
`delete-station <MAC>`	Disassociates a station.
`restart-ap <MAC>`	Restarts a device.
`wlaninfo`	Configures and enables debugging of WLAN service settings.
`show`	Contains commands that can be executed from within the context.
`ps`	Displays information about all processes that are running (ps -aux).
`save_debug_info <IP-ADDR> <FILE-NAME>`	Saves debug information.
`remote_ap_cli`	Excutes AP CLI command in remote AP.
`save-config <IP-ADDR> <FILE-NAME>`	Upload the configuration to the designated TFTP site.

`logs`	Contains commands that can be executed from within the context.
`no`	Contains commands that can be executed from within the context.
`remote-troubleshooting`	Troubleshooting commands group.
`collect_ap_coredump`	Enable AP core dump collection.
`script`	Manages system script for debug.

Top-Level Commands

The following table lists the top-level CLI commands available in privileged mode.

`exit`	End the CLI session.
`help`	Show available commands.
`quit`	End the CLI session.
`history`	Show a list of previously run commands.
`disable`	Disable privileged commands.
`ping <IP-ADDR/DOMAIN-NAME>`	Send ICMP echo packets to an IP/IPv6 address or domain name.
`reboot`	Reboot the controller.
`shutdown`	Shut down ZoneDirector, to power on ZoneDirector again, press the power.
`set-factory`	Reset the controller to factory defaults.
`config`	Enter the config context.
`logo`	Configure Ruckus logo. Options are “logo nodog” and “logo default.”
`debug`	Enter the debug context.
`show`	Display system options and settings.
`reset`	Reset RADIUS statistics commands.

`session-timeout <NUMBER>`	Set the CLI session timeout.
`monitor`	Begin system status monitoring.

Using the Help Command

To display all commands that the Ruckus Wireless CLI supports, use the `help` command.

NOTE Entering the `help` command into the CLI prints a long list of commands on the screen. If you only want to view the commands that are available from within a specific context, use the `?` command. See Using the ? Command above for more information.

Viewing Current Configuration

2

In this chapter:

Show Commands Overview

Show commands display the controller's current configuration and status information, such as system status and system configuration settings, along with the status and configurations of the controller's WLAN services, users, roles, AAA servers, access points, connected clients, AP groups and WLAN groups, etc.

Monitor commands allow the administrator to enter monitoring mode to view status and configuration changes as they occur.

Show Location Services Commands

Use the `show location-services` commands to display information about the location servers that have been configured on the controller.

show location-services all

To display a list of all location services servers that have been added to the controller, use the following command:

```
show location-services all
```

Syntax Description

`show`	Display information
`location-services`	Display location server information
`all`	All location servers

Defaults

None.

Example

```
ruckus# show location-services all
Venue:
  ID:
    1:
      Status                = Disabled
      Venue Name            = MyVenue
```

```
      Location Server FQDN  = lbls.ruckuslbs.com
      Location Server Port  = 8883
      Location Server PSK   = password


ruckus#
```

show location-services name

To display information on the specified location server, use the following command:

```
show location-services name <WORD>
```

Show AAA Commands

Use the `show aaa` commands to display information about the authentication, authorization and accounting servers (AAA) servers that have been added to the controller.

show aaa all

To display a list of all AAA servers that have been added to the controller, use the following command:

```
show aaa all
```

Syntax Description

show	Display information
`aaa`	Display AAA server information
`all`	All AAA servers

Defaults

None.

Example

```
ruckus# show aaa all
AAA:
ID:
```

```
1:
Name= Local Database
Type= Local

2:
Name= Guest Accounts
Type= Guest

3:
Name= RADIUS Accounting
Type= RADIUS Accounting server
Primary RADIUS Accounting:
IP Address= 192.168.11.7
Port= 1813
Secret= secret
Secondary RADIUS Accounting:
Status= Disabled

4:
Name= Ruckus RADIUS
Type= RADIUS server
Auth Method=
Primary RADIUS:
IP Address= 192.168.11.99
Port= 1812
Secret= secret
Secondary RADIUS:
Status= Disabled

5:
Name= Ruckus AD
Type= Active Directory
IP Address= 192.168.11.17
Port= 389
Windows Domain Name= domain.ruckuswireless.com
Global Catalog= Disabled
Admin DN=domain
Admin Password=password
```

```
ruckus#
```

show aaa name

To display information about a specific AAA server that has been added to the controller, use the following command:

```
show aaa name <WORD>
```

Syntax Description

show	Display information
aaa name	Display information about the specified AAA server name
<WORD>	Name of the AAA server

Defaults

None.

Example

```
ruckus# show aaa name "Ruckus RADIUS"
AAA:
ID:
4:
Name= Ruckus RADIUS
Type= RADIUS server
Auth Method=
Primary RADIUS:
IP Address= 192.168.11.99
Port= 1812
Secret= secret
Secondary RADIUS:
Status= Disabled

ruckus#
```

Show DHCP Commands

Use the `show dhcp` commands to display the current settings for any DHCP servers configured for DHCP relay agent use.

show dhcp all

To display a list of all DHCP servers that have been configured on the controller, use the following command:

```
show dhcp all
```

Syntax Description

show	Display information
dhcp	Display information about the specified DHCP server name
all	Display a list of all DHCP servers

Defaults

None.

Example

```
ruckus# show dhcp all
DHCP servers for DHCP relay agent:
  ID:
    1:
      Name= DHCP Server 1
      Description=
      IP Address= 192.168.11.1
      IP Address=


ruckus#
```

show dhcp name

To display a list of all DHCP servers that have been configured on the controller, use the following command:

```
show dhcp name <WORD>
```

Syntax Description

show	Display information
dhcp	Display information about the specified DHCP server name
name	Display the DHCP server specified
<WORD>	Name of the DHCP server

Defaults

None.

Example

```
ruckus# show dhcp name "DHCP Server 1"
DHCP servers for DHCP relay agent:
  ID:
    1:
      Name= DHCP Server 1
      Description=
      IP Address= 192.168.11.1
      IP Address=

ruckus#
```

Show Access Point Commands

Use the `show ap` commands to display the current settings of managed devices, including their network address settings, device names, radio settings, and others.

show ap all

To display a summary of all devices that have been approved, use the following command:

```
show ap all
```

Syntax Description

show	Display information

ap	Show device information
`all`	All devices that have been approved by the controller

Defaults

None.

Example

```
ruckus# show ap all
AP:
ID:
1:
MAC Address= 04:4f:aa:0c:b1:00
Model= zf7962
Approved= Yes
Device Name= 7962 - MAP
Description= 7962 MAP (Living Room)
Location= Living Room
GPS=
Group Name= System Default
Radio a/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Radio b/g/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Override global ap-model port configuration= No
Network Setting:
Protocol mode= IPv4 and IPv6
Device IP Settings= Keep AP's Setting
IP Type= DHCP
```

```
IP Address= 192.168.11.6
Netmask= 255.255.255.0
Gateway= 192.168.11.1
Primary DNS Server=
Secondary DNS Server=

Device IPv6 Settings= Keep AP's Setting
IPv6 Type= Auto Configuration
IPv6 Address= fc00::1
IPv6 Prefix Length= 7
IPv6 Gateway=
IPv6 Primary DNS Server=
IPv6 Secondary DNS Server=
Mesh:
Status= Enabled
Mode= Auto
Uplink:
Status= Smart

2:
MAC Address= 00:24:82:3f:14:60
Model= zf7363
Approved= Yes
Device Name= 7363 - RAP
Description= 7363 - RAP (Study)
Location= Study
GPS=
Group Name= System Default
Radio a/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Radio b/g/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
```

```
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Override global ap-model port configuration= No
Network Setting:
Protocol mode= IPv4 and IPv6
Device IP Settings= Keep AP's Setting
IP Type= DHCP
IP Address= 192.168.11.3
Netmask= 255.255.255.0
Gateway= 192.168.11.1
Primary DNS Server= 192.168.11.1
Secondary DNS Server=

Device IPv6 Settings= Keep AP's Setting
IPv6 Type= Auto Configuration
IPv6 Address=
IPv6 Prefix Length= 7
IPv6 Gateway=
IPv6 Primary DNS Server=
IPv6 Secondary DNS Server=
Mesh:
Status= Enabled
Mode= Auto
Uplink:
Status= Smart


ruckus#
```

show ap devname

To display information about a specific device using its device name, use the following command:

```
show ap devname <WORD>
```

Syntax Description

show	Display information

ap `devname`	Show information about the specified device name
`<WORD>`	The name of the device

Defaults

None.

Example

```
ruckus# show ap devname "7962 - MAP"
AP:
ID:
1:
MAC Address= 04:4f:aa:0c:b1:00
Model= zf7962
Approved= Yes
Device Name= 7962 - MAP
Description= 7962 MAP (Living Room)
Location= Living Room
GPS=
Group Name= System Default
Radio a/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Radio b/g/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Override global ap-model port configuration= No
Network Setting:
Protocol mode= IPv4 and IPv6
Device IP Settings= Keep AP's Setting
IP Type= DHCP
```

```
IP Address= 192.168.11.6
Netmask= 255.255.255.0
Gateway= 192.168.11.1
Primary DNS Server=
Secondary DNS Server=

Device IPv6 Settings= Keep AP's Setting
IPv6 Type= Auto Configuration
IPv6 Address= fc00::1
IPv6 Prefix Length= 7
IPv6 Gateway=
IPv6 Primary DNS Server=
IPv6 Secondary DNS Server=
Mesh:
Status= Enabled
Mode= Auto
Uplink:
Status= Smart

ruckus#
```

show ap mac

To search for the device that matches the specified MAC address, use the following command:

```
show ap mac <MAC>
```

Syntax Description

show	Display information
ap mac	Display information about the device with the specified MAC address
<MAC>	The MAC address of the device

Defaults

None.

Example

```
ruckus# show ap mac 04:4f:aa:0c:b1:00
AP:
ID:
1:
MAC Address= 04:4f:aa:0c:b1:00
Model= zf7962
Approved= Yes
Device Name= 7962 - MAP
Description= 7962 MAP (Living Room)
Location= Living Room
GPS=
Group Name= System Default
Radio a/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Radio b/g/n:
Channelization= Auto
Channel= Auto
WLAN Services enabled= Yes
5.8GHz Channels = Disabled
Tx. Power= Auto
WLAN Group Name= Default
Override global ap-model port configuration= No
Network Setting:
Protocol mode= IPv4 and IPv6
Device IP Settings= Keep AP's Setting
IP Type= DHCP
IP Address= 192.168.11.6
Netmask= 255.255.255.0
Gateway= 192.168.11.1
Primary DNS Server=
Secondary DNS Server=
```

```
Device IPv6 Settings= Keep AP's Setting
IPv6 Type= Auto Configuration
IPv6 Address= fc00::1
IPv6 Prefix Length= 7
IPv6 Gateway=
IPv6 Primary DNS Server=
IPv6 Secondary DNS Server=
Mesh:
Status= Enabled
Mode= Auto
Uplink:
Status= Smart

ruckus#
```

Show AP Group Commands

Use the show ap-group commands to display Access Point Group settings.

show ap-group all

To display all AP groups and their settings (including the default AP group), use the following command:

```
show ap-group all
```

Syntax Description

show	Display information
ap-group	Display access point group information
all	All AP groups

Defaults

None.

Example

```
ruckus# show ap-group all
APGROUP:
 ID:
```

```
 1:
 Name= System Default
 Description= System default group for Access Points
 Radio 11bgn:
 Channelization= Auto
 Channel= Auto
 Enable auto channel selection which select from 1,6,11= Yes
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Radio 11an:
 Channelization= Auto
 Channel= Auto
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Members:
 MAC= 04:4f:aa:0c:b1:00
 MAC= 00:24:82:3f:14:60
 MAC= 74:91:1a:2b:ff:a0

APGROUP:
 ID:
 2:
 Name= ap group 2
 Description=
 Radio 11bgn:
 Channelization= Auto
 Channel= Auto
 Enable auto channel selection which select from 1,6,11= Yes
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Radio 11an:
 Channelization= Auto
 Channel= Auto
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
```

```
 Members:

APGROUP:
 ID:
 3:
 Name= ap group 1
 Description=
 Radio 11bgn:
 Channelization= Auto
 Channel= Auto
 Enable auto channel selection which select from 1,6,11= Yes
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Radio 11an:
 Channelization= Auto
 Channel= Auto
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Members:

ruckus#
```

show ap-group name

To display details about a specific AP group, use the following command:

```
show ap-group name <WORD>
```

Syntax Description

show	Display information
ap-group name	Display information about the AP group with the specified name
<WORD>	The name of the AP group

Defaults

None.

Example

```
ruckus# show ap-group name "System Default"
APGROUP:
 ID:
 1:
 Name= System Default
 Description= System default group for Access Points
 Radio 11bgn:
 Channelization= Auto
 Channel= Auto
 Enable auto channel selection which select from 1,6,11= Yes
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Radio 11an:
 Channelization= Auto
 Channel= Auto
 Tx. Power= Auto
 11N only Mode= Auto
 WLAN Group= Default
 Members:
 MAC= 04:4f:aa:0c:b1:00
 MAC= 00:24:82:3f:14:60
 MAC= 74:91:1a:2b:ff:a0

ruckus#
```

Show AP Policy Commands

Use the show ap-policy command to display global access point policies that have been configured on the controller.

show ap-policy

show ap-policy

Example

```
ruckus# show ap-policy
```

```
Automatically approve all join requests from APs= Enabled
Limited ZD Discovery:
Status= Disabled
Management VLAN:
Status= Keep AP's setting
Balances the number of clients across adjacent APs= Disabled
Max. clients for 11BG radio= 100
Max. clients for 11N radio= 100
LWAPP message MTU= 1450
ruckus#
```

Show System Configuration Commands

Use the `show config` commands to display the controller's system configuration settings.

show config

To display the current system configuration settings, including network addressing, management VLAN, country code, logging, AAA servers, WLAN services, WLAN groups, AP list, SNMP, and ACLs, etc., use the following command:

```
show config
```

Syntax Description

show	Display information
`config`	Display system configuration settings

Defaults

None.

Example

```
ruckus# show config
Protocol Mode= IPv4-Only
Device IP Address:
  Mode= Manual
```

```
  IP Address= 192.168.40.100
  Netmask= 255.255.255.0
  Gateway Address= 192.168.40.1
  Primary DNS= 192.168.40.1
  Secondary DNS=

Management VLAN:
  VLAN ID= 1

Country Code:
  Code= United States

Identity:
  Name= ZoneDirector

NTP:
  Status= Enabled
  Address= ntp.ruckuswireless.com

Log:
  Status= Disabled
  Address= 192.168.3.10
  Facility= local0
  Priority= emerg
  AP Facility= local0
  AP Priority= emerg

Tunnel MTU:
  Tunnel MTU= 1500

Bonjour Service:
  Status= Disabled

Telnet Server:
  Status= Disabled

FTP Server:
  Status= Enabled
  Anonynous Status= Enabled
```

```
FlexMaster:
  Status= Disabled
  Address=
  Interval= 15

AAA:
  ID:
    1:
      Name= Local Database
      Type= Local

    2:
      Name= Guest Accounts
      Type= Guest
...
...
ruckus#
```

Show Performance Commands

Use the show performance commands to display performance details on an AP radio or client station.

show performance

Use the following command to display performance details:

```
show performance
```

show performance ap-radio2-4

Use the following command to display performance details for the AP's 2.4 GHz radio.

```
show performance ap-radio2-4 mac <MAC>
```

Syntax Description

show performance	Display performance information
ap-radio-2-4	Display AP 2.4 GHz radio performance

mac <MAC>	The MAC address of the AP

Defaults

None.

Example

```
ruckus# show performance ap-radio2-4 mac c4:10:8a:1f:d1:f0
AP performance:
    1:
      Radio b/g/n:
      MAC Address= c4:10:8a:1f:d1:f0
      Estimated Capacity= 9930
      Downlink= 67
      Uplink= 0
      RF pollution= 11
      Associated clients= 1
      Other APs= 0
ruckus#
```

show performance ap-radio5

Use the following command to display performance details for the AP's 5 GHz radio:

show performance ap-radio5 mac <MAC>

Syntax Description

show performance	Display performance information
ap-radio-5	Display AP 5 GHz radio performance
mac <MAC>	The MAC address of the AP

Defaults

None.

Example

ruckus# **show performance ap-radio5 mac c4:10:8a:1f:d1:f0**

AP performance:

1:

```
    Radio a/n:
    MAC Address= c4:10:8a:1f:d1:f0
    Estimated Capacity= 20891
    Downlink= 77
    Uplink= 2
    RF pollution= 3
    Associated clients= 1
    Other APs= 0
ruckus#
```

show performance station

Use the following command to display performance details for a connected client/station:

```
show performance station mac <MAC>
```

Syntax Description

show performance	Display performance information
`station`	Display station performance
mac <MAC>	The MAC address of the station

Defaults

None.

Example

```
ruckus# show performance station mac 00:22:fb:ad:1b:2e
Station performance:
      MAC Address= 00:22:fb:ad:1b:2e
      Estimated Capacity= 61401
      Downlink= 76
      Uplink= 18
ruckus#
```

Show System Information Commands

Use the `show sysinfo` commands to display the controller's system information.

show sysinfo

To display an overview of the system status, including system, devices, usage summary, user activities, system activities, used access points, and support information, use the following command:

```
show sysinfo
```

Syntax Description

show	Display information
sysinfo	Display an overview of various system statuses

Defaults

None.

Example

```
ruckus# show sysinfo
System Overview:
  Name= ZoneDirector
  IP Address= 192.168.40.100
  MAC Address= 00:13:11:01:01:01
  Uptime= 4d 0h 18m
  Model= ZD1112
  Licensed APs= 12
  Serial Number= 000000000011
  Version= 9.8.0.0 build 112

Devices Overview:
  Number of APs= 3
  Number of Client Devices= 2
  Number of Rogue Devices= 15

Usage Summary:
  Usage of 1 hr:
    Max. Concurrent Users= 2
    Bytes Transmitted= 45.87M
    Number of Rogue Devices= 15
  Usage of 24 hr:
    Max. Concurrent Users= 3
```

```
    Bytes Transmitted= 5.90G
    Number of Rogue Devices= 50

Memory Utilization:
  Used Bytes= 61009920
  Used Percentage= 47%
  Free Bytes= 67158016
  Free Percentage= 53%

ruckus#
```

Show Ethernet Info Commands

Use the show ethinfo command to display current system Ethernet status.

show ethinfo

```
show ethinfo
```

Syntax Description

show	Display information
`ethinfo`	Display the current system Ethernet status

Defaults

None.

Example

```
ruckus# show ethinfo
System Ethernet Overview:
  Port  0:
    Interface= eth0
    MAC Address= 00:13:11:01:01:01
    Physical Link= up
    Speed= 1000Mbps
  Port  1:
    Interface= eth1
    MAC Address= 00:13:11:01:01:02
```

```
    Physical Link= up
    Speed= 100Mbps

ruckus#
```

Show Technical Support Commands

Use the following commands to display information that Ruckus Wireless may need when providing technical support.

show techsupport

To display system information required by Technical Support, use the following command:

```
show techsupport
```

Syntax Description

show	Display information
techsupport	Display information about the controller that may be required by Ruckus Wireless Technical Support

Defaults

None.

Example

```
ruckus# show techsupport
ruckus# show techsupport
System Overview:
  Name= ZoneDirector
  IP Address= 192.168.40.100
  MAC Address= 00:13:11:01:01:01
  Uptime= 15d 18h 44m
  Model= ZD1112
  Licensed APs= 12
  Serial Number= 000000000011
  Version= 9.7.0.0 build 155
```

```
Devices Overview:
  Number of APs= 3
  Number of Client Devices= 2
  Number of Rogue Devices= 0

Usage Summary:
  Usage of 1 hr:
    Max. Concurrent Users= 2
    Bytes Transmitted= 76.66M
    Number of Rogue Devices= 0
  Usage of 24 hr:
    Max. Concurrent Users= 0
    Bytes Transmitted= 2.24G
    Number of Rogue Devices= 0

Memory Utilization:
  Used Bytes= 95956992
  Used Percentage= 74%
  Free Bytes= 32210944
  Free Percentage= 26%

Protocol Mode= IPv4-Only
Device IP Address:
  Mode= Manual
  IP Address= 192.168.40.100
  Netmask= 255.255.255.0
  Gateway Address= 192.168.40.1
  Primary DNS= 192.168.40.1
  Secondary DNS=

Management VLAN:
  VLAN ID= 1

Country Code:
  Code= United States

Identity:
  Name= ZoneDirector
...
```

```
...
ruckus#
```

Show Management ACL Commands

Use the `mgmt-acl` and `mgmt-acl-ipv6` commands to display information about the management access control lists configured on the controller.

show mgmt-acl all

To display all management ACLs that have been configured on the controller, use the following command:

```
show mgmt-acl all
```

show mgmt-acl name

To display information about a specific management ACL, use the following command:

```
show mgmt-acl name <NAME>
```

show mgmt-acl-ipv6 all

To display all management ACLs that have been configured on the controller, use the following command:

```
show mgmt-acl-ipv6 all
```

show mgmt-acl-ipv6 name

To display information about a specific management ACL, use the following command:

```
show mgmt-acl-ipv6 name <NAME>
```

Syntax Description

show	Display information
`mgmt-acl`	Display management ACL settings
mgmt-acl-ipv6	Display IPv6 management ACL settings
`all`	All configured management ACLs
name	Display information about a specific management ACL

<NAME>	The name of the management ACL

Defaults

None.

Example

```
ruckus# show mgmt-acl all
Management ACL:
Name= New Name
  Restriction Type= range
  IP range= 192.168.11.1-192.168.11.253

Name= Remote 1
  Restriction Type= single
  IP address= 172.17.17.150

Name= Remote admin 2
  Restriction Type= single
  IP address= 172.17.16.12


ruckus#
```

Show Static Route Commands

Use the `static-route` commands to display information about static routes configured on the controller.

show static-route all

To display all static route information, use the following command:

```
show static-route all
```

show static-route name

show static-route name <NAME>

show static-route-ipv6 all

```
show static-route-ipv6 all
```

show static-route-ipv6 name

```
show static-route-ipv6 name <NAME>
```

Syntax Description

show	Display information
static-route	Display static route settings
static-route-ipv6	Display IPv6 static route settings
all	All configured static routes
name	Display information about a specific configured static route
<NAME>	The name of the static route entry

Defaults

None.

Example

```
ruckus# show static-route all
Static Route:
ID= 1
Name= Static Route 1
IP subnet= 192.168.11.1/24
IP gateway= 192.168.11.1


ruckus#
```

Show WLAN Commands

Use the following commands to display information about available WLANs on the controller.

show wlan

To display all available WLAN services (SSIDs), use the following command:

```
show wlan [all|name] <WORD>
```

Syntax Description

show	Display information
wlan	Display WLAN services (SSIDs) settings
all	Display all WLAN services
name <WORD>	Display the named WLAN only

Defaults

None.

Example

```
ruckus(config)# show wlan all
WLAN Service:
  ID:
    1:
      NAME = Ruckus-WPA2
      Tx. Rate of Management Frame(2.4GHz) = 2.0Mbps
      Tx. Rate of Management Frame(5GHz)   = 6.0Mbps
      Beacon Interval = 100ms
      SSID = Ruckus-WPA2
      Description = Ruckus-WPA2
      Type = Standard Usage
      Authentication = open
      Encryption = wpa2
      Algorithm = aes
      Passphrase = 10Asha10
      FT Roaming = Disabled
      802.11k Neighbor report = Disabled
      Web Authentication = Disabled
      Authentication Server = Disabled
      Called-Station-Id type = wlan-bssid
      Tunnel Mode = Disabled
      Background Scanning = Enabled
      Max. Clients = 100
      Isolation per AP = Disabled
      Isolation across AP = Disabled
      Zero-IT Activation = Enabled
      Priority = High
```

```
Load Balancing = Enabled
Band Balancing = Enabled
Dynamic PSK = Enabled
Dynamic PSK Passphrase Length = 62
Dynamic PSK Type = friendly
Dynamic PSK Expire Time = one-day
Dynamic PSK Validity Period = first-use
Limit Dynamic PSK = Disabled
Rate Limiting Uplink = Disabled
Rate Limiting Downlink = Disabled
Auto-Proxy configuration:
  Status = Disabled
Inactivity Timeout:
    Status = Enabled
    Timeout = 5 Minutes
VLAN-ID = 1
Dynamic VLAN = Disabled
Closed System = Disabled
Https Redirection = Disabled
OFDM-Only State = Disabled
Multicast Filter State = Disabled
802.11d State = Enabled
Force DHCP State = Disabled
Force DHCP Timeout = 10
DHCP Option82:
    Status = Disabled
    Option82 sub-Option1 = Disabled
    Option82 sub-Option2 = Disabled
    Option82 sub-Option150 = Disabled
    Option82 sub-Option151 = Disabled
Ignore unauthorized client statistic = Disabled
STA Info Extraction State = Enabled
BSS Minrate = Disabled
Call Admission Control State = Disabled
PMK Cache Timeout= 720 minutes
PMK Cache for Reconnect= Enabled
NAS-ID Type= wlan-bssid
Roaming Acct-Interim-Update= Disabled
PAP Message Authenticator = Enabled
```

```
      Send EAP-Failure = Disabled
      L2/MAC = No ACLS
      L3/L4/IP Address = No ACLS
      L3/L4/IPv6 Address = No ACLS
      Precedence = Default
      Proxy ARP = Disabled
      Device Policy = No ACLS
      Vlan Pool = No Pools
      Role based Access Control Policy = Disabled
      SmartRoam = Disabled  Roam-factor = 1
      White List = No ACLS
      Application Visibility = enabled
      Apply Policy Group = No_Denys


ruckus(config)#
```

Show WLAN Group Commands

Use the following commands to display information about the WLAN groups that exist on the controller.

show wlan-group all

To display a list of existing WLAN groups, use the following command:

```
show wlan-group all
```

Syntax Description

show	Display information
`wlan-group`	Display information about the specified WLAN group
`all`	Show all WLAN groups

Defaults

None.

Example

```
ruckus# show wlan-group all
```

```
WLAN Group:
ID:
1:
Name= Default
Description= Default WLANs for Access Points
WLAN Service:
WLAN1:
NAME= Ruckus1
VLAN=
WLAN2:
NAME= Ruckus2
VLAN=

2:
Name= Guest WLAN Group
Description= 1st floor APs only
WLAN Service:
WLAN1:
NAME= Ruckus-Guest
VLAN=


ruckus#
```

show wlan-group name

To display information about the specified WLAN group name, use the following command:

```
show wlan-group name <WORD>
```

Syntax Description

show	Display information
`wlan-group name`	Display information about the specified WLAN group name
<WORD>	The name of the WLAN group

Defaults

None.

Example

```
ruckus# show wlan-group name Default
WLAN Group:
ID:
1:
Name= Default
Description= Default WLANs for Access Points
WLAN Service:
WLAN1:
NAME= Ruckus1
VLAN=
WLAN2:
NAME= Ruckus2
VLAN=

ruckus#
```

Show L2 Access Control List Commands

Use the `show l2acl` commands to display Layer 2 access control list rules that have been added to the controller.

show l2acl all

To display all Layer 2 access control list (ACL) rules that have been added to the controller and their settings, use the following command:

```
show l2acl all
```

Syntax Description

show	Display information
`l2acl`	Display L2 ACL information
all	All L2 ACL

Defaults

None.

Example

ruckus# **show l2acl all**

L2/MAC ACL:

ID:

1:

Name= System

Description= System

Restriction: Deny only the stations listed below

Stations:

2:

Name= blocked-sta-list

Description=

Restriction: Deny only the stations listed below

Stations:

show l2acl name

To display the settings of a specific L2 ACL rule that has been added to the controller, use the following command:

```
show l2acl name <WORD>
```

Syntax Description

show	Display information
`l2acl`	Display L2 ACL information
name	Display information about the specified L2 ACL rule name
`<WORD>`	Name of the L2 ACL rule

Defaults

None.

Example

```
ruckus# show l2acl name 1
L2/MAC ACL:
ID:
2:
Name= 1
Description=
Restriction: Deny only the stations listed below
Stations:
MAC Address= 00:33:22:45:34:88
```

Show Whitelist Commands

Use the `show whitelist` commands to display client isolation whitelists that have been added to the controller.

show whitelist all

To display all whitelists that have been added to the controller and their settings, use the following command:

```
show whitelist all
```

Syntax Description

`show`	Display information
`whitelist`	Display whitelist information
`all`	All whitelists

Defaults

None.

Example

```
ruckus# show whitelist all
White Lists:
  ID:
```

```
    1:
      Name= printer whitelist
      Description= printer
      Rules:
        1:
          Description= printer
          MAC = 12:34:56:78:90:00
          IP Address = 192.168.4.10


ruckus#
```

show whitelist name

To display a specified whitelist that has been added to the controller by name, use the following command:

```
show whitelist name <WORD>
```

Syntax Description

`show`	Display information
`whitelist`	Display whitelist information
`name <WORD>`	Specify the name of the whitelist

Defaults

None.

Example

```
ruckus# show whitelist name "printer whitelist"
White Lists:
  ID:
    1:
      Name= printer whitelist
      Description= printer
      Rules:
        1:
          Description= printer
```

```
          MAC = 12:34:56:78:90:00
          IP Address = 192.168.4.10

ruckus#
```

Show L3 Access Control List Commands

Use the `show l3acl` commands to display Layer 3 access control list rules that have been added to the controller.

show l3acl all

To display all Layer 3 access control list (ACL) rules that have been added to the controller and their settings, use the following command:

```
show l3acl all
```

show l3acl-ipv6 all

To display all IPv6 Layer 3 access control list (ACL) rules that have been added to the controller and their settings, use the following command:

```
show l3acl-ipv6 all
```

Syntax Description

show	Display information
`l3acl`	Display L3 ACL information
l3acl-ipv6	Display IPv6 L3 ACL information
all	All L3 ACL

Defaults

None.

Example

```
ruckus# show l3acl all
L3/L4/IP ACL:
ID:
4:
Name= test2
```

```
Description= test2
Default Action if no rule is matched= Deny all by default
Rules:
Order= 1
Description=
Type= Allow
Destination Address= Any
Destination Port= 53
Protocol= Any
Order= 2
Description=
Type= Allow
Destination Address= Any
Destination Port= 67
Protocol= Any
Order= 3
Description=
Type= Allow
Destination Address= 8.8.8.8/24
Destination Port= 25
Protocol= 6
```

show l3acl name

To display the settings of a specific L3 ACL rule that has been added to the controller, use the following command:

```
show l3acl name <WORD>
```

show l3acl-ipv6 name

To display the settings of a specific IPv6 L3 ACL rule that has been added to the controller, use the following command:

```
show l3acl-ipv6 name <WORD>
```

Syntax Description

show	Display information
l3acl	Display L3 ACL information
l3acl-ipv6	Display IPv6 L3 ACL information

name	Display information about the specified L3 ACL rule
<WORD>	Name of the L3 ACL rule

Defaults

None.

Example

```
ruckus# show l3acl name test2
L3/L4/IP ACL:
ID:
4:
Name= test2
Description= test2
Default Action if no rule is matched= Allow all by default
Rules:
Order= 1
Description=
Type= Allow
Destination Address= Any
Destination Port= 53
Protocol= Any
Order= 2
Description=
Type= Allow
Destination Address= Any
Destination Port= 67
Protocol= Any
Order= 3
Description=
Type= Allow
Destination Address= 8.8.8.8/24
Destination Port= 25
Protocol= 6
```

Show Hotspot Commands

Use the `show hotspot` commands to display the controller's hotspot configuration settings.

show hotspot all

To display a list of all hotspot services that have been created on the controller, use the following command:

```
show hotspot all
```

Syntax Description

show	Display information
hotspot	Display hotspot information
all	All available hotspots

Defaults

None.

Example

```
ruckus# show hotspot all
Hotspot:
  ID:
    1:
      Name= Hotspot 1
      WISPr Smart Client Support:
        Status= None
      Login Page Url= http://192.168.1.12/login.htm
     Start Page= redirect to the URL that the user intends
to visit
      Session Timeout:
        Status= Disabled
      Grace Period:
        Status= Disabled
      Intrusion Prevention= Enabled
      Authentication Server= Local Database
      Accounting Server:
        Status= Disabled
      Isolation per AP = Disabled
      Isolation across AP = Disabled
      White List = No ACLS
      Location ID=
      Location Name=
```

```
      Walled Garden 1= 1.1.1.1
      IPv4 Rules:

      IPv6 Rules:


ruckus#
```

show hotspot name

To display information about the specific hotspot service, use the following command:

```
show hotspot name <WORD>
```

If the hotspot name includes a space, you must put the name in quotation marks (for example, “hotspot name”.

Syntax Description

show	Display information
`hotspot name`	Display hotspot information
<WORD>	The name of the hotspot

Defaults

None.

Example

```
ruckus# show hotspot name “Hotspot 1”
Hotspot:
  ID:
    1:
      Name= Hotspot 1
      WISPr Smart Client Support:
        Status= None
      Login Page Url= http://192.168.1.12/login.htm
     Start Page= redirect to the URL that the user intends to visit
      Session Timeout:
        Status= Disabled
```

```
      Grace Period:
        Status= Disabled
      Intrusion Prevention= Enabled
      Authentication Server= Local Database
      Accounting Server:
        Status= Disabled
      Isolation per AP = Disabled
      Isolation across AP = Disabled
      White List = No ACLS
      Location ID=
      Location Name=
      Walled Garden 1= 1.1.1.1
      IPv4 Rules:

      IPv6 Rules:


ruckus#
```

show hs20op all

To display information about all Hotspot 2.0 Operators, use the following command:

```
show hs20op all
```

Syntax Description

show	Display information
hs20op	Display Hotspot 2.0 Operator
all	Display all HS2.0 operators

Defaults

None.

Example

```
ruckus# show hs20op all
Hotspot 2.0 Operator:
  ID:
    1:
```

```
NAME= operator1
Description=
Venue Group= Unspecified
Venue Type= Unspecified
ASRA Option:
  Status= Disabled
Internet Option= Disabled
Access Network Type= Private
IPv4 Address Type= Not Available
IPv6 Address Type= Not Available
HESSID=
Friendly Name List:
Service Provider Profiles:
  ID= 1
    Name= provider1
WAN Metrics:
  Enable Symmetric Link= Disabled
  WAN at Capability= Disabled
  Link Status= Link Up
  WAN Downlink Load= 0
  WAN Downlink Speed= 0
  WAN Uplink Load= 0
  WAN Uplink Speed= 0
  Load Measurement Duration= 0
Connection Capability:
  Description= ICMP
    IP Protocol= 1
    Port Number= 0
      Status= Closed
  Description= FTP
    IP Protocol= 6
    Port Number= 20
      Status= Closed
  Description= SSH
    IP Protocol= 6
    Port Number= 22
      Status= Closed
  Description= HTTP
    IP Protocol= 6
```

```
    Port Number= 80
      Status= Closed
  Description= Used by TLS VPNs
    IP Protocol= 6
    Port Number= 443
      Status= Closed
  Description= Used by PPTP VPNs
    IP Protocol= 6
    Port Number= 1723
      Status= Closed
  Description= VoIP
    IP Protocol= 6
    Port Number= 5060
      Status= Closed
  Description= Used by IKEv2 (IPSec VPN)
    IP Protocol= 17
    Port Number= 500
      Status= Closed
  Description= VoIP
    IP Protocol= 17
    Port Number= 5060
      Status= Closed
  Description= May be used by IKEv2 (IPSec VPN)
    IP Protocol= 17
    Port Number= 4500
      Status= Closed
  Description= ESP, used by IPSec VPNs
    IP Protocol= 50
    Port Number= 0
      Status= Closed
  Additional Connection Capability:
Advanced GAS Settings:
  GAS query response buffering time= 1000
  GAS DOS detection= Disabled
  GAS DOS maximum request number= 200
Hotspot 2.0 Capability:
  Operatiing Class Indication= Unspecified
```

```
ruckus#
```

show hs20op name

To display information about the named Hotspot 2.0 Operator, use the following command:

```
show hs20op name <WORD>
```

Syntax Description

show	Display information
`hs20op name`	Display specific Hotspot 2.0 Operator
<WORD>	The name of the HS2.0 operator

Defaults

None.

Example

```
ruckus# show hs20op name operator1
Hotspot 2.0 Operator:
  ID:
    1:
      NAME= operator1
      Description=
      Venue Group= Unspecified
      Venue Type= Unspecified
      ASRA Option:
        Status= Disabled
      Internet Option= Disabled
      Access Network Type= Private
      IPv4 Address Type= Not Available
      IPv6 Address Type= Not Available
      HESSID=
      Friendly Name List:
      Service Provider Profiles:
        ID= 1
          Name= provider1
      WAN Metrics:
        Enable Symmetric Link= Disabled
```

```
  WAN at Capability= Disabled
  Link Status= Link Up
  WAN Downlink Load= 0
  WAN Downlink Speed= 0
  WAN Uplink Load= 0
  WAN Uplink Speed= 0
  Load Measurement Duration= 0
Connection Capability:
  Description= ICMP
    IP Protocol= 1
    Port Number= 0
      Status= Closed
  Description= FTP
    IP Protocol= 6
    Port Number= 20
      Status= Closed
  Description= SSH
    IP Protocol= 6
    Port Number= 22
      Status= Closed
  Description= HTTP
    IP Protocol= 6
    Port Number= 80
      Status= Closed
  Description= Used by TLS VPNs
    IP Protocol= 6
    Port Number= 443
      Status= Closed
  Description= Used by PPTP VPNs
    IP Protocol= 6
    Port Number= 1723
      Status= Closed
  Description= VoIP
    IP Protocol= 6
    Port Number= 5060
      Status= Closed
  Description= Used by IKEv2 (IPSec VPN)
    IP Protocol= 17
    Port Number= 500
```

```
          Status= Closed
        Description= VoIP
          IP Protocol= 17
          Port Number= 5060
            Status= Closed
        Description= May be used by IKEv2 (IPSec VPN)
          IP Protocol= 17
          Port Number= 4500
            Status= Closed
        Description= ESP, used by IPSec VPNs
          IP Protocol= 50
          Port Number= 0
            Status= Closed
        Additional Connection Capability:
      Advanced GAS Settings:
        GAS query response buffering time= 1000
        GAS DOS detection= Disabled
        GAS DOS maximum request number= 200
      Hotspot 2.0 Capability:
        Operatiing Class Indication= Unspecified

ruckus#
```

show hs20sp all

To display information about the Hotspot 2.0 Service Provider, use the following command:

```
show hs20sp all
```

Syntax Description

show	Display information
hs20sp	Display Hotspot 2.0 Service Provider
all	Display all HS2.0 Service Providers

Defaults

None.

Example

```
ruckus# show hs20sp all
Hotspot 2.0 Service Provider:
  ID:
    1:
      NAME= provider1
      Description=
      Realm List:
      Domain Name List:
      Roaming Consortium List:
      3GPP Cellular Network information:


ruckus#
```

show hs20sp name

To display information about a specific Hotspot 2.0 Service Provider, use the following command:

```
show hs20sp name <WORD>
```

Syntax Description

show	Display information
hs20sp name	Display specific Hotspot 2.0 Service Provider
<WORD>	The name of the HS2.0 Service Provider

Defaults

None.

Example

```
ruckus# show hs20sp name provider1
Hotspot 2.0 Service Provider:
  ID:
    1:
      NAME= provider1
      Description=
      Realm List:
```

```
      Domain Name List:
      Roaming Consortium List:
      3GPP Cellular Network information:

ruckus#
```

Show Guest Policy Commands

Use the following commands to display guest access services.

show guest-access-service

To display a list of guest access services or a specific service, use the following command:

```
show guest-access-service [all|name <WORD>]
```

Example

```
ruckus# show guest-access all
Guest Access:
  Name = guestpolicy1
  Onboarding Portal:
    Aspect = Guest pass and ZeroIT
  Authentication:
    Mode = Use guest pass authentication
    Multiple users to share a single guest pass = Disallowed
  Title = hello
  Terms of Use:
    Status = Disabled
  Redirection:
    Mode = To the URL that the user intends to visit
  Restricted Subnet Access:
      Rules:
        1:
          Description=
          Type= Deny
          Destination Address= local
          Destination Port= Any
          Protocol= Any
```

```
        2:
          Description=
          Type= Deny
          Destination Address= 10.0.0.0/8
          Destination Port= Any
          Protocol= Any
        3:
          Description=
          Type= Deny
          Destination Address= 172.16.0.0/12
          Destination Port= Any
          Protocol= Any
        4:
          Description=
          Type= Deny
          Destination Address= 192.168.0.0/16
          Destination Port= Any
          Protocol= Any

  Restricted IPv6 Access:
      Rules:
        1:
          Description=
          Type= Deny
          Destination Address= local
          Destination Port= Any
          Protocol= Any
          ICMPv6 Type= Any

ruckus#
```

Show Hotspot 2.0 Operator Commands

Use the following commands to display Hotspot 2.0 Operators.

show hs20op

To display a list of Hotspot 2.0 operators, use the following command:

```
show hs20op [all|name <WORD>]
```

Example

```
ruckus# show hs20op all
```

Show Hotspot 2.0 Service Provider Commands

Use the following commands to display Hotspot 2.0 Service Providers.

show hs20sp

To display a list of Hotspot 2.0 service providers, use the following command:

```
show hs20sp [all|name <WORD>]
```

Example

```
ruckus# show hs20sp all
```

Show Role Commands

Use the `show role` commands to display details about roles that have been created on the controller.

show role all

To display a list of all roles that have been created on the controller, use the following command:

```
show role all
```

Syntax Description

show	Display information
`role`	Display role information
all	All roles that have been created

Defaults

None.

Example

```
ruckus# show role all
Role:
  ID:
    1:
      Name= Default
      Description= Allow Access to All WLANs
      Group Attributes=
      Guest Pass Generation= Allowed
      ZoneDirector Administration:
        Status= Allowed
        Allow ZoneDirector Administration= Super Admin
      Allow All WLANs:
        Mode= Allow access to all WLANs
      Access Control Policy= Disallowed


ruckus#
```

show role name

To display information about the specific role, use the following command:

```
show role name <WORD>
```

Syntax Description

show	Display information
`role name`	Display role information
<WORD>	The name of the role

Defaults

None.

Example

```
ruckus# show role name Default
Role:
  ID:
```

```
    1:
      Name= Default
      Description= Allow Access to All WLANs
      Group Attributes=
      Guest Pass Generation= Allowed
      ZoneDirector Administration:
        Status= Allowed
        Allow ZoneDirector Administration= Super Admin
      Allow All WLANs:
        Mode= Allow access to all WLANs
      Access Control Policy= Disallowed

ruckus#
```

Show VLAN Pool Commands

Use the following commands to display VLAN pools.

show vlan-pool

To display a list of VLAN pools, use the following command:

```
show vlan-pool [all|name <WORD>]
```

Example

```
ruckus# show vlan-pool all
VLAN Pool:
  ID:
    1:
      Name = vlan pool 1
      Description =
      Option = 1
      VLANSET = 10,20,30,40,50-55


ruckus#
```

Show User Commands

Use the `show user` commands to display details about user accounts that exist on the controller.

show user all

To display a list of all existing user accounts, use the following command:

```
show user all
```

Syntax Description

show	Display information
`user`	Display user information
all	All existing user accounts

Defaults

None.

Example

```
ruckus# show user all
User:
ID:
1:
User Name= test22
Full Name= test11
Password= test1234
Role= Default
```

show user name

To display information about the specific user, use the following command:

```
show user name <user_name>
```

Syntax Description

show	Display information
`user name`	Display user information
<WORD>	The name of the user

Defaults

None.

Example

```
ruckus# show user name test22
User:
ID:
1:
User Name= test22
Full Name= test11
Password= test1234
Role= Default
```

Show Currently Active Clients Commands

Use the `show current-active-clients` commands to display a list of wireless clients that are associated with the APs that the controller manages.

show current-active-clients all

To display a list of all existing user accounts, use the following command:

```
show current-active-clients all
```

Syntax Description

show	Display information
`current-active-clients`	Display currently active wireless clients
all	All active wireless clients

Defaults

None.

Example

```
ruckus# show current-active-clients all
Current Active Clients:
Clients:
Mac Address= 00:22:fb:5c:e2:32
```

```
User/IP= 172.18.30.2
User/IPv6=
Access Point= 04:4f:aa:13:30:f0
BSSID= 04:4f:aa:13:30:fa
Connect Since=2011/03/01 02:48:22
Auth Method= OPEN
WLAN= 11jojoe
VLAN= None
Channel= 6
Radio= 802.
Signal= 0
Status= Authorized

Last 300 Events/Activities:
Activity:
Date/Time= 2011/03/01 02:49:05
Severity= Low
User=
Activities= User[00:22:fb:5c:e2:32] joins WLAN[11jojoe] from
AP[04:4f:aa:13:30:f0]
Activity:
Date/Time= 2011/03/01 02:48:22
Severity= Low
User=
Activities= User[00:22:fb:5c:e2:32] joins WLAN[11jojoe] from
AP[04:4f:aa:13:30:f0]
...
...
ruckus#
```

show current-active-clients mac

To display information about the specific active client, use the following command:

```
show current-active-clients mac <MAC>
```

Syntax Description

show	Display information

`current-active-clients mac`	Display currently active wireless clients
`<MAC>`	The MAC address of the wireless client

Defaults

None.

Example

```
ruckus# show current-active-clients mac 6c:62:6d:1b:e3:00
Current Active Clients:
Clients:
Mac Address= 6c:62:6d:1b:e3:00
User/IP= 192.168.11.11
User/IPv6=
Access Point= 04:4f:aa:0c:b1:00
BSSID= 04:4f:aa:0c:b1:08
Connect Since=2012/01/10 06:22:44
Auth Method= OPEN
WLAN= Ruckus1
VLAN= None
Channel= 6
Radio= 802.11gn
Signal= 53
Status= Authorized
Received from client= 20746 pkts / 6274531 bytes
Transmitted to client= 25777 pkts / 6714433 bytes
Tx. drops due to retry failure= 1 pkts

Last 300 Events/Activities:
Activitiy:
Date/Time= 2012/01/10 06:22:44
Severity= Low
User=
Activities= User[6c:62:6d:1b:e3:00] joins WLAN[Ruckus1] from
AP[7962 - MAP@04:4f:aa:0c:b1:00]
Activitiy:
Date/Time= 2012/01/09 18:52:28
Severity= Low
```

```
User=
Activities= User[6c:62:6d:1b:e3:00] disconnects from WLAN[Ruckus1]
at AP[7363 - RAP@00:24:82:3f:14:60]
Activitiy:
Date/Time= 2012/01/08 06:08:52
Severity= Low
User=
Activities= AP[7363 - RAP@00:24:82:3f:14:60] radio [11g/n] detects
User[6c:62:6d:1b:e3:00] in WLAN[Ruckus1] roams from AP[7962 -
MAP@04:4f:aa:0c:b1:00]
...
...
ruckus#
```

Show Mesh Commands

Use the `show mesh` commands to display the controller's mesh network configuration and topology.

show mesh info

To display a list of all mesh networks that have been formed, use the following command:

```
show mesh info
```

Syntax Description

show	Display information
`mesh`	Display mesh network information
info	Show mesh information

Defaults

None.

Example

```
ruckus# show mesh info
Mesh Settings:
Mesh Status= Enabled
Mesh Name(ESSID)= Mesh-000000000311
```

```
Mesh Passphrase= GdxW5CUgrn_SEHOPyCSxv_cQHSca MH-OpnRGfX sRvwXBJL-
wUsD6eeK8CMEZfm
Mesh Hop Detection:
Status= Disabled
Mesh Downlinks Detection:
Status= Disabled
Tx. Rate of Management Frame=2Mbps
Beacon Interval= 200ms
ruckus#
```

show mesh topology

To display the topology of existing mesh networks, use the following command:

```
show mesh topology
```

Syntax Description

show	Display information
mesh	Display mesh network information
topology	Show mesh topology

Defaults

None.

Example

```
ruckus# show mesh topology
Mesh Topology(Mesh-000000000311):
Root Access Points= 00:24:82:3b:14:60
Signal (dB) Downlink=/ Uplink=
Description= 7363 - RAP (Study)
Channel= 153 (11an)
IP Address= 192.168.11.3
Mesh Access Points= 04:4f:ab:0c:b1:00
Signal (dB) Downlink= 28 / Uplink= 30
Description= 7962 MAP (Living Room)
Channel= 153
IP Address= 192.168.11.6
```

```
ruckus#
```

Show Dynamic PSK Commands

Use the `show dynamic-psks` commands to display information about Dynamic PSKs that have been generated. Use the following command:

```
show dynamic-psks
```

Syntax Description

show	Display information
`dynamic-psks`	Display dynamic PSKs that have been generated

Defaults

None.

Example

```
ruckus# show dynamic-psks
Generated Dynamic PSKs:
DPSK:
User= BatchDPSK_User_1
Mac Address= 00:00:00:00:00:00
Created= 2011/03/01 03:30:01
Expired= Unlimited
DPSK:
User= BatchDPSK_User_2
Mac Address= 00:00:00:00:00:00
Created= 2011/03/01 03:30:02
Expired= Unlimited
DPSK:
User= DPSK-User-2
Mac Address= 00:11:22:33:44:55
Created= 2011/03/01 03:30:47
Expired= Unlimited
```

Show Dynamic Certificate Commands

Use the `show dynamic-certs` commands to display information about Dynamic certificates that have been generated. Use the following command:

```
show dynamic-certs
```

Syntax Description

show	Display information
`dynamic-certs`	Display dynamic certificates that have been generated

Defaults

None.

Example

```
ruckus# show dynamic-certs
Generated Dynamic Certs:
```

Show Guest Pass Commands

Use the `show guest-passes` commands to display information about guest passes that have been generated. Use the following command:

```
show guest-passes
```

Syntax Description

show	Display information
`guest-passes`	Display guest passes that have been generated

Defaults

None.

Example

```
ruckus# show guest-passes
Generated Guest Passes:
ID:
Guest Name= John Doe
Remarks=
```

```
Expires= 2012/01/11 08:32:15
Re-auth=
Creator= ruckus
Sharable= No
Wlan= Ruckus-Guest

ruckus#
```

Show Rogue Device Commands

Use the `show rogue-devices` commands to display information about rogue devices that the controller has detected on the network. Use the following command:

```
show rogue-devices
```

Syntax Description

show	Display information
`rogue-devices`	Display rogues devices that have been detected on the network

Defaults

None.

Example

```
ruckus# show rogue-devices
Current Active Rogue Devices:
Rogue Devices:
Mac Address= 00:25:c4:52:1c:a1
Channel= 6
Radio= 802.11bg
Type= AP
Encryption= Open
SSID= V54-HOME001
Last Detected= 2011/03/01 02:03:43

Known/Recognized Rogue Devices:
```

Show Events and Activities Commands

Use the `show events-activities` commands to display information events and network activities that have been recorded by the controller. Use the following command:

```
show events-activities
```

Syntax Description

show	Display information
`events-activities`	Display a list of events and activities records by the controller

Defaults

None.

Example

```
ruckus# show events-activities
ruckus# show events-activities
Last 300 Events/Activities:
Activitiy:
Date/Time= 2012/01/10 08:33:17
Severity= Low
User=
Activities= Admin[ruckus] logs in from [192.168.11.7]
Activitiy:
Date/Time= 2012/01/10 08:32:00
Severity= Low
User=
Activities= WLAN[Ruckus-Guest] with BSSID[04:4f:aa:4c:b1:08]
configuration has been updated on radio [11g/n] of AP[7962 -
MAP@04:4f:aa:0c:b1:00]
Activitiy:
Date/Time= 2012/01/10 08:32:00
Severity= Low
User=
...
...
```

Show Alarm Commands

Use the `show alarm` commands to display alarms that have been generated by the controller. Use the following command:

```
show alarm
```

Syntax Description

show	Display information
`alarm`	Display a list of alarms that have been generated by the controller

Defaults

None.

Example

```
ruckus# show alarm
Last 300 Alarms:
  Alarms:
    Date/Time= 2013/03/27 15:36:59
    Name= AP Lost Contact
    Severity= High
    Activities= Lost contact with AP[7372 - MAP@c0:c5:20:3b:91:f0]
  Alarms:
    Date/Time= 2013/03/18 14:44:21
    Name= ZD warm restart
    Severity= Medium
    Activities= System warm restarted with [user reboot].
...
...
ruckus#
```

Show License Commands

Use the `show license` commands to display the controller's license information, including the model number, the maximum number of APs that it can support, and the maximum number of wireless clients that managed APs can support. Use the following command:

```
show license
```

Syntax Description

show	Display information
`license`	Display the controller's license information

Defaults

None.

Example

```
ruckus# show license
License:
  Model= ZD1112
  Max. AP Number= 12
  Max. Client Number= 1250
ruckus#
```

Show USB Software Commands

Use the show usb-software command to display current USB software package information.

show usb-software

```
show usb-software
```

Syntax Description

show	Display information
`usb-software`	Display USB software package information

Defaults

None.

Example

```
ruckus# show usb-software
Sorry, the USB Software hasn't been found.
```

```
ruckus#
```

Show Application Denial Policy Commands

Use the following commands to display application denial policies, user-defined applications and application port-mapping settings.

show app-denial-policy

Displays the application denial policy settings.

Example

```
ruckus# show app-denial-policy
Application Denial Policy:
  ID:
    1:
      Name= facebook
      Description= deny facebook
      Default Mode= accept
      Rules:
        1:
          Application= HTTP hostname
          Description= facebook.com
ruckus#
```

show user-defined-app

Displays the user defined application settings.

Example

```
ruckus# show user-defined-app
User Defined Application:
  ID:
    1:
      Application= angry birds
      DST-IP= 216.146.46.10
      Netmask= 255.255.255.0
      DST-Port= 5050
```

```
      Protocal= tcp
ruckus#
```

show app-port-mapping

Displays the application category mapping settings.

Example

```
ruckus# show app-port-mapping
Application Port Mapping:
  ID:
    1:
      Name= 2100-tcp
      Port= 2100
      Protocol= tcp
      Description= Facebook
ruckus#
```

Show Session-Timeout Commands

Use the `show session-timeout` command to display the current session timeout interval.

show session-timeout

```
show session-timeout
```

Syntax Description

show	Display information
`session-timeout`	Display the current session timeout interval

Defaults

None.

Example

```
ruckus# show session-timeout
Current session timeout interval is 30 minutes
```

```
ruckus#
```

Show Active Wired Client Commands

Use the `show active-wired-client` commands to display information about currently active wired clients.

show active-wired-client all

```
show active-wired-client all
```

show active-wired-client mac

```
show active-wired-client mac <MAC>
```

Syntax Description

show	Display information
`active-wired-client`	Display the currently active wired client information
all	Show all wired clients
mac	Show a specific client information by MAC address
<MAC>	The MAC address of the specific client

Defaults

None.

Example

```
ruckus# show active-wired-client all
Current Active Wired Clients:

ruckus#
```

Show RADIUS Statistics Commands

Use the following commands to display RADIUS statistics or to reset RADIUS statistics.

show radius-statistics

To display a list of RADIUS server statistics, use the following command:

```
show radius-statistics [server-all|server-
name<WORD>]|[wlan-all|wlan-name<NAME>][latest-ten-
min|latest-one-hour|latest-one-day]
```

Syntax Description

show radius-statistics	Display list of RADIUS server statistics.
server-all	Display statistics for all servers. (Default: recorded from power on.)
server-name <WORD>	Display statistics for the specified server. (Default: recorded from power on.)
wlan-all	Display statistics for all WLANs. (Default: recorded for the last day.)
wlan-name <NAME>	Display statistics for the specified WLAN. (Default: recorded for the last day.)
latest-ten-min	Display statistics for the last 10 minutes.
latest-one-hour	Display statistics for the last hour.
latest-one-day	Display statistics for the last day.

reset radius-statistics

To reset RADIUS statistics, use the following command:

```
reset radius-statistics [server-all|server-
name<WORD>][master|standby][latest-ten-min|latest-one-
hour|latest-one-day]
```

Syntax Description

reset radius-statistics	Reset RADIUS server statistics.
server-all	Reset statistics for all servers to zero. (Default: recorded from power on.)
server-name <WORD>	Reset statistics for the specified server to zero. (Default: recorded from power on.)

wlan-all	Reset statistics for all WLANs. (Default: recorded for the last day.)
wlan-name <NAME>	Reset statistics for the specified WLAN. (Default: recorded for the last day.)
master	Reset statistics of the master server to zero.
standby	Reset statistics of the standby server to zero.
latest-ten-min	Reset statistics recorded for the last 10 minutes
latest-one-hour	Reset statistics recorded for the last hour
latest-one-day	Reset statistics recorded for the last day

Show Load Balancing Commands

Use the following commands to display AP load balancing information.

show load-balance

To display AP load balancing information, use the following command:

```
show load-balance
```

Example

```
ruckus# show load-balance
*** Show AP load balance
Radio---Enable--Scan--ActThresh---AdjThresh---WeakBypass---
StrongBypass---NewActTrigger---Headroom
 2GHz     0   2000       10        50        33         55
3             3
 5GHz     0   2000       10        43        35         55
3             3
----MAC Address----Cli-New-Lim---Allow-----Fallbk----Adjacent 2-
GHz Radios [MacAdrs FwdRssi RevRssi SumRssi]
 c4:10:8a:1f:d1:f0   1   0   0 1000000000 0000000000
 c0:c5:20:3b:91:f0   2   0   0 1000000000 0000000000
----MAC Address----Cli-New-Lim---Allow-----Fallbk----Adjacent 5-
GHz Radios [MacAdrs FwdRssi RevRssi SumRssi]
 c4:10:8a:1f:d1:f0   0   0   0 1000000000 0000000000
 c0:c5:20:3b:91:f0   1   0   0 1000000000 0000000000
```

```
ruckus#
```

Monitor AP MAC Commands

Use the `monitor ap mac` command to monitor details on a specific access point.

monitor ap mac

```
monitor ap mac <MAC>
```

Syntax Description

monitor	Begin monitoring mode
`ap mac`	Designate the access point to begin monitoring
<MAC>	The MAC address of the specific access point

Defaults

None.

Example

```
ruckus# monitor ap mac 04:4f:aa:0c:b1:00
----------------------------------------------------------------
---------------
ID MAC Approved Device-Name Description
104:4f:aa:0c:b1:00 Yes7962 - MAP7962 MAP (Living
----------------------------------------------------------------
---------------
IPv4-ADDRMASK GATEWAYPRI-DNS
192.168.11.6 255.255.255.0192.168.11.1
----------------------------------------------------------------
---------------
Radio-TypeRX-Packets(M)/RX-Bytes(G) TX-Packets(M)/TX-Bytes(G)
Retries(%)
Radio a/n 36.9/2.028.6/2.00.0
Radio-TypeRX-Packets(M)/RX-Bytes(G) TX-Packets(M)/TX-Bytes(G)
Retries(%)
Radio b/g/n 37.8/2.012.4/2.00.3
----------------------------------------------------------------
---------------
```

```
Status Mode LocationUplink-Status
EnabledAuto Living Room Smart
------------------------------------------------------------------
------------------------------------------------------------------
-----------------------------
ID MAC Approved Device-Name Description
104:4f:aa:0c:b1:00 Yes7962 - MAP7962 MAP (Living
------------------------------------------------------------------
---------------
IPv4-ADDRMASK GATEWAYPRI-DNS
192.168.11.6 255.255.255.0192.168.11.1
------------------------------------------------------------------
---------------
Radio-TypeRX-Packets(M)/RX-Bytes(G) TX-Packets(M)/TX-Bytes(G)
Retries(%)
Radio a/n 36.9/2.028.6/2.00.0
Radio-TypeRX-Packets(M)/RX-Bytes(G) TX-Packets(M)/TX-Bytes(G)
Retries(%)
Radio b/g/n 37.8/2.012.4/2.00.3
------------------------------------------------------------------
---------------
Status Mode LocationUplink-Status
EnabledAuto Living Room Smart
------------------------------------------------------------------
------------------------------------------------------------------
-----------------------------
ID MAC Approved Device-Name Description
104:4f:aa:0c:b1:00 Yes7962 - MAP7962 MAP (Living
------------------------------------------------------------------
---------------
IPv4-ADDRMASK GATEWAYPRI-DNS
192.168.11.6 255.255.255.0192.168.11.1
------------------------------------------------------------------
---------------
Radio-TypeRX-Packets(M)/RX-Bytes(G) TX-Packets(M)/TX-Bytes(G)
Retries(%)
Radio a/n 36.9/2.028.6/2.00.0
Radio-TypeRX-Packets(M)/RX-Bytes(G) TX-Packets(M)/TX-Bytes(G)
Retries(%)
Radio b/g/n 37.8/2.012.4/2.00.3
```

```
------------------------------------------------------------------
---------------
Status Mode LocationUplink-Status
EnabledAuto Living Room Smart
------------------------------------------------------------------
---------------



ruckus#
```

Monitor Currently Active Client Commands

Use the `monitor current-active-clients` command to monitor details on a specific client.

monitor current-active-clients

```
monitor current-active-clients mac <MAC>
```

Syntax Description

monitor	Begin monitoring mode
`current-active-clients mac`	Designate the currently active client to begin monitoring
<MAC>	The MAC address of the specific client

Defaults

None.

Example

```
ruckus# monitor current-active-clients mac 00:22:fb:ad:1b:2e
------------------------------------------------------------------
---------------
04:4f:aa:0c:b1:00 192.168.11.7 Ruckus1 None Authorized
------------------------------------------------------------------
---------------
04:4f:aa:0c:b1:0c153 11an43 OPEN
```

```
-------------------------------------------------------------------
--------------
44.3/6.743.2/17.0 36
-------------------------------------------------------------------
-------------------------------------------------------------------
-----------------------------


ruckus#
```

monitor current-active-clients-mcs-info

To monitors MCS information for the specified current active clients, use the following command:

```
monitor current-active-clients-mcs-info sta-mac <MAC> ap-mac <MAC> bssid <BSSID>
```

Syntax Description

monitor	Begin monitoring mode
`current-active-clients-mcs-info`	Monitor MCS info of currently active clients
sta-mac <MAC>	The MAC address of the specific client
ap-mac <MAC>	MAC address of the AP
bssid <BSSID>	Monitor clients connected to the specified BSSID

Monitor Sysinfo Commands

Use the `monitor sysinfo` command to monitor system information.

monitor sysinfo

```
monitor sysinfo
```

Syntax Description

monitor	Begin monitoring mode
sysinfo	Display the system information

Example

```
ruckus# monitor sysinfo
------------------------------------------------------------------
---------------
IPv4-ADDR IPv6-ADDR MAC Uptime Model MAX-APs
192.168.11.100NULL 00:13:11:01:01:01 12d 1h 29mZD111212
------------------------------------------------------------------
---------------
Number-of-APs Number-of-ClientsNumber-of-Rogues Name
2 10ruckus
------------------------------------------------------------------
---------------
 Usage of 1 hr|Usage of 24 hr
Max-Concurrent-Users TX-BytesRogues | Max-Concurrent-Users TX-
BytesRogues
12.33M 02297.58M 2
------------------------------------------------------------------
---------------
Used-Bytes Used-Percentage Free-BytesFree-Percentage
71675904 55% 57483264 45%
------------------------------------------------------------------
------------------------------------------------------------------
------------------------------
IPv4-ADDR IPv6-ADDR MAC Uptime Model MAX-APs
192.168.11.100NULL 00:13:11:01:01:01 12d 1h 29mZD111212
------------------------------------------------------------------
---------------
Number-of-APs Number-of-ClientsNumber-of-Rogues Name
2 10ruckus
------------------------------------------------------------------
---------------
 Usage of 1 hr|Usage of 24 hr
Max-Concurrent-Users TX-BytesRogues | Max-Concurrent-Users TX-
BytesRogues
12.39M 02297.64M 2
```

```
-------------------------------------------------------------------
---------------
Used-Bytes Used-Percentage Free-BytesFree-Percentage
71675904 55% 57483264 45%
-------------------------------------------------------------------
-------------------------------------------------------------------
------------------------------
```

Configuring Controller Settings

3

In this chapter:

Configuration Commands Overview

This section describes the commands that you can use to configure ZoneDirector via the `config` context. From the privileged commands context, type **`config`** to enter the configuration context. To show a list of commands available from within the config context, type **`help`** or **`?`**.

General Config Commands

The following section describes general configuration commands can be executed from within the config context. To save your configuration changes and exit the config context, use the `end` or `exit` command. To discard your changes and exit the config context, use the `abort` or `quit` command.

Some sub-contexts within the config context do not allow the use of the `abort` or `quit` commands; you must save your changes and exit the sub-context. Many commands offer a corresponding "no" command to undo your configuration changes (for example, use "`no wlan`" to delete a WLAN).

help

Shows available commands.

history

Shows a list of previously run commands.

abort

Exits the config context without saving changes. Some contexts do not allow abort, you must save your changes to exit the context (end or exit).

end

Saves changes, and then exits the config context.

exit

Saves changes, and then exits the config context.

quit

Exits the config context without saving changes. Some contexts do not allow quit, you must save your changes to exit the context (end or exit).

Configure Context Show Commands

Use the following `show` commands to display configured settings within the config context.

show aaa

Displays a list of available AAA servers.

show dhcp

Displays a list of available DHCP servers.

show admin

Displays information about the administrator settings.

show mgmt-acl

Displays a list of all management access controls.

show mgmt-acl-ipv6

Displays a list of IPv6 management access controls.

show static-route

Displays a list of all static route entries.

show static-route-ipv6

Shows the static route for IPv6.

show ap

Displays a list of all approved devices.

show l2acl

Displays a list of L2 Access Control Lists.

show l3acl

Displays a list of L3/L4/IP ACL.

show whitelist

Displays a list of client isolation white lists.

show l3acl-ipv6

Displays a list of L3/L4/IPv6 ACL.

show prece

Displays a list of Precedence Policies.

show dvcpcy

Displays a list of Device Policies.

show app-denial-policy

Displays the application denial policy settings.

show user-defined-app

Displays the user defined application settings.

show app-port-mapping

Displays the application category mapping settings.

show load-balancing

Displays information about Load balancing.

show wlan

Displays a list of all WLAN services (Names).

show wlan-group

Displays a list of existing WLAN groups.

show role

Displays a list of roles.

show vlan-pool

Displays a list of VLAN pools.

show user

Displays a list of users.

show hotspot

Displays a list of hotspot entries.

show guest-access-service

To display a list of guest access services, use the following command:

```
show guest-access-service [all|name<WORD>]
```

show ap-group

To display all or specified AP groups, use the following command:

```
show ap-group [all|name<WORD>]
```

show ap-policy

Displays the ap policy settings.

show usb-software

Displays USB Software Package information.

show location-services

Displays a list of configured location services.

show mdnsproxyrule

To display Mdnsproxy rules, use the following command:

```
show mdnsproxyrule <ID-From> <ID-to>
```

show mdnsproxy

To display Mdnsproxy status, use the following command:

```
show mdnsproxy <ID-From> <ID-to>
```

show bonjour-policy

To display Bonjour policy rules, use the following command:

```
show bonjour-policy <name>
```

Configure Location Services Commands

This section describes the commands that you can use to configure Location Service entries on the controller. The following commands can be executed from within the `config-location-services` context. To show a list of commands available from within the aaa context, type help or ?.

location-services

To create or modify a location server, use the following command:

```
location-services <WORD>
```

Syntax Description

location-services <WORD>	Creates a new location server or modifies an existing location server.
abort	Exits the config-location-services context without saving changes.
end	Saves changes, and then exits the config-location-services context.
exit	Saves changes, and then exits the config-location-services context.
quit	Exits the config-location-services context without saving changes.
fqdn <WORD>	Sets the location server FQDN.
port <PORT-NUM>	Sets the location server port.
password <WORD>	Sets the location server preshared key.
show	Displays configured location services for all venues.

Example

```
ruckus(config)# location-services locationserver1
The location venue 'locationserver1' has been created. To save it,
type 'end' or 'exit'.
ruckus(config-location-services)# fqdn ruckuslbs.ruckuswire-
less.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-location-services)# password secret1234
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-location-services)# show
Venue:
  ID:
    :
      Status                = Disabled
      Venue Name            = locationserver1
      Location Server FQDN  = ruckuslbs.ruckuswireless.com
      Location Server Port  = 8883
      Location Server PSK   = secret1234

ruckus(config-location-services)# end
The location venue 'locationserver1' has been updated and saved.
Your changes have been saved.
ruckus(config)#
```

no location-services

To delete a location server from the list of location servers, use the following command:

```
no location-services <WORD>
```

Configure AAA Server Commands

This section describes the commands that you can use to configure AAA server entries on the controller. The following commands can be executed from within the `config-aaa` context. To show a list of commands available from within the context, type help or ?.

aaa

Use the following command to configure an AAA server entry and enter the `config-aaa` context:

```
aaa <WORD>
```

Syntax Description

abort	Exits the config-aaa context without saving changes.
end	Saves changes, and then exits the config-aaa context.
exit	Saves changes, and then exits the config-aaa context.
quit	Exits the config-aaa context without saving changes.
name <WORD>	Sets the AAA server name.
show	Displays a list of available AAA servers.
CaseSensitive	Sets the 'CaseSentitive' value of AD/LDAP server to 'enabled'.
type	Sets the type of AAA server.
type ad	Sets the AAA server type to 'Active Directory'.
type ldap	Sets the AAA server type to 'LDAP'.
type radius-auth	Sets the AAA server type to 'RADIUS'.
type tacplus-auth	Sets the AAA server type to 'TACPLUS'.
type radius-acct	Sets the AAA server type to 'RADIUS Accounting'.
radius-encryption	Sets the AAA server encryption type.
radius-encryption tls	Sets the AAA server encryption type to 'TLS'.
auth-method pap	Sets the authentication method to PAP.
auth-method chap	Sets the authentication method to CHAP.
ip-addr <IP-ADDR>	Sets the AAA server's IP/IPv6 address.
port <PORT-NUM>	Sets the AAA server's port.
tacplus-service <WORD>	Sets TACPLUS service name with length (1-64 bytes).
domain-name <WORD>	Sets the windows/base domain name.
no radius-encryption	Disables the AAA server encryption.
no ad-global-catalog	Disables global catalog support.
no grp-search	Disables group attribute lookup support.
no encryption-TLS	Disable the TLS Encryption
no backup	Disables the backup function.

ad-global-catalog	Enables global catalog support.
grp-search	Enables group attribute lookup support.
admin-dn <WORD>	Sets the admin domain name.
admin-password <WORD>	Sets the admin password.
key-attribute <WORD>	Sets the LDAP key attribute.
search-filter <WORD>	Sets the LDAP search filter.
radius-secret <WORD>	Sets the AAA server's shared secret.
tacplus-secret <WORD>	Sets the TACPLUS server's shared secret.
encryption-TLS	Enables the TLS Encryption
backup	Enables the backup function.
backup-ip-addr <IP-ADDR>	Sets the backup AAA server's IP/IPv6 address.
backup-port <PORT-NUM>	Sets the backup AAA server's port.
backup-radius-secret <WORD>	Sets the backup AAA server's shared secret.
request-timeout <NUMBER>	Sets the failover request timeout (2~20 seconds).
retry-count <NUMBER>	Sets the failover retry count (2~10 times).
consecutive-drop-packet <NUMBER>	Sets the number of consecutive dropped packet (range:1~10 , default is 1).
reconnect-primary-interval <NUMBER>	Sets the failover re-connect to primary interval (1~86400 minutes).

Example

```
ruckus(config)# aaa activedir
The AAA server 'activedir' has been created. To save the AAA server,
type 'end' or 'exit'.
ruckus(config-aaa)# type ad
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-aaa)# ip-addr 192.168.10.40
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-aaa)# show
AAA:
  ID:
    :
      Name= activedir
      Type= Active Directory
      IP Address= 192.168.10.40
      Port= 389
      Windows Domain Name=
      Global Catalog= Disabled
      Admin DN=
      Admin Password=
      Group Search= Enabled
      encryption-TLS = Disabled

ruckus(config-aaa)# end
The AAA server 'activedir' has been updated and saved.
Your changes have been saved.
ruckus(config)#
```

Configure DHCP Server Commands

This section describes the commands that you can use to configure DHCP server entries on the controller. These DHCP server entries are used by the DHCP Relay feature, if enabled for a tunneled WLAN. The following commands can be executed from within the `config-dhcp` context.

dhcp

Use the `dhcp` command from within the config context to create or edit a DHCP server entry.

```
dhcp <WORD>
```

Syntax Description

dhcp	Configure the DHCP server settings
<WORD>	Name of the DHCP server entry

Defaults

none

Example

```
ruckus(config)# dhcp dhcp_server_2
The DHCP server 'dhcp_server_2' has been created. To save the DHCP
server, type 'end' or 'exit'.
ruckus(config-dhcp)# first 192.168.11.99
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dhcp)# show
DHCP servers for DHCP relay agent:
  ID:
    :
      Name= dhcp_server_2
      Description=
      IP Address= 192.168.11.99

ruckus(config-dhcp)# end
The DHCP server 'dhcp_server_2' has been updated and saved.
Your changes have been saved.
ruckus(config)# show dhcp
DHCP servers for DHCP relay agent:
  ID:
    1:
      Name= DHCP Server 1
      Description=
      IP Address= 192.168.11.1
      IP Address=

    2:
      Name= dhcp_server_2
```

```
      Description=
      IP Address= 192.168.11.99
      IP Address=


ruckus(config)#
```

no dhcp

Use the no dhcp command to delete a DHCP server entry.

```
no dhcp <WORD>
```

Example

```
ruckus(config)# no dhcp dhcp_server_2
The DHCP server 'dhcp_server_2' has been deleted.
ruckus(config)#
```

show

Displays a list of available DHCP servers.

```
show
```

name

Sets the DHCP server name.

```
name <WORD>
```

description

Sets the DHCP server description.

```
description <WORD>
```

first

Sets the DHCP server's first IP address.

```
first <IP-ADDR>
```

second

Sets the DHCP server's second IP address.

```
second <IP-ADDR>
```

no second

Deletes the DHCP server's second IP address.

```
no second <IP-ADDR>
```

Configure Admin Commands

Use the `admin` commands to enter the config-admin context to set the admin user name, password and admin authentication server settings.

admin

To enter the config-admin context and configure administrator preference, use the following command:

```
admin
```

Example

```
ruckus(config)# admin
ruckus(config-admin)
```

name

To set the administrator user name, use the following command:

```
name <WORD>
```

Syntax Description

`name`	Configure the admin name setting
`<WORD>`	Set the admin name to this name

Defaults

admin

Example

```
ruckus(config)# admin
ruckus(config-admin)# name admin
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

```
ruckus(config-admin)# end
The administrator preferences have been updated.
Your changes have been saved.
ruckus(config)#
```

name password

To set the admin name and password at the same time, use the following command:

```
name <WORD> password <WORD>
```

Syntax Description

`name`	Configure the admin name setting
`<WORD>`	Set the admin name to this name
`password`	Configure the admin password
`<WORD>`	Set the admin password to this password

Defaults

admin

Example

```
ruckus(config)# admin
ruckus(config-admin)# name admin password admin
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-admin)# end
The administrator preferences have been updated.
Your changes have been saved.
ruckus(config)#
```

Admin Authentication Commands

Use the `auth-server` commands to set the administrator authentication options with an external authentication server.

auth-server

To enable administrator authentication with a remote server and set the authentication server, use the following command:

```
auth-server <WORD>
```

Syntax Description

`auth-server`	Admin authentication with an external server
`<WORD>`	Set the authentication server to this server

Defaults

None.

Example

```
ruckus(config-admin)# auth-server radius
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-admin)#
```

no auth-server

To disable administrator authentication with a remote server, use the following command:

```
no auth-server
```

Syntax Description

`no auth-server`	Disable admin authentication with an external server

Defaults

None.

Example

```
ruckus(config-admin)# no auth-server
```

```
The command was executed successfully.
```

auth-server with-fallback

To enable fallback authentication (for use when the remote server is unavailable), use the following command:

```
auth-server <WORD> with-fallback
```

Syntax Description

`auth-server`	Admin authentication with an external server
`<WORD>`	Set the auth-server to this server
`with-fallback`	Enable fallback authentication if the remote authentication server is unavailable

Defaults

None.

Example

```
ruckus(config-admin)# auth-server radius with-fallback
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-admin)# show
Administrator Name/Password:
Name= admin
Password= admin
Authenticate:
Mode= Authenticate with authentication server 'radius'
Fallback= Enabled

ruckus(config-admin)#
```

Configure Access Points Commands

The following commands can be used from within the `config-ap` context to configure a specific Access Point.

ap

To enter the `config-ap` context, enter the following command:

```
ap <MAC>
```

Syntax Description

`ap`	Access Point
`<MAC>`	MAC address of the access point for configuration

Defaults

None.

Example

```
ruckus(config)# ap 04:4f:aa:0c:b1:00
The AP '04:4f:aa:0c:b1:00' has been loaded. To save the AP,
type 'end' or 'exit' .
ruckus(config-ap)#
```

no ap

To delete an AP from the list of approved devices, use the following command:

```
no ap <MAC>
```

Syntax Description

`no ap`	Delete Access Point
`<MAC>`	MAC address of the access point

Defaults

None.

Example

```
ruckus(config)# no ap 04:4f:aa:0c:b1:00
The AP '04:4f:aa:0c:b1:00' has been deleted.
ruckus(config)#
```

devname

To set the device name, use the following command:

```
devname <WORD>
```

Syntax Description

devname	Device name
<WORD>	Set the device name to this name

Defaults

None.

Example

```
ruckus(config)# ap 04:4f:aa:0c:b1:00
The AP '04:4f:aa:0c:b1:00' has been loaded. To save the AP, type
'end' or 'exit'.
ruckus(config-ap)# devname 7962
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)# end
The device information has been updated.
Your changes have been saved.
ruckus(config)#
```

no devname

To delete the device's name, use the following command:

```
no devname
```

bonjour-gateway

To bind a bonjour gateway policy to this AP, use the following command:

```
bonjour-gateway <WORD>
```

Example

```
ruckus(config-ap)# bonjour-gateway bonjour1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

no bonjour-gateway

To unbind a bonjour gateway policy, use the following command:

```
no bonjour-gateway
```

Example

```
ruckus(config-ap)# no bonjour-gateway
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

description

To set the device description, use the following command:

```
description <WORD>
```

Syntax Description

`description`	Device description
`<WORD>`	Set the device description to this text

Defaults

None.

Example

```
ruckus(config-ap-00:13:92:00:33:1C)# description this-is-the-
device-description
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

no description

To delete the device's description, use the following command:

```
no description
```

gps

To set the device GPS coordinates, use the following command:

```
gps <GPS-COORDINATE>
```

Syntax Description

gps	Set the device GPS coordinates
<GPS-COORDINATE>	Enter the device's GPS coordinates for the latitude and longitude. Use a comma (,) to separate the latitude and longitude. The first coordinate is for the latitude. The second coordinate is for the longitude. Ex. A,B or -37,38.

Defaults

None.

Example

```
ruckus(config-ap)# gps 37.3,-122
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

no gps

To delete the device's GPS coordinates, use the following command:

```
no gps
```

location

To set the device location, use the following command:

```
location <WORD>
```

Syntax Description

`location`	Device location
`<WORD>`	Set the device location to this address

Defaults

None.

Example

```
ruckus(config-ap)# location sunnyvale-office
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

no location

To delete the device's location, use the following command:

```
no location
```

group

To set the AP group for this AP, use the following command:

```
group [name <WORD>]|system-default]
```

Syntax Description

`group`	Set the AP group that this AP is a member of
name	Set the AP to be a member of the named AP group
`<WORD>`	The name of the AP group
system-default	Set the AP as a member of the system default AP group

Defaults

system-default

Example

```
ruckus(config-ap)# group system-default
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

ip

To set the AP's IPv4 address, use the following command from within the config-ap context:

```
ip [enable|disable] addr <IP-ADDR> <NET-MASK> name-server
<DNS-ADDR> mode [dhcp|static|keep]
```

Syntax Description

ip	Set the AP's IPv4 addressing
enable	Enable IPv4 addressing
disable	Disable IPv4 addressing
addr	Set the AP's IPv4 address
<IP-ADDR>	The IPv4 address
<NET-MASK>	The IPv4 netmask
name-server	Set the device's DNS servers. Use a space ( ) to separate primary and secondary DNS servers
<DNS-ADDR>	The IP address of the DNS server
mode	Set the device's IP addressing mode (DHCP, static or "keep AP's setting")
dhcp	Set the device's IP address mode to DHCP
static	Set the device's IP address mode to static
keep	Set the device to use its current network settings

Defaults

none

Example

```
ruckus(config-ap)# ip enable mode dhcp
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

ipv6

To set the AP's IPv6 address, use the following command from within the config-ap context:

```
ipv6 [enable] addr <IPv6-ADDR> <IPv6-PREFIX-LENGTH> name-
server <DNS-ADDR> mode [auto|manual|keep]
```

Syntax Description

ipv6	Set the AP's IPv6 addressing
enable	Enable IPv6 addressing
addr	Set the AP's IPv6 address
<IPv6-ADDR>	The IPv6 address
<IPv6-PREFIX-LENGTH>	The IPv6 prefix length. Use a space ( ) to separate the IPv6 address and prefix length
name-server	Set the device's DNS servers. Use a space ( ) to separate primary and secondary DNS servers
<DNS-ADDR>[<DNS-ADDR>]	The IP address of the DNS server
mode	Set the device's IP addressing mode (auto, manual or "keep AP's setting")
auto	Set the device's IPv6 address mode to auto
manual	Set the device's IPv6 address mode to manual
keep	Set the device to use its current network settings

Defaults

none

Example

```
ruckus(config-ap)# ipv6 enable mode auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

no ipv6

To disable the AP's IPv6 mode, use the following command:

```
no ipv6
```

Radio 2.4/5 GHz Commands

Use the `radio 2.4` or `radio 5` commands to configure the 2.4/5 GHz radio settings independently.

radio

Use the radio command from within the config-ap context to configure the 2.4GHz or 5GHz radios independently.

```
radio [2.4|5] <arguments>
```

Syntax Description

`2.4`	Configure the 2.4 GHz radio
`5`	Configure the 5 GHz radio
channelization [auto|<NUMBER>]	Set channel width to 20 MHz, 40 MHz or Auto
channel [auto|<NUMBER>]	Set channel to Auto or manually set channel
tx-power [auto|full|min|num <1-10>]	Set transmit power to auto, full, min, or a number (-1dB~-10dB)
admission-control <VALUE>	Set the radio to use the specified call admission control airtime usage limit (%)
spectralink-compatibility [enable|disable]	Enable SpectraLink Compatibility on the specified radio (set DTIM=2, minrate=5.5Mbps and enable RTS-CTS protection mode)

channel-range <NUMBER-LIST>	Set the allowed list of channels for the specified radio
wlan-group <WORD>	Set the AP radio as a member of a WLAN group
wlan-service [enable|disable]	Enable WLAN service on this radio
wlan-service-override	Enable the override of the WLAN service settings for this radio
extant-gain <NUMBER>	Set external antenna gain (on APs that support external antennas) (dBi)

Defaults

channelization: Auto

channel: Auto

wlan-group: Default

wlan-service: Enabled

wlan-service-override: Disabled

tx-power: Auto

admission-control: Disabled

spectralink-compatibility: Disabled

Example

```
ruckus(config-ap)# radio 2.4 channelization auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)# radio 2.4 channel auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)# radio 2.4 wlan-group Default
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)# radio 2.4 wlan-service
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)# radio 2.4 tx-power auto
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)# end
The device information has been updated.
Your changes have been saved.
ruckus(config)#
```

no radio

Use the `no radio 2.4` or `no radio 5` commands from within the config-ap context to disable AP group overrides for the 2.4GHz or 5GHz radio settings.

```
no radio [2.4|5] <arguments>
```

Syntax Description

no radio	Disable override of 2.4/5GHz radio settings
2.4	Disable 2.4GHz radio override settings
5	Disable 5GHz radio override settings
wlan-service	Disable override of WLAN service settings
channel-range-override	Disables override of channel range settings
channel-override	Disables override of channel settings
channelization-override	Disables override of 5GHz channelization settings
tx-power-override	Disables override of Tx power
wlan-group-override	Disables override of WLAN group settings
admission-control	Disables call admission control on the radio
admission-control-override	Disables override of call admission control settings
spectralink-compatibility-override	Disables the override of the SpectraLink Compatibility settings
wlan-service	Disables WLAN service for the radio
wlan-service-override	Disables the override of the WLAN service settings for this radio.
channel-range-override	Disables override of channel range settings

Example

```
ruckus(config-ap)# no radio 2.4 tx-power-override
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

mesh mode

Use the `mesh mode` command from within the config-ap context to configure the AP's mesh mode settings.

```
mesh mode [auto|root-ap|mesh-ap|disable]
```

Syntax Description

`mesh mode`	Configure the AP's mesh mode
`auto`	Set mesh mode to Auto
root-ap	Configure AP as a Root AP
mesh-ap	Configure AP as a Mesh AP
disable	Disable mesh

Defaults

Auto.

Example

```
ruckus(config-ap)# mesh mode auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

mesh uplink-selection

Use the `mesh uplink-selection` command from within the config-ap context to configure the AP's mesh uplink selection settings.

```
mesh uplink-selection [auto|manual] <add-mac>|<del-mac>
<MAC>
```

Syntax Description

`mesh uplink-selection`	Configure the AP's mesh uplink selection mode
`auto`	Set mesh uplink selection to Auto
manual	Set mesh uplink selection to manual
add-mac	Add a manual uplink selection AP
del-mac	Delete a manual uplink selection AP
<MAC>	The MAC address of the uplink AP

Defaults

Auto.

Example

```
ruckus(config-ap)# mesh uplink-selection manual add-mac
00:24:82:3f:14:60
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

Example

```
ruckus(config-ap)# mesh uplink-selection auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

status-leds

To enable or disable the AP's status LEDs, use the following command:

```
status-leds [enable|disable]
```

Defaults

Enabled.

Syntax Description

`status-leds`	Configure status LEDs
`enable`	Override group config, enable status LEDs
disable	Override group config, disable status LEDs

Example

```
ruckus(config-ap)# status-leds disable
ruckus(config-ap)#
```

no status-leds-override

To disable override of status LEDs for this AP, use the following command:

```
no status-leds-override
```

usb-port

To disable the override the group configuration and enable/disable the USB port for this AP, use the following command:

```
usb-port [enable|disable]
```

no usb-port-override

To disable the override of the USB port for the specified AP model, use the following command:

```
no usb-port-override
```

poe-out

To enable or disable the AP's PoE Out port, use the following command:

```
poe-out [enable|disable]
```

Defaults

Disabled.

Syntax Description

`poe-out`	Configure PoE Out port

enable	Override group config, enable PoE Out port
disable	Override group config, disable PoE Out port

Example

```
ruckus(config-ap)# poe-out enable
ruckus(config-ap)#
```

no poe-out-override

To disable override of the PoE out port settings, use the following command:

```
no poe-out-override
```

no usb-software-override

To disable the override of the AP USB software package, use the following command:

```
no usb-software-override
```

external-antenna

To configure the AP's external antenna settings, use the following command:

```
external-antenna [2.4G|5G] [enable|disable] [gain
<NUMBER>] cable-loss <NUMBER> [2-antennas|3-antennas]
```

Syntax Description

2.4G	Configure external 2.4GHz antenna
5G	Configure external 5GHz antenna
enable|disable	Enable/disable external antenna
gain	Set external antenna gain for 2.4/5GHz radio
cable-loss <NUMBER>	Enter the external antenna loss (0-90 dB)
2-antennas	Select two external antennas for the specified radio
3-antennas	Select three external antennas for the specified radio

Defaults

Varies by AP model.

no external-antenna-override

To disable the external antenna override settings, use the following command:

```
no external-antenna-override
```

spectra-analysis 2.4GHz

To enable or disable the spectrum analysis feature for this radio, use the following command:

```
spectra-analysis 2.4GHz [enable|disable]
```

spectra-analysis 5GHz

To enable or disable the spectrum analysis feature for this radio, use the following command:

```
spectra-analysis 5GHz [enable|disable]
```

internal-heater

To enable or disable the AP's internal heater, use the following command:

```
internal-heater [enable|disable]
```

Defaults

Disabled.

Syntax Description

`internal-heater`	Configure internal heater
`enable`	Override group config, enable internal heater
disable	Override group config, disable internal heater

Example

```
ruckus(config-ap)# internal-heater enable
ruckus(config-ap)#
```

no internal-heater-override

To disable override of the internal heater for this AP, use the following command:

```
no internal-heater-override
```

cband-channels

To enable or disable the 5.8 GHz C-band channels, use the following command:

```
cband-channels [enable|disable]
```

Defaults

Disabled.

Syntax Description

`cband-channels`	Configure C-band channels
`enable`	Override group config, enable C-band channels
disable	Override group config, disable C-band channels

Example

```
ruckus(config-ap)# cband-channels enable
ruckus(config-ap)#
```

no cband-channels-override

To disable override of the 5.8 GHz channels, use the following command:

```
no cband-channels-override
```

usb-software

To set the AP USB software package vendor ID (VID) and product ID (PID), and version, use the following command:

```
usb-software <VID-PID-VERSION>
```

no usb-software

To delete a USB software package from the list of USB software packages, use the following command:

```
no usb-software
```

ipmode

To set the AP's IP mode, use the following command:

```
ipmode <WORD>
```

Defaults

Dual-stack IPv4/IPv6 mode

Syntax Description

`ipmode`	Configure IP addressing mode
`ipv4`	Set to IPv4 only mode
ipv6	Set to IPv6 only mode
dual	Set to dual-stack IPv4/IPv6 mode

Example

ruckus(config-ap)# **`ipmode dual`**
ruckus(config-ap)#

no ipmode-override

To disable override of the IP mode, use the following command:

```
no ipmode-override
```

radio-band

To set the radio band of the AP, use the following command:

```
radio-band <WORD>
```

This command is available only on APs that support band switching between 2.4GHz and 5GHz radio band modes.

Syntax Description

`radio-band`	Configure radio band mode
`<WORD>`	Set to 2.4 or 5 GHz radio mode

Example

```
ruckus(config-ap)# radio-band 5
Your changes have been saved.
ruckus(config-ap)#
```

no radio-band-override

To disable the AP radio band override, use the following command:

```
no radio-band-override
```

venue-name

To set the venue name of the AP, use the following command:

```
venue-name [language] <WORD>
```

Syntax Description

venue-name	Set the venue name for the AP
[language]	Set the language of the venue name. Valid languages are: English, Chinese, Czech, Danish, Dutch, French, German, Japanese, Spanish, Swedish, Turkish)
<WORD>	Set the venue name to the name specified

Example

```
ruckus(config-ap)# venue-name english venue1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

no venue-name

To remove a venue name entry, use the following command:

```
no venue-name [language]
```

Example

```
ruckus(config-ap)# no venue-name english
```

```
The entry 'English' has been removed. To save the changes, type
'end' or 'exit'.
ruckus(config-ap)#
```

lldp

To enable, disable or configure the AP's Link Layer Discover Protocol settings, use the following lldp commands from within the config-ap context.

Syntax Description

lldp	Configure LLDP settings.
enable	Enable LLDP with current settings.
disable	Disable LLDP with current settings.
interval <NUMBER>	Set packet transmit interval in second(s).
holdtime <NUMBER>	Set amount of time receiving device should retain the information.
ifname eth <NUMBER>	Enter the AP port number.
mgmt enable	Enable LLDP management IP address of the AP.
mgmt disable	Disable LLDP management IP address of the AP.

Example

```
ruckus(config-ap)# lldp enable
ruckus(config-ap)#
```

no lldp-override

To disable the AP's LLDP override settings (use parent settings), use the following command:

```
no lldp-override
```

Example

```
ruckus(config-ap)# no lldp-override
ruckus(config-ap)#
```

power-mode

To set the PoE mode of the AP, use the following command:

```
power-mode <WORD>
```

Syntax Description

power-mode	Set the PoE power mode.
auto	Set the PoE power mode to auto.
802.3af	Set the PoE power mode to 802.3af.
802.3at	Set the PoE power mode to 802.3at.

Example

```
ruckus(config-ap)# power-mode 802.3af
ruckus(config-ap)#
```

no power-mode-override

To disable the override of the PoE mode, use the following command:

```
no power-mode-override
```

802.3af-txchain

To set the number of 2.4 GHz radio transmit chains in 802.3af PoE power mode, use the following command:

```
802.3af-txchain <WORD>
```

Syntax Description

802.3af-txchain	Set the number of 2.4 GHz radio transmit chains in 802.3af power mode.
1	Set the number of tx chains to 1.
2	Set the number of tx chains to 2.
4	Set the number of tx chains to 4.

Example

```
ruckus(config-ap)# 802.3af-txchain 2
```

```
ruckus(config-ap)#
```

no 802.3af-txchain-override

To disable the override of the 2.4GHz radio transmit chains in 802.3af PoE mode, use the following command:

```
no 802.3af-txchain-override
```

Example

```
ruckus(config-ap)# no 802.3af-txchain-override
ruckus(config-ap)#
```

show

To display the AP's current configuration settings, use the following command:

```
show
```

Example

ruckus(config)# **ap c4:10:8a:1f:d1:f0**

The AP ' c4:10:8a:1f:d1:f0' has been loaded. To save the AP, type 'end' or 'exit'.

ruckus(config-ap)# **show**

AP:

ID:

1:

MAC Address= c4:10:8a:1f:d1:f0

Model= zf7982

Approved= Yes

Device Name= 7982

Description=

Location=

GPS=

CERT = Normal

Group Name= System Default

Channel Range:

```
  A/N= 36,40,44,48,149,153,157,161 (Disallowed= )
  B/G/N= 1,2,3,4,5,6,7,8,9,10,11 (Disallowed= )
Radio a/n:
  Channelization= Auto
  Channel= Auto
  WLAN Services enabled= Yes
  Tx. Power= Auto
  WLAN Group Name= Default
  Call Admission Control= OFF
  SpectraLink Compatibility= Disabled
Radio b/g/n:
  Channelization= Auto
  Channel= Auto
  WLAN Services enabled= Yes
  Tx. Power= Auto
  WLAN Group Name= Default
  Call Admission Control= OFF
  SpectraLink Compatibility= Disabled
Override global ap-model port configuration= No
Network Setting:
  Protocol mode= Use Parent Setting
  Device IP Settings= Keep AP's Setting
  IP Type= DHCP
  IP Address= 192.168.40.64
  Netmask= 255.255.255.0
  Gateway= 192.168.40.1
  Primary DNS Server= 192.168.40.1
  Secondary DNS Server=

  Device IPv6 Settings= Keep AP's Setting
  IPv6 Type= Auto Configuration
```

```
    IPv6 Address= fc00::1
    IPv6 Prefix Length= 7
    IPv6 Gateway=
    IPv6 Primary DNS Server=
    IPv6 Secondary DNS Server=
  Mesh:
    Status= Enabled
    Mode= Auto
  Uplink:
    Status= Smart
  Venue Name List:
  LAN Port:
    0:
      Interface= eth0
      Dot1x= None
      LogicalLink= Down
      PhysicalLink= Down
      Label= 10/100/1000 PoE LAN1
    1:
      Interface= eth1
      Dot1x= None
      LogicalLink= Up
      PhysicalLink= Up 1000Mbps full
      Label= 10/100/1000 LAN2

ruckus(config-ap)#
```

AP Port Setting Commands

To override AP group configuration settings and configure the AP's Ethernet ports individually, you must first enter the `config-ap-model` context from within the config-ap context.

port-setting

Use the following command to enter the config-ap-model context and override AP group settings to configure AP ports individually:

```
port-setting
```

Defaults

```
Enable LAN: Yes
LAN Type: trunk
Untag ID: 1
Members: 1-4094
Guest VLAN: Disabled
Dynamic VLAN: Disabled
802.1X: disabled
DHCP opt82: Disabled
Tunnel= Disabled
MLD Snooping: Disabled
IGMP Snooping: Enabled
```

Syntax Description

port-setting	Configure AP port settings
lan <NUMBER> {Arguments}	Configure the AP LAN port
no lan <NUMBER>	Disable the AP LAN port
uplink <WORD>	Set the AP port to use the specified type (trunk, access or general)
untag <NUMBER>	Set the AP port to use the specified VLAN ID(1-4094)
member <NUMBER>	Set the AP port to use the specified members(1-4094)
opt82 [enabled|disabled]	Enable the AP port DHCP Option 82 settings

tunnel [enabled|disabled]	Enable the AP port tunnel settings
guest-vlan <NUMBER>	Set the AP port to use the specified guest VLAN ID(1-4094)
dvlan [disabled|enabled]	Enable the AP port dynamic VLAN settings
no dot1x <authsvr> <acctsvr> <mac-auth-bypass>	Disable authentication server, accounting server, or MAC auth bypass for the AP's 802.1X settings
dot1x <authsvr> <acctsvr> <mac-auth-bypass>	Enable authentication server, accounting server, or MAC auth bypass for the AP's 802.1X settings
authsvr <WORD>	Enter the RADIUS server name
acctsvr <WORD>	Enter the RADIUS accounting server name
mac-auth-bypass	Enable MAC authentication bypass for the 802.1X-enabled port
dot1x supplicant [username|password] <WORD>	Set the username/password for AP 802.1X supplicant
dot1x supplicant mac	Set the username and password to use AP MAC address for AP 802.1X supplicant

Example

```
ruckus(config-ap)# port-setting
ruckus(config-ap-model)# lan 1 uplink trunk
ruckus(config-ap-model)# show
PORTS:
    LAN ID:
          1:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
```

```
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
          2:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
ruckus(config-ap-model)#
```

abort

To exit the `port-setting` context without saving changes, use the `abort` command.

```
abort
```

Syntax Description

abort	Exit the context without saving changes

Defaults

None.

Example

```
ruckus(config-ap-model)# abort
No changes have been saved.
ruckus(config-ap)#
```

end

To save changes, and then exit the `port-setting` context, use the following command:

```
end
```

Syntax Description

end	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-ap-model)# end
ruckus(config-ap)#
```

exit

To save changes, and then exit the `config-ap-model` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-ap-model)# exit
ruckus(config-ap)#
```

quit

To exit the `config-ap-model` context without saving changes, use the `quit` command.

```
quit
```

Syntax Description

quit	Exit the context without saving changes

Defaults

None.

Example

```
ruckus(config-ap-model)# quit
No changes have been saved.
ruckus(config-ap)#
```

show

To display the current port settings, use the following command:

```
show
```

Syntax Description

show	Display the current port settings

Defaults

None.

Example

```
ruckus(config)# ap 04:4f:aa:0c:b1:00
ruckus(config-ap)# port-setting
ruckus(config-ap-model)# show
ruckus(config-ap-model)# show
```

```
PORTS:
    LAN ID:
          1:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
          2:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
ruckus(config-ap-model)#
```

lan

To enable the LAN port, use the following command:

```
lan <NUMBER>
```

Syntax Description

lan	Enable the LAN port
<NUMBER>	Specify the LAN port to enable

uplink <WORD>	Sets the AP port to use the specified type(trunk,access or general).
untag <NUMBER>	Sets the AP port to use the specified VLAN ID(1-4094) or none.
member <NUMBER>	Sets the AP port to use the specified members(1-4094).
opt82	Sets the AP port DHCP Option 82.
tunnel	Sets the AP port tunnel.
guest-vlan <NUMBER>	Sets the AP port to use the specified guest VLAN ID(1-4094).
dvlan	Sets the AP port dynamic VLAN.
dot1x	Sets the AP port 802.1X.

Defaults

```
Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
```

Example

```
ruckus(config-ap-model)# lan 1
ruckus(config-ap-model)#
```

no lan

To disable the LAN port, use the following command:

```
no lan <NUMBER>
```

Syntax Description

no lan	Disable the LAN port
<NUMBER>	Specify the LAN port to disable

Defaults

None.

Example

```
ruckus(config-ap-model)# no lan 1
ruckus(config-ap-model)#
```

lan uplink

To sets the AP port type (Trunk, Access or General), use the following command:

```
lan <NUMBER> uplink <WORD>
```

Syntax Description

lan uplink	Set the LAN port type
<NUMBER>	Specify the LAN port to configure
uplink	Set the port type to the specified type
<WORD>	LAN port type (Trunk port, Access port, General port)

Defaults

For all APs other than 7025/7055: Trunk

For 7025/7055 LAN 5: Trunk

For 7025/7055 LAN 1-LAN 4: Access

Example

```
ruckus(config-ap-model)# lan 1 uplink access
ruckus(config-ap-model)#
```

lan untag

To set the LAN port untag VLAN ID (native VLAN, for Trunk ports), use the following command:

```
lan <NUMBER> untag <NUMBER>
```

Syntax Description

lan untag	Set the LAN port untag VLAN ID
<NUMBER>	Specify the LAN port to configure
<NUMBER>	Set the untag VLAN ID (1~4094)

Defaults

1

Example

```
ruckus(config-ap-model)# lan 1 untag 1
ruckus(config-ap-model)#
```

lan member

To set the LAN port VLAN membership (only General ports have configurable membership; Trunk ports are members of all VLANs, and Access port membership must be the same as the Untag VLAN), use the following command:

```
lan <NUMBER> member <NUMBER>
```

Syntax Description

lan member	Set the LAN port VLAN membership
<NUMBER>	Specify the LAN port to configure
<NUMBER>	Set the VLAN membership (1~4094, range separated by hyphen, multiple VLANs separated by commas)

Defaults

1

Example

```
ruckus(config-ap-model)# lan 2 member 1-10,100,200
ruckus(config-ap-model)# show
PORTS:
    LAN ID:
          1:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
          2:
            Enable LAN = Yes
            LAN Type= general
            Untag ID= 1
            Members= 1-10,100,200
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
ruckus(config-ap-model)#
```

lan opt82

To enable or disable DHCP option 82 for a LAN port, use the following command:

```
lan <NUMBER> opt82 [enabled|disabled]
```

Syntax Description

opt82	Enable or disable DHCP option 82
enabled	Enable option 82
disabled	Disable option 82

Defaults

Disabled

Example

```
ruckus(config-ap-model)# lan 1 opt82 enable
ruckus(config-ap-model)#
```

lan tunnel

To enable or disable Ethernet port tunnel mode for the port, use the following command:

```
lan <NUMBER> tunnel [enabled|disabled]
```

Syntax Description

tunnel	Enable or disable port tunnel mode
enabled	Enable tunnel mode
disabled	Disable tunnel mode

Defaults

Disabled

Example

```
ruckus(config-ap-model)# lan 1 tunnel enable
```

```
ruckus(config-ap-model)# show
PORTS:
    LAN ID:
          1:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Enabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
          2:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
ruckus(config-ap-model)#
```

lan guest-vlan

To set the AP port to use the specified Guest VLAN ID, use the following command:

```
lan <NUMBER> guest-vlan <NUMBER>
```

lan dvlan enabled

To enable dynamic VLAN for the port, use the following command:

```
lan <NUMBER> dvlan enabled
```

lan dvlan disabled

To disable dynamic VLAN for the port, use the following command:

```
lan <NUMBER> dvlan disabled
```

lan dot1x

To configure 802.1X settings for a LAN port, use the following command:

```
lan <NUMBER> dot1x [disable|supplicant|auth-port-
based|auth-mac-based]
```

Syntax Description

lan dot1x	Configure 802.1X settings for this port
<NUMBER>	LAN port number to configure
disabled	Disable 802.1X
supplicant	Configure this LAN port as an 802.1X supplicant
supplicant username <WORD>	Set the username for AP 802.1X supplicant
supplicant password <WORD>	Set the password for AP 802.1X supplicant
supplicant mac	Set the username and password to use AP MAC address for AP 802.1X supplicant
auth-port-based	Configure this LAN port as an 802.1X authenticator (port-based)
auth-mac-based	Configure this LAN port as an 802.1X authenticator (MAC-based)

Defaults

Disabled

Example

```
ruckus(config-ap-model)# lan 1 dot1x supplicant
ruckus(config-ap-model)#
```

dot1x authsvr

To configure the 802.1X authentication server for the AP, use the following command:

```
dot1x authsvr <WORD>
```

Syntax Description

dot1x authsvr	Configure 802.1X authentication server
<WORD>	Name of AAA server

Defaults

None

Example

```
ruckus(config-ap-model)# dot1x authsvr radius
ruckus(config-ap-model)#
```

dot1x acctsvr

To configure the 802.1X accounting server for the AP, use the following command:

```
dot1x acctsvr <WORD>
```

Syntax Description

dot1x acctsvr	Configure 802.1X accounting server
<WORD>	Name of AAA server

Defaults

None

Example

```
ruckus(config-ap-model)# dot1x acctsvr radius-acct
ruckus(config-ap-model)#
```

dot1x mac-auth-bypass

To configure 802.1X MAC authentication bypass, use the following command:

```
dot1x mac-auth-bypass
```

Syntax Description

dot1x mac-auth-bypass	Enable 802.1X MAC authentication bypass

Defaults

Disabled

Example

```
ruckus(config-ap-model)# dot1x mac-auth-bypass
ruckus(config-ap-model)#
```

dot1x supplicant username

To configure 802.1X supplicant user name, use the following command:

```
dot1x supplicant username <WORD>
```

Syntax Description

dot1x supplicant username	Configure 802.1X supplicant user name
<WORD>	Set the 802.1X supplicant user name

Defaults

None

Example

```
ruckus(config-ap-model)# dot1x supplicant username johndoe
ruckus(config-ap-model)#
```

dot1x supplicant password

To configure 802.1X supplicant password, use the following command:

```
dot1x supplicant password <WORD>
```

Syntax Description

dot1x supplicant password	Configure 802.1X supplicant password
<WORD>	Set the 802.1X supplicant password

Defaults

None

Example

```
ruckus(config-ap-model)# dot1x supplicant password test123
ruckus(config-ap-model)#
```

dot1x supplicant mac

To set the 802.1X supplicant user name and password as the AP's MAC address, use the following command:

```
dot1x supplicant mac
```

Syntax Description

dot1x supplicant mac	Set the supplicant user name and password as the AP's MAC address

Defaults

None

Example

```
ruckus(config-ap-model)# dot1x supplicant mac
ruckus(config-ap-model)#
```

Configure AP Policy Commands

Use the `ap-policy` commands to configure global AP policies such as automatic AP approval, limited ZD discovery, management VLAN, load balancing across APs and max clients per AP radio. To run these commands, you must first enter the `config-ap-policy` context.

ap-policy

To enter the ap-policy context and configure global AP policies, enter the following command:

```
ap-policy
```

Syntax Description

`ap-policy`	Enter config-ap-policy context and configure global AP policies

Defaults

None.

Example

```
ruckus(config)# ap-policy
ruckus(config-ap-policy)#
```

show

To display the current device policy, use the following command:

```
show
```

Syntax Description

`show`	Display the current AP policy settings

Defaults

None.

Example

```
ruckus(config-ap-policy)# show
  Automatically approve all join requests from APs= Enabled
  Limited ZD Discovery:
    Status= Disabled
  Management VLAN:
    Status= Keep AP's setting
  Balances the number of clients across adjacent APs= Disabled
  LWAPP message MTU= 1450
  Auto Recovery= 30 minutes
ruckus(config-ap-policy)#
```

ap-management-vlan

To enable the AP management VLAN and set to either “keep AP’s setting” or to the specified VLAN ID, use the following command:

```
ap-management-vlan [keeping] <NUMBER>
```

Syntax Description

`ap-management-vlan`	Enable and configure the global AP management VLAN
keeping	Sets management VLAN to “Keep AP’s setting”
<NUMBER>	Set management VLAN to the number specified

Defaults

None.

Example

```
ruckus(config-ap-policy)# ap-management-vlan keeping
The command was executed successfully.
ruckus(config-ap-policy)#
```

no ap-management-vlan

To disable the AP management VLAN, use the following command:

```
no ap-management-vlan
```

Syntax Description

`no ap-management-vlan`	Disable the AP management VLAN

Defaults

None.

```
ruckus(config-ap-policy)# no ap-management-vlan
```

Example

```
The command was executed successfully.
ruckus(config-ap-policy)#
```

ap-auto-approve

To enable the automatic approval of join requests from devices, use the following command:

```
ap-auto-approve
```

Syntax Description

`ap-auto-approve`	Enable the automatic approval of join requests from devices

Defaults

None.

Example

```
ruckus(config-ap-policy)# ap-auto-approve
```

```
The AP automatically approve policy has been updated.
```

no ap-auto-approve

To disable the automatic approval of join requests from devices, use the following command:

```
no ap-auto-approve
```

Syntax Description

`no ap-auto-approve`	Disable the automatic approval of join requests from devices

Defaults

None.

Example

```
ruckus(config-ap-policy)# no ap-auto-approve
The AP automatically approve policy has been updated.
ruckus(config-ap-policy)#
```

limited-zd-discovery

To configure devices to connect to a specific ZoneDirector and to set the primary and secondary ZoneDirector's IP addresses, use the following command:

```
limited-zd-discovery <zd-addr|zd-ip> <PRIMARY>
<SECONDARY>
```

Syntax Description

`limited-zd-discovery`	Configure devices to connect to a specific ZoneDirector
`zd-addr`	Set ZoneDirector's IP/IPv6/FQDN address
`zd-ip`	Set ZoneDirector's IP/IPv6 address
<PRIMARY>	Address of primary ZD
<SECONDARY>	Address of secondary ZD

Defaults

Disabled.

Example

```
ruckus(config-ap-policy)# limited-zd-discovery zd-addr
192.168.11.100 192.168.11.200
The Limited ZoneDirector discovery function has been updated.
ruckus(config-ap-policy)# show
Automatically approve all join requests from APs= Enabled
Limited ZD Discovery:
Status= Enabled
Primary ZoneDirector ADDR= 192.168.11.100
SecondaryZoneDirector ADDR= 192.168.11.200
Prefer Primary ZoneDirector = false
Management VLAN:
Status= Disabled
Balances the number of clients across adjacent APs= Disabled
Max. clients for 11BG radio= 100
Max. clients for 11N radio= 100
LWAPP message MTU= 1450
ruckus(config-ap-policy)#
```

no limited-zd-discovery

To disable limited ZD discovery, use the following command:

```
no limited-zd-discovery
```

Syntax Description

`no limited-zd-discovery`	Disable limited ZD discovery

Defaults

Disabled.

Example

```
ruckus(config-ap-policy)# no limited-zd-discovery
The Limited ZoneDirector discovery function has been updated.
ruckus(config-ap-policy)#
```

limited-zd-discovery prefer-primary-zd

To force the AP to prefer the primary ZoneDirector when connected (and periodically attempt to reconnect to the primary ZD when disconnected from it), use the following command:

```
limited-zd-discovery prefer-primary-zd
```

Example

```
ruckus(config-ap-policy)# limited-zd-discovery prefer-primary-zd
The Limited ZoneDirector discovery function has been updated.
ruckus(config-ap-policy)#
```

no limited-zd-discovery prefer-primary-zd

To disable the Limited ZD Discovery “prefer primary ZoneDirector” feature, use the following command:

```
no limited-zd-discovery prefer-primary-zd
```

limited-zd-discovery keep-ap-setting

To disallow ZoneDirector modifying AP’s original primary/secondary ZD settings, use the following command:

```
limited-zd-discovery keep-ap-setting
```

Example

```
ruckus(config-ap-policy)# limited-zd-discovery keep-ap-setting
The Limited ZoneDirector discovery function has been updated.
ruckus(config-ap-policy)#
```

no limited-zd-discovery keep-ap-setting

To disable the Limited ZD Discovery “keep AP’s setting” feature, use the following command:

```
no limited-zd-discovery keep-ap-setting
```

auto-recovery

To set the value of auto recovery time (minutes) for AP reboot if AP can't connect to ZoneDirector, use the following command:

```
auto-recovery <NUMBER>
```

Defaults

Enabled

30 minutes

Example

```
ruckus (config-ap-policy)# auto-recovery 30
The AP auto recovery policy has been updated.
ruckus(config-ap-policy)#
```

no auto-recovery

To disable AP auto recovery, use the following command:

```
no auto-recovery
```

vlan-qos

To configure the traffic class [Voice | Video | Data | Background] to the specific VLAN ID at the specific interface, use the following command:

```
vlan-qos <VID> <Traffic Class> <Interface Name>
```

Syntax Description

vlan-qos	Configure VLAN QOS settings
<VID>	VLAN ID
<Traffic Class>	Specify traffic classification (voice, video, data, background)
<Interface Name>	Specify interface name

Defaults

Disabled

Example

```
ruckus(config-ap-policy)# vlan-qos 10 voice eth0
The VLAN QoS function has been updated.
ruckus(config-ap-policy)#
```

no vlan-qos

To disable VLAN traffic class QoS for the specific interface or all VLANs, use the following command:

```
no vlan-qos <all|VID> <Interface Name>
```

Syntax Description

no vlan-qos	Disable VLAN's QoS settings
<VID>	VLAN ID
<Interface Name>	Specify interface name

Defaults

Disabled

Example

```
ruckus(config-ap-policy)# no vlan-qos all eth0
The VLAN QoS function has been updated.
ruckus(config-ap-policy)#
```

timeout

To configure recovering of the APs' original Primary/Secondary ZD address if the AP can't find the desired Primary/Secondary ZD after timeout(minutes), use the following command:

```
timeout <NUMBER>
```

Syntax Description

timeout	Enter the timeout value (minutes) for recovering APs' original primary/secondary ZD IP.
<NUMBER>	Timeout value in minutes.

Example

```
ruckus(config-ap-policy-move-ap)# timeout 60
Your changes have been saved.
ruckus(config-ap-policy-move-ap)#
```

no timeout

To disable the timeout function for moving APs, use the following command:

```
no timeout
```

import-aplist

To import an AP list from backup files on a TFTP server, use the following command:

```
import-aplist <IP-ADDR> <FILE-NAME>
```

exit

Saves changes, and then exits the config-ap-policy-move-ap context.

abort

Exits the config-ap-policy-move-ap context without saving changes.

quit

Exits the config-ap-policy-move-ap context without saving changes.

show

Displays the AP policy settings.

Example

ruckus(config-ap-policy)# **show**

Automatically approve all join requests from APs= Enabled

Limited ZD Discovery:

```
    Status= Disabled
  Management VLAN:
    Status= Keep AP's setting
  Balances the number of clients across adjacent APs= Disabled
  Auto Recovery= 30 minutes
ruckus(config-ap-policy)#
```

Configure AP Group Commands

This section describes the commands that you can use to configure AP groups on the controller. The following commands can be executed from within the `config-apgrp` context. To show a list of commands available from within the context, type help or ?.

ap-group

To create a new AP group or configure an existing AP group and enter the `config-apgrp` context, enter the following command:

```
ap-group <WORD>
```

Syntax Description

ap-group	Configure an AP group
<WORD>	Name of the AP group

Defaults

“System Default”

Example

```
ruckus(config)# ap-group "System Default"
The AP group entry 'System Default' has been loaded. To save the
AP group, type 'end' or 'exit'.
ruckus(config-apgrp)#
```

no ap-group

To delete an AP group from the list, enter the following command:

```
no ap-group <WORD>
```

Syntax Description

no ap-group	Delete an AP group
<WORD>	Name of the AP group

Defaults

None

Example

```
ruckus(config)# no ap-group apgrp2
The AP Group 'apgrp2' has been removed.
ruckus(config)#
```

exit

Saves changes, and then exits the config-ap-group context.

abort

Exits the config-ap-group context without saving changes.

quit

```
Exits the config-ap-group context without saving changes.
```

show

To display current AP group configuration settings, use the following command from within the config-ap-group context:

```
show
```

Defaults

None

Example

```
ruckus(config)# ap-group apgroup1
The AP group 'apgroup1' has been created. To save the AP group,
type 'end' or 'exit'.
ruckus(config-apgrp)# show
APGROUP:
       ID:
         :
           Name= apgroup1
           Description=
           Radio 11bgn:
             Channelization= Auto
             Channel= Auto
         Enable auto channel selection which select from 1,6,11= Yes
             Tx. Power= Auto
             11N only Mode= Auto
             WLAN Group= Default
             Call Admission Control= OFF
           Radio 11an:
             Channelization= Auto
             Channel= Auto
             Tx. Power= Auto
             11N only Mode= Auto
             WLAN Group= Default
             Call Admission Control= OFF
           Members:

ruckus(config-apgrp)#
exit
```

description

To set the AP group description, use the following command:

```
description <WORD>
```

no description

To delete the AP group description, use the following command:

```
no description
```

Configure Location Based Service Commands

Use the following commands to to create and configure location services for an AP group. Use the `location-services` command to enter the config-location-services context from within the config context.

location-services

To create and begin configuring location services for this AP group, use the following command:

```
location-services <WORD>
```

Syntax Description

help	Set the IP addressing mode
history	IPv4, IPv6 or dual
abort	Exits the config-location-services context without saving changes.
end	Saves changes, and then exits the config-location-services context.
exit	Saves changes, and then exits the config-location-services context.
quit	Exits the config-location-services context without saving changes.
fqdn <WORD>	Sets the location server FQDN.
port <PORT-NUM>	Sets the location server port.
password <WORD>	Sets the location server preshared key.
show	Displays configured location services for all venues.

Example

```
ruckus(config)# location-services locationservice1
The location venue 'locationservice1' has been created. To save it,
type 'end' or 'exit'.
ruckus(config-location-services)# fqdn example1.ruckuswire-
less.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-location-services)# port 8883
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-location-services)# password password
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-location-services)# end
The location venue 'locationservice1' has been updated and saved.
Your changes have been saved.
ruckus(config)#
```

no location-services

To disable location-based service on this AP group, use the following command:

```
no location-services <WORD>
```

Example

```
ruckus(config)# no location-service locationservice1
The location venue 'locationservice1' has been deleted.
ruckus(config)#
```

ipmode

To set the IP addressing mode of the AP group, use the following command:

```
ipmode <WORD>
```

Syntax Description

ipmode	Set the IP addressing mode
<WORD>	IPv4, IPv6 or dual

Example

```
ruckus(config-apgrp)# ipmode dual
ruckus(config-apgrp)#
```

no ipmode-override

To disable the override of IP mode, use the following command:

```
no ipmode-override
```

channelflyoff

The ChannelFly override setting allows APs to disable ChannelFly if the AP's uptime is higher than the specified value (in minutes). To enable the ChannelFly override feature for the AP group, use the following command:

Defaults

Disabled

30 minutes

Example

```
ruckus(config-apgrp)# channelflyoff 30
ruckus(config-apgrp)# show
APGROUP:
       ID:
         :
           Name= apgroup2
           Description=
           Channel Range:
             B/G/N= 1,2,3,4,5,6,7,8,9,10,11 (Disallowed= )
            A/N Indoor= 36,40,44,48,149,153,157,161 (Disallowed= )
           A/N Outdoor= 36,40,44,48,149,153,157,161 (Disallowed= )
           Radio 11bgn:
             Channelization= Auto
             Channel= Auto
             Tx. Power= Auto
             11N only Mode= Auto
             WLAN Group= Default
             Call Admission Control= OFF
             SpectraLink Compatibility= Disabled
           Radio 11an:
             Channelization= Auto
             Indoor Channel= Auto
             Outdoor Channel= Auto
             Tx. Power= Auto
```

```
            11N only Mode= Auto
            WLAN Group= Default
            Call Admission Control= OFF
            SpectraLink Compatibility= Disabled
          Network Setting:
            Protocol mode= Use Parent Setting
          Turn off channfly setting: enabled
           if AP's uptime is more than 30 minutes will turn off
AP's ChannelFly
          Members:

ruckus(config-apgrp)#
```

no channelflyoff

To disable the ChannelFly off feature for the AP group, use the following command:

```
no channelflyoff
```

no channelflyoff-override

To disable the override of ChannelFly settings (use parent settings), use the following command:

```
no channelflyoff-override
```

Example

```
ruckus(config-apgrp)# no channelflyoff-override
ruckus(config-apgrp)# show
APGROUP:
       ID:
         :
           Name= apgroup2
           Description=
           Channel Range:
             B/G/N= 1,2,3,4,5,6,7,8,9,10,11 (Disallowed= )
            A/N Indoor= 36,40,44,48,149,153,157,161 (Disallowed= )
           A/N Outdoor= 36,40,44,48,149,153,157,161 (Disallowed= )
           Radio 11bgn:
             Channelization= Auto
             Channel= Auto
```

```
    Tx. Power= Auto
    11N only Mode= Auto
    WLAN Group= Default
    Call Admission Control= OFF
    SpectraLink Compatibility= Disabled
  Radio 11an:
    Channelization= Auto
    Indoor Channel= Auto
    Outdoor Channel= Auto
    Tx. Power= Auto
    11N only Mode= Auto
    WLAN Group= Default
    Call Admission Control= OFF
    SpectraLink Compatibility= Disabled
  Network Setting:
    Protocol mode= Use Parent Setting
  Turn off channfly setting: Use Parent Setting
  Members:

ruckus(config-apgrp)#
```

Radio 2.4/5 GHz Commands

Use the `radio 2.4` or `radio 5` commands to configure the 2.4/5 GHz radios on all APs within an AP group.

radio

To configure radio settings for the 2.4 GHz or 5 GHz radios of an AP group, use the following command:

```
radio [2.4|5] <arguments>
```

Syntax Description

radio	Configure AP group radio settings
2.4	Configure 2.4 GHz radio
5	Configure 5 GHz radio

no	Disables settings for the specified radios in the AP group
channel	Set radio channel (Auto or number)
channelization	Set radio channel width (Auto, 20MHz or 40MHz)
auto-channel-selection [four-channel|three-channel]	Set auto channel selection to four-channel (1,5,9,13) or three-channel (1,6,11)
tx-power	Set radio transmit power (Auto, Full, 1/2, 1/4, 1/8, Min) or <NUMBER> (-1dB~-10dB)
11n-only	Set radio 11n-only mode to Auto or N-only
wlan-group	Set radio to the specified WLAN group
admission-control	Set the radio to use the specific call admission control airtime usage limit (%)
spectralink-compatibility	Enable SpectraLink Compatibility settings on the radio (sets DTIM=2, minrate=5.5Mbps and enable RTS-CTS protection mode)
wlan-service	Disable or enable WLAN service on the radio

Defaults

Channel: Auto

Channelization: Auto

Auto-Channel Selection: Three-channel

TX Power: Auto

11n-only: Auto

WLAN group: Default

Admission Control: Off

SpecraLink Compatibility: Off

WLAN Service: Enabled

Example

```
ruckus(config)# ap-group "System Default"
The AP group entry 'System Default' has been loaded. To save the
AP group, type 'end' or 'exit'.
ruckus(config-apgrp)# radio 2.4 channel auto
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-apgrp)# radio 5 channelization auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-apgrp)# radio 5 11n-only N-only
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-apgrp)# radio 5 wlan-group Default
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-apgrp)# radio 2.4 tx-power Num 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-apgrp)# show
APGROUP:
 ID:
 1:
 Name= System Default
 Description= System default group for Access Points
 Radio 11bgn:
 Channelization= Auto
 Channel= Auto
 Enable auto channel selection which select from 1,6,11= Yes
 Tx. Power= -1dB
 11N only Mode= Auto
 WLAN Group= Default
 Radio 11an:
 Channelization= Auto
 Channel= Auto
 Tx. Power= Auto
 11N only Mode= N-only
 WLAN Group= Default
 Members:
 MAC= 04:4f:aa:0c:b1:00
 MAC= 00:24:82:3f:14:60
 MAC= 74:91:1a:2b:ff:a0
 MAC= 00:1f:41:2a:2b:10
```

```
ruckus(config-apgrp)# end
The AP group 'System Default' has been updated.
Your changes have been saved.
ruckus(config)#
```

radio 2.4 channel auto

Sets the 2.4GHz radio to use 'Auto' channel.

radio 2.4 channel number <NUMBER>

Sets the 2.4GHz radio to use the specified channel.

radio 2.4 channelization auto

Sets the 2.4GHz radio to use 'Auto' channelization.

radio 2.4 channelization number <NUMBER>

Sets the 2.4GHz radio to use the specified channelization.

radio 2.4 auto-channel-selection four-channel

Enables the auto channel selection which always select from 1,5,9,13.

radio 2.4 auto-channel-selection three-channel

Enables the auto channel selection which always select from 1,6,11.

radio 2.4 tx-power Auto

Sets the 2.4GHz radio to use 'Auto' Tx. power setting.

radio 2.4 tx-power Full

Sets the 2.4GHz radio to use the specified Tx. power setting.

radio 2.4 tx-power 1/2

Sets the 2.4GHz radio to use the specified Tx. power setting.

radio 2.4 tx-power 1/4

Sets the 2.4GHz radio to use the specified Tx. power setting.

radio 2.4 tx-power 1/8

Sets the 2.4GHz radio to use the specified Tx. power setting.

radio 2.4 tx-power Min

Sets the 2.4GHz radio to use the specified Tx. power setting.

radio 2.4 tx-power Num

Sets the 2.4GHz radio to use the specified Tx by number from 1-10 (-1dB ~ -10dB).

radio 2.4 11n-only Auto

Sets the 2.4GHz radio to use 'Auto' 11N only mode.

radio 2.4 11n-only N-only

Sets the 2.4GHz radio to use the specified 11N only mode.

radio 2.4 wlan-group <WORD>

Assigns the 2.4GHz radio to the specified WLAN group.

radio 2.4 admission-control <VALUE>

Sets the 2.4GHz radio to use the specific call admission control airtime usage limit(%).

radio 2.4 spectralink-compatibility [enable | disable]

Enables the SpectraLink Compatibility on 2.4GHz radio (will set DTIM=2, minrate=5.5Mbps and enable RTS-CTS protection mode).

radio 2.4 wlan-service [enable | disable]

Enables or disables the WLAN service on the 2.4GHz radio.

radio 2.4 channel-range <NUMBER-LIST>

Sets the allowed list of channels used in 2.4GHz radio.

radio 5 indoor channel auto

Sets the 5GHz radio (indoor) to use 'Auto' channel.

radio 5 indoor channel number <NUMBER>

Sets the 5GHz radio (indoor) to use the specified channel.

radio 5 indoor channel-range <NUMBER-LIST>

Sets the allowed list of indoor channels used in 5GHz radio.

radio 5 outdoor channel auto

Sets the 5GHz radio (outdoor) to use 'Auto' channel.

radio 5 outdoor channel number <NUMBER>

Sets the 5GHz radio (outdoor) to use the specified channel.

radio 5 outdoor channel-range <NUMBER-LIST>

Sets the allowed list of outdoor channels used in 5GHz radio.

radio 5 channel auto

Sets the 5GHz radio to use 'Auto' channel.

radio 5 channel number <NUMBER>

Sets the 5GHz radio to use the specified channel.

radio 5 channelization auto

Sets the 5GHz radio to use 'Auto' channelization.

radio 5 channelization number <NUMBER>

Sets the 5GHz radio to use the specified channelization.

radio 5 tx-power Auto

Sets the 5GHz radio to use 'Auto' Tx. power setting.

radio 5 tx-power Full

Sets the 5GHz radio to use the specified Tx. power setting.

radio 5 tx-power 1/2

Sets the 5GHz radio to use the specified Tx. power setting.

radio 5 tx-power 1/4

Sets the 5GHz radio to use the specified Tx. power setting.

radio 5 tx-power 1/8

Sets the 5GHz radio to use the specified Tx. power setting.

radio 5 tx-power Min

Sets the 5GHz radio to use the specified Tx. power setting.

radio 5 tx-power Num

Sets the 5GHz radio to use the specified Tx by number from 1-10 (-1dB ~ -10dB).

radio 5 11n-only Auto

Sets the 5GHz radio to use 'Auto' 11N only mode.

radio 5 11n-only N-only

Sets the 5GHz radio to use the specified 11N only mode.

radio 5 wlan-group <WORD>

Assigns the 5GHz radio to the specified WLAN group.

radio 5 admission-control <VALUE>

Sets the 5GHz radio to use the specific call admission control airtime usage limit(%).

radio 5 spectralink-compatibility [enable | disable]

Enables the SpectraLink Compatibility on 5GHz radio (will set DTIM=2, minrate=5.5Mbps and enable RTS-CTS protection mode).

radio 5 wlan-service [enable | disable]

Enables or disables the WLAN service on the 5GHz radio.

no radio 2.4 channelization-override

Disables the override of the 2.4GHz channelization settings.

no radio 2.4 channel-range-override

Disables the override of the 2.4GHz channel range settings.

no radio 2.4 channel-override

Disables the override of the 2.4GHz channel settings.

no radio 2.4 tx-power-override

Disables the override of the 2.4GHz Tx. power settings.

no radio 2.4 11n-only-override

Disables the override of the 2.4GHz 11N only mode settings.

no radio 2.4 wlan-group-override

Disables the override of the 2.4GHz WLAN group settings.

no radio 2.4 admission-control

Disables call admission control function on the 2.4GHz radio.

no radio 2.4 admission-control-override

Disables the override of the 2.4GHz call admission control settings.

no radio 2.4 spectralink-compatibility-override

Disables the override of the 2.4GHz SpectraLink Compatibility settings.

no radio 2.4 wlan-service-override

Disables the override of the 2.4GHz WLAN service settings.

no radio 5 indoor channel-range-override

Disables the override of the 5GHz indoor channel range settings.

no radio 5 indoor channel-override

Disables the override of the 5GHz indoor channel settings.

no radio 5 outdoor channel-range-override

Disables the override of the 5GHz outdoor channel range settings.

no radio 5 outdoor channel-override

Disables the override of the 5GHz outdoor channel settings.

no radio 5 channelization-override

Disables the override of the 5GHz channelization settings.

no radio 5 tx-power-override

Disables the override of the 5GHz Tx. power settings.

no radio 5 11n-only-override

Disables the override of the 5GHz 11N only mode settings.

no radio 5 wlan-group-override

Disables the override of the 5GHz WLAN group settings.

no radio 5 admission-control

Disables call admission control function on the 5GHz radio.

no radio 5 admission-control-override

Disables the override of the 5GHz call admission control settings.

no radio 5 spectralink-compatibility-override

Disables the override of the 5GHz SpectraLink Compatibility settings.

no radio 5 wlan-service-override

Disables the override of the 5GHz WLAN service settings.

QoS Commands

Use the following commands to configure QoS settings for the AP group.

qos

Contains commands that can be executed from within the context.

qos mld-query

Contains commands that can be executed from within the context.

qos mld-query v1
Enables the mld-query v1.

qos mld-query v2
Enables the mld-query v2.

qos igmp-query
Contains commands that can be executed from within the context.

qos igmp-query v2
Enables the igmp-query v2.

qos igmp-query v3
Enables the igmp-query v3.

no qos mld-query v1
Disables the mld-query v1.

no qos mld-query v2
Disables the mld-query v2.

no qos igmp-query v2
Disables the igmp-query v2.

no qos igmp-query v3
Disables the igmp-query v3.

Model-Specific Commands
The following commands are used to configure model-specific settings for all APs of a certain model within an AP group.

no model-setting

To discard the model settings for this specified model, use the following command:

```
no model-setting <WORD>
```

model

To configure model-specific settings for all APs of a certain model within an AP group, use the following command:

```
model <WORD> <arguments>
```

Syntax Description

model	Configure AP group model-specific settings
<WORD>	Enter the AP model name (e.g., zf2741, zf2741-ext, zf2942, zf7025, zf7055, zf7321, zf7321-u, zf7341, zf7343, zf7351,zf7352,zf7363,zf7372,zf7372-e, zf7441, zf7761cm, zf7762, zf7762-ac, zf7762-s, zf7762-s-ac, zf7762-t, zf7781-m, zf7781cm, zf7782, zf7782-e, zf7782-n, zf7782-s, zf7962, zf7982, sc8800-s, sc8800-s-ac, R300, R500, R510, R600, R700, R710, T300, etc.)
port-setting	Configures the port setting for the specified AP model. Enters config-apgrp-port context. See "Configure AP Group Model-Specific Port Settings" for more information.
status-leds	Configures the status LEDs for the specified AP model (enable, disable).
usb-port	Configures the USB port settings for the AP model (enable, disable).
external-antenna	Configures external antenna settings. See "Configure AP Group Model-Specific Antenna Settings".
spectra-analysis	Configures spectrum analysis per radio (2.4Ghz / 5GHz, enable / disable).
radio-band	Sets the radio band for the AP group (APs with radio band selection only).
max-clients <NUMBER>	Sets the maximum clients for the AP.

usb-software <VID-PID-VERSION>	Selects the USB Software Vendor ID, Product ID and version for the AP.
poe-out	Configures the PoE Out ports for the specified AP model (enable, disable).
internal-heater	Configures the internal heater for the specified AP model (enable, disable).
cband-channels	Configures the C-band (5.8 GHz) channels for the specified AP model (enable, disable). (UK country code only)
power-mode	Sets the PoE mode for the specified AP model.
802.3af-txchain	Sets the 2.4GHz radio transmit chains in 802.3af PoE mode for the specified AP model.

Defaults

Status LEDs: Enabled

PoE Out: Disabled

Internal Heater: Disabled

C-band channels: Disabled

USB Ports: Enabled

Power Mode: Default

Example

```
ruckus(config-apgrp)# model zf7343 status-leds enable
ruckus(config-apgrp)# end
The AP group 'System Default' has been updated.
Your changes have been saved.
ruckus(config)#
```

Configure AP Group Model-Specific Antenna Settings

Use the `model <WORD> external-antenna` commands from within the `config-apgrp` context to configure model-specific external antenna settings for all APs of the specified model within the AP group. The following commands are available from within this context.

external-antenna 2.4Ghz(11BG) enable	Enables the external antenna setting for the 2.4GHz(11BG) radio.
external-antenna 2.4Ghz(11BG) disable	Disables the external antenna setting for the 2.4GHz(11BG) radio.
external-antenna 2.4Ghz(11BG) gain	Sets the external antenna gain for the 2.4GHz(11BG) radio.
external-antenna 2.4Ghz(11BG) 2-antennas	Selects the two external antennas for the 2.4GHz(11BG) radio.
external-antenna 2.4Ghz(11BG) 3-antennas	Selects the three external antennas for the 2.4GHz(11BG) radio.
external-antenna 2.4Ghz(11NG) enable	Enables the external antenna setting for the 2.4GHz(11NG) radio.
external-antenna 2.4Ghz(11NG) disable	Disables the external antenna setting for the 2.4GHz(11NG) radio.
external-antenna 2.4Ghz(11NG) gain	Sets the external antenna gain for the 2.4GHz(11NG) radio.
external-antenna 2.4Ghz(11NG) 2-antennas	Selects the two external antennas for the 2.4GHz(11NG) radio.
external-antenna 2.4Ghz(11NG) 3-antennas	Selects the three external antennas for the 2.4GHz(11NG) radio.
external-antenna 5Ghz(11NA) enable	Enables the external antenna setting for the 5GHz(11NA) radio.
external-antenna 5Ghz(11NA) disable	Disables the external antenna setting for the 5GHz(11NA) radio.
external-antenna 5Ghz(11NA) gain	Sets the external antenna gain for the 5GHz(11NA) radio.
external-antenna 5Ghz(11NA) 2-antennas	Selects the two external antennas for the 2.4GHz(11NA) radio.

external-antenna 5Ghz(11NA) 3-antennas	Selects the three external antennas for the 2.4GHz(11NA) radio.
external-antenna 5Ghz(11A) enable	Enables the external antenna setting for the 5GHz(11A) radio.
external-antenna 5Ghz(11A) disable	Disables the external antenna setting for the 5GHz(11A) radio.
external-antenna 5Ghz(11A) gain	Sets the external antenna gain for the 5GHz(11A) radio.
external-antenna 5Ghz(11A) 2-antennas	Selects the two external antennas for the 2.4GHz(11A) radio.
external-antenna 5Ghz(11A) 3-antennas	Selects the three external antennas for the 2.4GHz(11A) radio.

Configure AP Group Model-Specific Port Settings

Use the `model <WORD> port-setting` command (from the `config-apgrp` context) to enter the `config-apgrp-port` context and configure model-specific port settings for all APs of the specified model within the AP group. The following commands are available from within this context.

port-setting	Enters the port-setting context.
no port-setting	Disables the override of the global AP mode configuration.
help	Shows available commands.
history	Shows a list of previously run commands.
abort	Exits the config-apgrp-port context without saving changes.
end	Saves changes, and then exits the config-apgrp-port context.
exit	Saves changes, and then exits the config-apgrp-port context.
quit	Exits the config-apgrp-port context without saving changes.

show	Displays config-apgrp-port context.
lan <NUMBER>	Enables the AP Ethernet port.
lan <NUMBER> uplink <WORD>	Sets the AP port to use the specified type (trunk, access or general).
lan <NUMBER> untag <NUMBER>	Sets the AP port to use the specified VLAN ID(1-4094).
lan <NUMBER> member <NUMBER>	Sets the AP port to use the specified members(1-4094).
lan <NUMBER> opt82 enabled	Enables the AP port DHCP option 82 settings.
lan <NUMBER> opt82 disabled	Disables the AP port DHCP option 82 settings.
lan <NUMBER> tunnel disabled	Disables the AP port tunnel settings.
lan <NUMBER> tunnel enabled	Enables the AP port tunnel settings.
lan <NUMBER> dot1x disabled	Disables the AP port 802.1X settings.
lan <NUMBER> dot1x supplicant	Sets the AP port to 802.1X supplicant.
lan <NUMBER> dot1x auth-port-based	Sets the AP port to port-based 802.1X.
lan <NUMBER> dot1x auth-mac-based	Sets the AP port to mac-based 802.1X.
lan <NUMBER> guest-vlan <WORD>	Sets the AP port to use the specified guest VLAN ID(1-4094).
lan <NUMBER> dvlan enabled	Enables the AP port dynamic VLAN settings.
lan <NUMBER> dvlan disabled	Disables the AP port dynamic VLAN settings.
lan <NUMBER> qos mld-snooping	Enables the AP port MLD Snooping setting.
lan <NUMBER> qos igmp-snooping	Enables the AP port IGMP Snooping setting.

lan <NUMBER> qos directed-mcast	Enables the AP port Directed Multicast setting.
dot1x supplicant mac	Sets the username and password to use AP MAC address for AP 802.1X supplicant.
dot1x supplicant username <WORD>	Sets the username for AP 802.1X supplicant.
dot1x supplicant username <WORD> password <WORD>	Sets the password for AP 802.1X supplicant.
dot1x authsvr <WORD>	Sets the authentication server for AP 802.1X.
dot1x acctsvr <WORD>	Sets the accounting server for AP 802.1X.
dot1x mac-auth-bypass	Enables MAC authentication bypass (Use device MAC address as username and password).
no lan <NUMBER>	Disables the AP Ethernet port.
no dot1x authsvr	Disables the auth server settings.
no lan <NUMBER> qos mld-snooping	Disables the AP port MLD Snooping setting.
no lan <NUMBER> qos igmp-snooping	Disables the AP port IGMP snooping setting.
no lan <NUMBER> qos directed-mcast	Disables the AP port Directed Multicast setting.
no dot1x authsvr	Disables the authentication server settings.
no dot1x acctsvr	Disables the accounting server settings.
no dot1x mac-auth-bypass	Disables the MAC authentication bypass.

Example

```
ruckus(config-apgrp)# model zf7372 port-setting
ruckus(config-apgrp-port)# show
PORTS:
    LAN ID:
          1:
```

```
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
          2:
            Enable LAN = Yes
            LAN Type= trunk
            Untag ID= 1
            Members= 1-4094
            Guest VLAN=
            Enable Dynamic VLAN= Disabled
            802.1X= disabled
            DHCP opt82= Disabled
            Tunnel= Disabled
            MLD Snooping= Disabled
            IGMP Snooping= Enabled
ruckus(config-apgrp-port)#
```

AP Group Membership

Use the following commands to configure AP group membership (move APs into or out of the current AP group, from within the config-apgrp context).

member

Adds or moves the AP to the specified AP group.

```
member [add|move] mac <WORD> [system-default|name <WORD>]
```

member add mac

To add the AP to the specified AP group, use the following command:

```
member add mac <WORD>
```

Example

```
ruckus(config-apgrp)# member add mac c4:10:8a:1f:d1:f0
ruckus(config-apgrp)# show
APGROUP:
       ID:
         :
           Name= apgroup2
           Description=
           Channel Range:
             B/G/N= 1,2,3,4,5,6,7,8,9,10,11 (Disallowed= )
            A/N Indoor= 36,40,44,48,149,153,157,161 (Disallowed= )
           A/N Outdoor= 36,40,44,48,149,153,157,161 (Disallowed= )
           Radio 11bgn:
             Channelization= Auto
             Channel= Auto
             Tx. Power= Auto
             11N only Mode= Auto
             WLAN Group= Default
             Call Admission Control= OFF
             SpectraLink Compatibility= Disabled
           Radio 11an:
             Channelization= Auto
             Indoor Channel= Auto
             Outdoor Channel= Auto
             Tx. Power= Auto
             11N only Mode= Auto
             WLAN Group= Default
             Call Admission Control= OFF
             SpectraLink Compatibility= Disabled
           Network Setting:
             Protocol mode= Use Parent Setting
           Turn off channfly setting: disabled
            if AP's uptime is more than 30 minutes will turn off
AP's ChannelFly
           Members:
             MAC= c4:10:8a:1f:d1:f0

ruckus(config-apgrp)#
```

member mac move-to system-default

To move the AP from the current AP group to the System Default AP group, use the following command:

```
member mac <WORD> move-to system-default
```

Example

```
ruckus(config-apgrp)# member mac c4:10:8a:1f:d1:f0 move-to system-default
ruckus(config-apgrp)#
```

member mac move-to name

To move the AP from the current AP group to the specified AP group, use the following command:

```
member mac <WORD> move-to name <WORD>
```

Example

```
ruckus(config-apgrp)# member mac c4:10:8a:1f:d1:f0 move-to name apgroup2
ruckus(config-apgrp)#
```

Model-Specific Port Settings

This section describes the commands that you can use to configure port settings for all APs of a specific model within an AP group. The following commands can be executed from within the `config-apgrp-port` context. To show a list of commands available from within the context, type help or ?.

model port-setting

To configure the port settings for all APs of a specific model within an AP group, and enter the `config-apgrp-port` context, use the following command:

```
model <WORD> port-setting
```

Syntax Description

model	Configure AP group model-specific settings
<WORD>	Enter the AP model name (e.g., zf2942, zf2741, zf7025, zf7341, zf7343, zf7363, zf7761cm, zf7762, zf7762-s, zf7762-t, zf7762-ac, zf7762-s-ac, zf7762-t-ac, zf7942, zf7962).
port-setting	Configures the port setting for the specified AP model. Enters config-apgrp-port context.

Example

```
ruckus(config)# ap-group "System Default"
The AP group entry 'System Default' has been loaded. To save the
AP group, type 'end' or 'exit'.
ruckus(config-apgrp)# model zf7025 port-setting
ruckus(config-apgrp-port)#
```

abort

To exit the `config-apgrp-port` context without saving changes, use the following command:

```
abort
```

Syntax Description

`abort`	Exit the context without saving changes

Defaults

None.

Example

```
ruckus(config-apgrp-port)# abort
ruckus(config-apgrp)#
```

end

To save changes, and then exit the `config-apgrp-port` context, use the following command:

```
end
```

Syntax Description

`end`	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-apgrp-port)# end
ruckus(config-apgrp)#
```

exit

To save changes, and then exit the `config-apgrp-port` context, use the following command:

```
exit
```

Syntax Description

`exit`	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-apgrp-port)# exit
ruckus(config-apgrp)#
```

quit

To exit the `config-apgrp-port` context without saving changes, use the following command:

```
quit
```

Syntax Description

`quit`	Exit the context without saving changes

Defaults

None.

Example

```
ruckus(config-apgrp-port)# quit
ruckus(config-apgrp)#
```

show

To show a device's port state, use the following command:

```
show
```

Syntax Description

`show`	Display the device's port state

Defaults

None.

Example

```
ruckus(config-apgrp)# model zf7962 port-setting
ruckus(config-apgrp-port)# show
PORTS:
LAN ID:
1:
```

```
Enable LAN = Yes
LAN Type= trunk
Untag ID= 1
Members= 1-4094
802.1X= disabled
DHCP opt82= Disabled
LAN ID:
2:
Enable LAN = Yes
LAN Type= trunk
Untag ID= 1
Members= 1-4094
802.1X= disabled
DHCP opt82= Disabled
ruckus(config-apgrp-port)#
```

no lan

To disable a LAN port on APs in an AP group, use the following command:

```
no lan <NUMBER>
```

Syntax Description

`no lan`	Disable a specific port
`<NUMBER>`	Disable this port

Defaults

Enabled.

Example

```
ruckus(config-apgrp-port)# no lan 2
ruckus(config-apgrp-port)#
```

lan

To enable a LAN port on APs in an AP group, use the following command:

```
lan <NUMBER>
```

Syntax Description

lan	Enable a specific port
<NUMBER>	Enable this port

Defaults

Enabled.

Example

```
ruckus(config-apgrp-port)# lan 2
ruckus(config-apgrp-port)#
```

lan uplink

To set port type, use the following command:

```
lan <NUMBER> uplink <WORD>
```

Syntax Description

lan	Configure a specific port
<NUMBER>	Configure this port
uplink	Set the port type
<WORD>	Port type (Trunk port, Access port, General port)

Defaults

All AP ports other than ZF 7025: Trunk

ZF 7025 port 5: Trunk

ZF 7025 LAN 1-LAN 4: Access

Example

```
ruckus(config-apgrp)# model zf7962 port-setting
```

```
ruckus(config-apgrp-port)# lan 2 uplink access
ruckus(config-apgrp-port)# show
PORTS:
LAN ID:
1:
Enable LAN = Yes
LAN Type= trunk
Untag ID= 1
Members= 1-4094
802.1X= disabled
DHCP opt82= Disabled
LAN ID:
2:
Enable LAN = Yes
LAN Type= access
Untag ID= 1
Members= 1
802.1X= disabled
DHCP opt82= Disabled
ruckus(config-apgrp-port)#
```

lan untag

To configure untag VLAN settings for a model-specific port, use the following command:

```
lan <NUMBER> untag <NUMBER>
```

Syntax Description

`lan untag`	Configure port untag VLAN
`<NUMBER>`	Configure this port
<NUMBER>	Set untag VLAN to this number

Defaults

1

Example

```
ruckus(config-apgrp-port)# lan 2 untag 20
ruckus(config-apgrp-port)#
```

lan member

To set the LAN port VLAN membership (only General ports have configurable membership; Trunk ports are members of all VLANs, and Access port membership must be the same as the Untag VLAN), use the following command:

```
lan <NUMBER> member <NUMBER>
```

Syntax Description

lan member	Set the LAN port VLAN membership
<NUMBER>	Specify the LAN port to configure
<NUMBER>	Set the VLAN membership (1~4094, range separated by hyphen, multiple VLANs separated by commas)

Defaults

1

Example

```
ruckus(config-apgrp-port)# lan 2 uplink general
ruckus(config-apgrp-port)# lan 2 member 1-10,100,200
ruckus(config-apgrp-port)# show
PORTS:
LAN ID:
1:
Enable LAN = Yes
LAN Type= trunk
Untag ID= 1
Members= 1-4094
802.1X= disabled
DHCP opt82= Disabled
LAN ID:
```

```
2:
Enable LAN = Yes
LAN Type= general
Untag ID= 20
Members= 1-10,100,200
802.1X= disabled
DHCP opt82= Disabled
ruckus(config-apgrp-port)#
```

lan opt82

To enable or disable DHCP option 82 for a LAN port, use the following command:

```
lan <NUMBER> opt82 [enable|disable]
```

Syntax Description

lan opt82	Enable or disable DHCP option 82
enable	Enable option 82
disable	Disable option 82

Defaults

Disabled

Example

```
ruckus(config-apgrp-port)# lan 2 opt82 enable
ruckus(config-apgrp-port)#
```

dot1x

To enable 802.1X on ports of all APs of a specific model in an AP group, use the following command:

```
model <WORD> dot1x
lan <NUMBER> dot1x [disable|supplicant|auth-port-
based|auth-mac-based|guest-vlan<NUMBER>|dvlan]
```

Syntax Description

lan dot1x	Configure 802.1X settings for this port
<NUMBER>	LAN port number to configure
disable	Disable 802.1X
supplicant	Configure this LAN port as an 802.1X supplicant
auth-port-based	Configure this LAN port as an 802.1X authenticator (port-based)
auth-mac-based	Configure this LAN port as an 802.1X authenticator (MAC-based)

Defaults

Disabled

Example

```
ruckus(config-apgrp)# model zf7025 port-setting
ruckus(config-apgrp-port)# lan 1 dot1x supplicant
ruckus(config-apgrp-port)# show
PORTS:
LAN ID:
1:
Enable LAN = Yes
LAN Type= access
Untag ID= 1
Members= 1
802.1X= supp
DHCP opt82= Disabled
```

dot1x authsvr

To configure 802.1X authentication server, use the following command:

```
dot1x authsvr <WORD>
```

Syntax Description

dot1x authsvr	Configure 802.1X authentication server
<WORD>	Name of AAA server

Defaults

None

Example

```
ruckus(config-apgrp-port)# dot1x authsvr radius
ruckus(config-apgrp-port)#
```

dot1x acctsvr

To configure 802.1X accounting server, use the following command:

```
dot1x acctsvr <WORD>
```

Syntax Description

dot1x acctsvr	Configure 802.1X accounting server
<WORD>	Name of AAA server

Defaults

None

Example

```
ruckus(config-apgrp-port)# dot1x acctsvr radius-acct
ruckus(config-apgrp-port)#
```

dot1x mac-auth-bypass

To configure 802.1X MAC authentication bypass, use the following command:

```
dot1x mac-auth-bypass
```

Syntax Description

dot1x mac-auth-bypass	Enable 802.1X MAC authentication bypass

Defaults

Disabled

Example

```
ruckus(config-apgrp-port)# dot1x mac-auth-bypass
ruckus(config-apgrp-port)#
```

dot1x supplicant username

To configure 802.1X supplicant user name, use the following command:

```
dot1x supplicant username <WORD>
```

Syntax Description

dot1x supplicant username	Configure 802.1X supplicant user name
<WORD>	Set the 802.1X supplicant user name

Defaults

None

Example

```
ruckus(config-apgrp-port)# dot1x supplicant username johndoe
ruckus(config-apgrp-port)#
```

dot1x supplicant password

To configure 802.1X supplicant password, use the following command:

```
dot1x supplicant password <WORD>
```

Syntax Description

dot1x supplicant password	Configure 802.1X supplicant password
<WORD>	Set the 802.1X supplicant password

Defaults

None

Example

```
ruckus(config-apgrp-port)# dot1x supplicant password test123
ruckus(config-apgrp-port)#
```

dot1x supplicant mac

To set the 802.1X supplicant user name and password as the AP's MAC address, use the following command:

```
dot1x supplicant mac
```

Syntax Description

dot1x supplicant mac	Set the supplicant user name and password as the AP's MAC address

Defaults

None

Example

```
ruckus(config-apgrp-port)# dot1x supplicant mac
ruckus(config-apgrp-port)#
```

no dot1x

To disable 802.1X settings for an AP model, use the following command:

```
no dot1x [authsvr] [acctsvr] [mac-auth-bypass]
```

Syntax Description

no dot1x	Disable dot1x settings for the AP
authsvr	Disable authentication server
acctsvr	Disable accounting server
mac-auth-bypass	Disable MAC authentication bypass

Defaults

None

Example

```
ruckus(config-apgrp-port)# no dot1x authsvr
ruckus(config-apgrp-port)#
```

lan guest-vlan

To set the AP port to use the specified guest VLAN ID(1-4094), use the following command:

```
lan <NUMBER> guest-vlan <WORD>
```

lan dvlan

To enable/disable dynamic VLAN for the AP port, use the following command:

```
lan <NUMBER> dvlan [enabled | disabled]
```

lan qos

To set the AP port QoS settings, use the following command:

```
lan <NUMBER> qos
```

lan qos mld-snooping

To enable MLD snooping for the port, use the following command:

```
lan <NUMBER> qos mld-snooping
```

lan qos igmp-snooping

To enable IGMP snooping for the port, use the following command:

```
lan <NUMBER> qos igmp-snooping
```

lan qos directed-mcast

To enable Directed Multicast for the port, use the following command:

```
lan <NUMBER> qos directed-mcast
```

no lan qos

To disable QoS settings for the port, use the following command:

```
no lan <NUMBER> qos
```

no lan qos mld-snooping

To disable MLD snooping on the port, use the following command:

```
no lan <NUMBER> qos mld-snooping
```

no lan qos igmp-snooping

To disable IGMP snooping on the port, use the following command:

```
no lan <NUMBER> qos igmp-snooping
```

no lan qos directed-mcast

To disable Directed Multicast on the port, use the following command:

```
no lan <NUMBER> qos directed-mcast
```

no dot1x

To disable 802.1x settings for the port, use the following command:

```
no dot1x
```

no dot1x authsvr

To disable the authentication server settings, use the following command

```
no dot1x authsvr
```

no dot1x acctsvr

To disable the accounting server settings, use the following command:

```
no tod1x acctsvr
```

no dot1x mac-auth-bypass

To disable MAC authentication bypass, use the following command:

no dot1x mac-auth-bypass

LLDP Commands

To enable, disable or configure the Link Layer Discovery Protocol (LLDP) commands for the AP group, use the following commands from within the config-apgrp context.

lldp

To enable, disable or configure the AP group's Link Layer Discover Protocol settings, use the following commands.

Syntax Description

lldp	Configure LLDP settings.
enable	Enable LLDP with current settings.
disable	Disable LLDP with current settings.
interval <NUMBER>	Set packet transmit interval in second(s).
holdtime <NUMBER>	Set amount of time receiving device should retain the information.
ifname eth <NUMBER>	Enter the AP port number.
mgmt enable	Enable LLDP management IP address of the AP.
mgmt disable	Disable LLDP management IP address of the AP.

Example

```
ruckus(config-apgrp)# lldp enable
ruckus(config-apgrp)#
```

power-mode

To set the PoE mode of the AP, use the following command:

```
model <WORD> power-mode <WORD>
```

Syntax Description

model <WORD>	Set the AP model.
power-mode	Set the AP's PoE power mode.

auto	Set the power mode to Auto.
802.3af	Set the power mode to 802.3af.
802.3at	Set the power mode to 802.3at.

Example

```
ruckus(config-apgrp)# model R710 power-mode auto
ruckus(config-apgrp)#
```

no power-mode-override

To disable the override of the PoE mode, use the following command:

```
no model <WORD> power-mode-override
```

802.3af-txchain

To set the number of 2.4 GHz radio transmit chains in 802.3af power mode for the AP, use the following command:

```
model <WORD> 802.3af-txchain <WORD>
```

Syntax Description

model <WORD>	Set the AP model.
802.3af-txchain	Set the number of 2.4 GHz radio chains.
1	Set the radio chains to 1.
2	Set the radio chains to 2.
4	Set the radio chains to 4.

Example

```
ruckus(config-apgrp)# model R710 802.3af-txchain 1
ruckus(config-apgrp)#
```

no 802.3af-txchain-override

To disable the override of the 2.4 GHz radio transmit chains in 802.3af PoE mode, use the following command:

```
no model <WORD> 802.3af-txchain-override
```

Configure Certificate Commands

Use the `config-certificate` commands to restore the default ZoneDirector certificate or to regenerate the private key. To run these commands, you must first enter the `config-certificate` context.

quit

To exit the `config-certificate` context without saving changes, use the `quit` command.

```
quit
```

Syntax Description

quit	Exit the certificate settings without saving changes

Defaults

None.

Example

```
ruckus(config-certificate)# quit
No changes have been saved.
```

restore

To restore the default ZoneDirector certificate and private key, use the following command.

```
restore
```

Syntax Description

restore	Restore the default ZoneDirectory certificate and private key. The restore process will be completed after ZoneDirector is rebooted.

Defaults

None.

Example

```
ruckus(config-certificate)# restore
ZoneDirector will restart now to apply the changes in the certificate
settings. If you want to configure other settings, log in again
after ZoneDirector has completed restarting.
```

re-generate-private-key

To regenerate the ZoneDirector private key, use the following command:

```
re-generate-private-key {1024|2048}
```

Syntax Description

re-generate-private-key	Regenerate the ZoneDirector private key
{1024|2048}	Specify the length of the private key as either `1024` or `2048`.

Defaults

None.

Example

```
ruckus(config-certificate)# re-generate-private-key 1024
ZoneDirector will restart now to apply the changes in the certificate
settings. If you want to configure other settings, log in again
after ZoneDirector has completed restarting.
The operation doesn't execute successfully. Please try again.
```

Configure Hotspot Redirect Settings

To configure Hotspot redirect settings, use the following command:

hotspot_redirect_https

To enable Hotspot redirect, use the following command:

```
hotspot_redirect_https
```

Defaults

None.

Example

```
ruckus(config)# hotspot_redirect_https
/bin/hotspot_redirect_https enable
ruckus(config)#
```

no hotspot_redirect_https

To disable Hotspot redirect, use the following command:

```
no hotspot_redirect_https
```

Defaults

None.

Example

```
ruckus(config)# no hotspot_redirect_https
/bin/hotspot_redirect_https disable
ruckus(config)#
```

no blocked-client

To remove a blocked client from the blocked clients list, use the following command:

```
no blocked-client <MAC>
```

Defaults

None.

Example

```
ruckus(config)# no blocked-client dc:2b:61:13:f7:72
The L2 ACL 'dc:2b:61:13:f7:72' has been deleted.
ruckus(config)#
```

Configure Layer 2 Access Control Commands

Use the `layer2 access control` commands to configure the Layer 2 Access Control List settings. To run these commands, you must first enter the `config-l2acl` context.

acl

To create a new L2 ACL entry or update an existing entry, use the following command:

```
acl <WORD>
```

Syntax Description

acl	Create a new ACL
<WORD>	Assign this name to the new ACL

Defaults

None.

Example

```
ruckus(config)# l2acl l2acl1
The L2 ACL entry 'l2acl1' has been created.
ruckus(config-l2acl)#
```

no acl

To delete an L2 ACL, use the following command:

```
no acl <WORD>
```

Syntax Description

no acl	Delete an existing ACL
<WORD>	Delete this ACL

Defaults

None.

Example

```
ruckus(config)# no l2acl l2acl1
The L2 ACL 'l2acl1' has been deleted.
ruckus(config)#
```

abort

To exit the `config-l2acl` context without saving changes, use the following command:

```
abort
```

Syntax Description

abort	Exit the `config-l2acl` context without saving changes

Defaults

None.

Example

```
ruckus(config-l2acl)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the `config-l2acl` context, use the following command:

```
end
```

Syntax Description

end	Save changes and exit the `config-l2acl` context

Defaults

None.

Example

```
ruckus(config-l2acl)# end
The L2 ACL entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-l2acl` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes and exit the `config-l2acl` context

Defaults

None.

Example

```
ruckus(config-l2acl)# exit
The L2 ACL entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

quit

To exit the `config-l2acl` context without saving changes, use the following command:

```
quit
```

Syntax Description

quit	Exit the `config-l2acl` context without saving changes

Defaults

None.

Example

```
ruckus(config-l2acl)# quit
No changes have been saved.
ruckus(config)#
```

show

To displays the L2 ACL settings, use the `show` command. You must run this command from within the `config-l2acl` context.

```
show
```

Syntax Description

show	Display the Layer 2 access control list settings

Defaults

None.

Example

```
ruckus(config-l2acl)# show
L2/MAC ACL:
  ID:
    :
      Name= l2acl1
      Description=
      Restriction= Deny only the stations listed below
      Stations:
        MAC Address= 00:11:22:33:44:55
```

```
ruckus(config-l2acl)#
```

name

To rename an L2 ACL entry, use the following command:

```
name <WORD>
```

Syntax Description

name	Sets the L2 ACL entry name.
<WORD>	Rename the ACL to this name.

Defaults

None.

Example

```
ruckus(config)# l2acl l2acl1
The L2 ACL entry 'l2acl1' has been created.
ruckus(config-l2acl)# name L2-ACL-1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-l2acl)#
```

description

To set the description of an L2 ACL entry, use the following command (multiple word text must be enclosed in quotation marks):

```
description <WORD>
```

Syntax Description

description <WORD>	Set the L2 ACL description.

Defaults

None.

Example

```
ruckus(config)# l2acl l2acl1
The L2 ACL entry 'l2acl1' has been created.
ruckus(config-l2acl)# description "L2 ACL 1"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-l2acl)#
```

add-mac

To add a MAC address to the L2 ACL, use the following command:

```
add-mac <MAC>
```

Syntax Description

add mac	Add a MAC address to the ACL
<MAC>	Add this MAC address

Defaults

None.

Example

```
ruckus(config-l2acl)# add-mac 00:11:22:33:44:55
The station '00:11:22:33:44:55' has been added to the ACL.
ruckus(config-l2acl)#
```

mode allow

To set the ACL mode to 'allow', use the following command:

```
mode allow
```

Syntax Description

mode allow	Set the ACL mode to allow

Defaults

None.

Example

```
ruckus(config-l2acl)# mode allow
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-l2acl)#
```

mode deny

To set the ACL mode to 'deny', use the following command:

```
mode deny
```

Syntax Description

mode deny	Set the ACL mode to deny

Defaults

None.

Example

```
ruckus(config-l2acl)# mode deny
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-l2acl)#
```

del-mac

To delete a MAC address from an L2 ACL, use the following command:

```
del-mac <MAC>
```

Syntax Description

del-mac	Delete a MAC address from the ACL
<MAC>	Delete this <MAC>

Defaults

None.

Example

```
ruckus(config-l2-acl)# del-mac 00:01:02:34:44:55
The station '00:01:02:34:44:55' has been removed from the ACL.
ruckus(config-l2-acl)# del-mac 00:01:02:34:44:55
The station '00:01:02:34:44:55' could not be found. Please check
the spelling, and then try again.
```

Configure Layer 3 Access Control Commands

Use the `l3acl` commands to configure the Layer 3 Access Control List settings. To run these commands, you must first enter the `config-l3acl` or `config-l3acl-ipv6` context.

l3acl

To enter the `config-l3acl` context, run this command:

```
l3acl <WORD>
```

Syntax Description

l3acl	Create or configure a Layer 3 Access Control List
<WORD>	Name of the L3 ACL

Defaults

None.

Example

```
ruckus(config)# l3acl "ACL 1"
```

```
The L3/L4/IP ACL entry 'ACL 1' has been created.
ruckus(config-l3acl)#
```

l3acl-ipv6

To enter the `config-l3acl-ipv6` context, run this command:

```
l3acl-ipv6 <WORD>
```

Syntax Description

l3acl-ipv6	Create or configure a Layer 3 Access Control List
<WORD>	Name of the L3 ACL

Defaults

None.

Example

```
ruckus(config)# l3acl-ipv6 "ACL 2"
The L3/L4/IPv6 ACL entry 'ACL 2' has been created.
ruckus(config-l3acl-ipv6)#
```

no l3acl

To delete an L3/L4 ACL entry, use the following command:

```
no l3acl <WORD>
```

Syntax Description

no l3acl	Delete a Layer 3 ACL
<WORD>	Name of the L3 ACL

Defaults

None.

Example

```
ruckus(config)# no l3acl "ACL test"
The L3/L4/IP ACL 'ACL test' has been deleted.
ruckus(config)#
```

abort

To exit the `config-l3acl` context without saving changes, use the following command:

```
abort
```

Syntax Description

abort	Exit the context without saving changes

Defaults

None.

Example

```
ruckus(config-l3acl)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the config-l3acl context, use the following command:

```
end
```

Syntax Description

end	Save changes and exit the context

Defaults

None.

Example

```
ruckus(config-l3acl)# end
The L3/L4/IP ACL entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-l3acl` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes and exit the context

Defaults

None.

Example

```
ruckus# config-l3acl
ruckus(config-l3acl)# exit
Your changes have been saved.
```

quit

To exit the `config-l3acl` context without saving changes, use the following command:

```
quit
```

Syntax Description

quit	Exit the context without saving changes

Defaults

None.

Example

```
ruckus(config-l3acl)# quit
No changes have been saved.
ruckus(config)#
```

show

To display the L3ACL settings, use the `show` command. You must run this command from within the `config-l3acl` context.

```
show
```

Syntax Description

show	Display the Layer 3 access control list settings

Defaults

None.

Example

```
ruckus(config-l3acl)# show
L3/L4/IP ACL:
ID:
3:
Name= test_newname
Description= justfortestCLI
Default Action if no rule is matched= Deny all by default
Rules:
Order= 1
Description=
Type= Allow
Destination Address= Any
Destination Port= 53
Protocol= Any
Order= 2
Description=
Type= Allow
Destination Address= Any
```

```
Destination Port= 67
Protocol= Any
```

name

To set the name of anL3/L4/IP ACL entry, use the following command:

```
name <WORD>
```

Syntax Description

name	Set the name of anL3/L4/IP ACL entry
<WORD>	Name of the L3/L4/IP ACL entry

Defaults

None.

Example

```
ruckus(config-l3acl)# name test_newname
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

description

To set the description of an L3/L4/IP ACL entry, use the following command (multiple word text must be enclosed in quotes):

```
description <WORD>
```

Syntax Description

description	Set the L3/L4/IP ACL entry description
<WORD>	Set to this description

Defaults

None.

Example

```
ruckus(config-l3acl)# description justfortestCLI
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

mode allow

To set the ACL mode to ‘allow’, use the following command:

```
mode allow
```

Syntax Description

mode	Set the ACL mode
allow	Set the mode to ‘allow’

Defaults

None.

Example

```
ruckus(config-l3acl)# mode allow
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

mode deny

To set the ACL mode to ‘deny’, use the following command:

```
mode deny
```

Syntax Description

mode	Set the ACL mode
deny	Set the mode to ‘deny’

Defaults

None.

Example

```
ruckus(config-l3acl)# mode deny
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no rule-order

To delete a rule from the L3/L4/IP ACL, use the following command:

```
no rule-order <NUMBER>
```

Syntax Description

no rule-order	Delete a rule from the L3/L4/IP ACL
<NUMBER>	Delete this rule ID

Defaults

None.

Example

```
ruckus(config-l3acl)# no rule-order 3
The rule '3' has been removed from the ACL.
```

rule-order

To create or modify a rule in the L3/L4/IP ACL, use the following command:

```
rule-order <NUMBER>
```

Syntax Description

rule-order	Create a new rule or modify an existing one
<NUMBER>	Create or modify this rule ID

Defaults

None.

Example

For example, to set the current rule as the third ACL rule to apply, use the following command:

```
ruckus(config-l3acl)# rule-order 3
ruckus(config-l3acl-rule)#
```

Layer 3 Access Control Rule Commands

Use the `l3acl-rule` commands to configure the Layer 3/Layer 4/IP Access Control List rules. To run these commands, you must first enter the `config-l3acl-rule` context. To enter the `config-l3acl-rule` context, run this command:

```
rule-order <NUMBER>
```

end

To save changes, and then exit the `config-l3acl-rule` context, use the following command:

```
end
```

exit

To save changes, and then exit the `config-l3acl-rule` context, use the following command:

```
exit
```

order

To set the L3/L4/IP ACL rule order, use the following command:

order <NUMBER>

Example

```
ruckus(config-l3acl-rule)# order 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-l3acl-rule)#
```

description

To set the description of an L3/L4/IP ACL rule, use the following command (multiple word text must be enclosed in quotes):

```
description <WORD>
```

Syntax Description

description	Set the L3/L4/IP ACL rule description
<WORD>	Set to this description

Defaults

None.

Example

```
ruckus(config-l3acl-rule)# description thirdl3rule
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

type allow

To set the ACL rule type to ‘allow’, use the following command:

```
type allow
```

Syntax Description

type	Set the ACL rule type
allow	Set the rule type to ‘allow’

Defaults

None.

Example

```
ruckus(config-l3acl-rule)# type allow
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

type deny

To set the ACL rule type to ‘deny’, use the following command:

```
type deny
```

Syntax Description

type	Set the ACL rule type
deny	Set the rule type to ‘deny’

Defaults

None.

Example

```
ruckus(config-l3acl-rule)# type deny
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

destination address

To set the destination address of the rule, use the following command:

```
destination address <IP-ADDR/WORD>
```

Syntax Description

destination address	Set the destination address of the rule
IP-ADDR/WORD	Set the destination to this IP address

Defaults

None.

Example

```
ruckus(config-l3acl-rule)# destination address 192.168.1.22
The destination IP address is invalid. Please enter 'Any' or check
the IP address(for example:192.168.0.1/24), and then please try
again.
ruckus(config-l3acl-rule)# destination address 192.168.1.22/24
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

destination port

To set the destination port of the rule, use the following command:

```
destination port <NUMBER/WORD>
```

Syntax Description

destination port	Set the destination port of the rule
<NUMBER/WORD>	Set the destination to this port number

Defaults

None.

Example

```
ruckus(config-l3acl-rule)# destination port 580
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

protocol

To set the protocol for the rule, use the following command:

```
protocol <NUMBER/WORD>
```

Syntax Description

protocol	Set the protocol for the rule
<NUMBER/WORD>	Set to this protocol

Defaults

None.

Example

```
ruckus(config-l3acl-rule)# protocol tcp
The protocol must be a number between 0 and 254.
ruckus(config-l3acl-rule)# protocol Any
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

show

To display L3/L4/IP ACL settings, use the following command:

```
show
```

Example

```
ruckus(config-l3acl)# show
L3/L4/IP ACL:
  ID:
    :
      Name= l3acl1
      Description=
      Default Action if no rule is matched= Deny all by default
      Rules:
        1:
          Description=
          Type= Allow
          Destination Address= 192.168.1.22/24
          Destination Port= 53
          Protocol= Any
        2:
          Description=
          Type= Allow
          Destination Address= Any
          Destination Port= 67
          Protocol= Any

ruckus(config-l3acl)#
```

Layer 3 IPv6 Access Control List Commands

Use the `l3acl-ipv6` command to configure the IPv6 Layer 3/Layer 4/IP Access Control List. To run these commands, you must first enter the `config-l3acl` context.

l3acl-ipv6

To enter the `config-l3acl-ipv6` context, run this command:

```
l3acl-ipv6 <WORD>
```

abort

Exits the config-l3acl-ipv6 context without saving changes.

end

Saves changes, and then exits the config-l3acl-ipv6 context.

exit

Saves changes, and then exits the config-l3acl-ipv6 context.

quit

Exits the config-l3acl-ipv6 context without saving changes.

name

Sets the L3/L4/IPv6 ACL entry name.

description

Sets the L3/L4/IPv6 ACL entry description.

mode allow

Sets the ACL mode to 'allow'.

mode deny

Sets the ACL mode to 'deny'.

no rule-order

Deletes a rule name from the L3/L4/IPv6 ACL.

rule-order

Creates a new L3/L4/IPv6 ACL rule or modifies an existing entry rule.

Configure L3 IPv6 Rule Commands

Use the `l3acl-ipv6-rule` commands to configure the IPv6 Layer 3/Layer 4/IP Access Control List rules. To run these commands, you must first enter the `config-l3acl-ipv6-rule` context. To enter the `config-l3acl-ipv6-rule` context, run this command:

```
rule-order <NUMBER>
```

end

Saves changes, and then exits the config-l3acl-ipv6-rule context.

exit

Saves changes, and then exits the config-l3acl-ipv6-rule context.

order

Sets the L3/L4/IPv6 ACL rule order.

description

Sets the L3/L4/IPv6 ACL rule description.

type allow

Sets the ACL rule type to 'allow'.

type deny

Sets the ACL rule type to 'deny'.

destination

Contains commands that can be executed from within the context.

destination address

Sets the destination address of a L3/L4/IPv6 ACL rule.

destination port

Sets the destination port of a L3/L4/IPv6 ACL rule.

protocol

Sets the protocol of a L3/L4/IPv6 ACL rule.

icmpv6-type Any

Sets the icmpv6 type of a L3/L4/IPv6 ACL rule.

icmpv6-type number

Sets the icmpv6 type of a L3/L4/IPv6 ACL rule.

show

Displays L3/L4/IPv6 ACL settings.

Configure Precedence Policy Commands

Use the prece commands to configure precedence policy settings. Precedence policies are used to define the order in which VLAN and rate limiting policies are applied when the WLAN settings, AAA server configuration or Device Policy settings conflict.

To run these commands, you must first enter the `config-prece` context.

prece

To create or modify a precedence policy, use the following command:

```
prece <WORD>
```

Enters the config-prece context. To save changes and exit the context, type exit or end. To exit the context without saving changes, type abort.

Example

```
ruckus(config)# prece precedence1
The Precedence Policy entry 'precedence1' has been created.
ruckus(config-prece)#
```

name

Sets the Precedence Policy entry name.

description

Sets the Precedence Policy entry description.

Configure Precedence Policy Rule Commands

Use the following commands to configure precedence policy rules.

rule

Creates a new Precedence Policy rule or modifies an existing entry rule. Enters the `config-prece-rule` context.

```
rule <NUMBER>
```

Syntax Description

rule	Create a rule and enter the rule creation context.
<NUMBER>	Enter the rule number (1-2). Each precedence policy can have up to two rules.
description	Sets the Precedence Policy rule description.
order <WORD>	Sets the order of a Precedence Policy rule. The default order is AAA, Device Policy, WLAN.
show	Displays precedence policy settings.

Example

```
ruckus(config)# prece precedence1
The Precedence Policy entry 'precedence1' has been created.
ruckus(config-prece)# rule 1
ruckus(config-prece-rule)# order "Device Policy" "WLAN" "AAA"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-prece-rule)# end
ruckus(config-prece)# show
Precedence Policy:
  ID:
    :
      Name= precedence1
      Description=
      Rules:
        1:
          Description=
          Attribute = vlan
```

```
          Order = Device Policy,WLAN,AAA
        2:
          Description=
          Attribute = rate-limit
          Order = AAA,Device Policy,WLAN

ruckus(config-prece)#
ruckus(config-prece)# end
The Precedence Policy entry has saved successfully.
Your changes have been saved.
```

no prece

To delete a precedence policy entry, use the following command:

```
no prece <WORD>
```

Configure Device Policy Commands

Use the device policy commands to configure access control and rate limiting policies based on client type. To run these commands, you must first enter the `config-dvc-pcy` context.

dvcpcy

To create a device policy or edit an existing device policy, enter the following command:

```
dvcpcy <WORD>
```

Syntax Description

show	Display device policy settings.
name <WORD>	Set the device policy entry name.
description <WORD>	Sets the device policy entry description.
mode <WORD>	Sets the device policy entry default mode (allow or deny).
no <NUMBER>	Delete a rule.

rule <NUMBER>	Create or modify a rule. Enter the config-dvc-pcy-rule context. You can create up to nine rules per access policy (one for each OS/Type).

Defaults

None.

Example

```
ruckus(config)# dvcpcy devpcy1
The Device Policy entry 'devpcy1' has been loaded. To save the
Device Policy entry, type end or exit.
ruckus(config-dvc-pcy)# name device_policy_1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy)# description "deny iOS"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy)# rule 1
ruckus(config-dvc-pcy-rule)# type deny
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# devinfo "Apple IOS"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# vlan none
The command was executed successfully. To save the changes, type
'end' or 'exit'.

ruckus(config-dvc-pcy-rule)# rate-limit uplink 10 downlink 10
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# end
ruckus(config-dvc-pcy)# show
Device Policy:
  ID:
    1:
      Name= device_policy_1
      Description= deny iOS
```

```
      Default Mode= deny
      Rules:
        1:
          Description=
          OS/Type = Apple iOS
          Type= deny
          VLAN = Any
          Rate Limiting Uplink = 10.00Mbps
          Rate Limiting Downlink = 10.00Mbps

ruckus(config-dvc-pcy)# end
The Device Policy entry has saved successfully.
Your changes have been saved.
ruckus(config)# show dvcpcy
Device Policy:
  ID:
    2:
      Name= device_policy_1
      Description= deny iOS
      Default Mode= deny
      Rules:
        1:
          Description=
          OS/Type = Apple iOS
          Type= deny
          VLAN = Any
          Rate Limiting Uplink = 10.00Mbps
          Rate Limiting Downlink = 10.00Mbps


ruckus(config)#
```

rule

Use the rule command from within the config-dvc-pcy context to create or edit a device policy rule and enter the config-dvc-pcy-rule context. Up to 9 rules can be created per device policy.

Syntax Description

rule	Create or edit a device policy rule. Enter the config-dvc-pcy-rule context.
description <WORD>	Set the Device Policy rule description.
devinfo <WORD>	Set the operating system type of a device policy rule.
type <WORD>	Set the device policy rule type (allow or deny).
vlan <NUMBER>	Set the VLAN ID to the number specified or "none."
rate-limit uplink <NUMBER> downlink <NUMBER>	Set the rate limiting uplink and downlink speeds in mbps.
no rate-limit	Set rate limiting to disabled.

Example

```
ruckus(config-dvc-pcy)# rule 2
ruckus(config-dvc-pcy-rule)# description "rate limit gaming
devices"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# devinfo "Gaming"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# type allow
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# vlan none
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# rate-limit uplink 0.1 downlink 0.1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-dvc-pcy-rule)# end
ruckus(config-dvc-pcy)# show
Device Policy:
  ID:
    2:
```

```
      Name= device_policy_1
      Description= deny iOS
      Default Mode= deny
      Rules:
        1:
          Description=
          OS/Type = Apple iOS
          Type= deny
          VLAN = Any
          Rate Limiting Uplink = 10.00Mbps
          Rate Limiting Downlink = 10.00Mbps
        2:
          Description= rate limit gaming devices
          OS/Type = Gaming
          Type= allow
          VLAN = Any
          Rate Limiting Uplink = 0.10Mbps
          Rate Limiting Downlink = 0.10Mbps

ruckus(config-dvc-pcy)#
```

no dvcpcy

To delete a device policy, use the following command:

```
no dvcpcy <WORD>
```

Configure Application Denial Policy Commands

Use the following commands to create or modify application denial policies.

app-denial-policy

To create a new application policy or modify an existing policy, use the following command:

```
app-denial-policy <WORD>
```

Syntax Description

abort	Exits the config-app-denial-policy context without saving changes.
end	Saves changes, and then exits the config-app-denial-policy context.
exit	Saves changes, and then exits the config-app-denial-policy context.
quit	Exits the config-app-denial-policy context without saving changes.
show	Displays Application Denial Policy settings.
name <WORD>	Sets the Application Denial Policy entry name.
description <WORD>	Sets the Application Denial Policy entry description.
no rule <NUMBER>	Deletes a rule name.
rule <NUMBER>	Creates a new Application Denial Policy rule or modifies an existing entry.

Example

```
ruckus(config)# app-denial-policy policy1
The Application Denial Policy entry 'policy1' has been created.
ruckus(config-app-denial-policy)# rule 1
ruckus(config-app-denial-policy-rule)# application HTTP hostname
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-app-denial-policy-rule)# description facebook.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-app-denial-policy-rule)# end
ruckus(config-app-denial-policy)# end
The Application Denial Policy entry has saved successfully.
Your changes have been saved.
ruckus(config)# show app-denial-policy
Application Denial Policy:
  ID:
    1:
      Name= policy1
```

```
      Description=
      Default Mode= accept
      Rules:
        1:
          Application= HTTP hostname
          Description= facebook.com
ruckus(config)#
```

no app-denial-policy

To delete an Application Denial Policy entry, use the following command:

```
no app-denial-policy <WORD>
```

Example

```
ruckus(config)# no app-denial-policy policy1
The Application Denial Policy 'policy1' has been deleted.
ruckus(config)#
```

Configure Application Denial Policy Rules

Use the following commands to configure application denial policy rules.

no rule

To delete a rule, use the following command:

```
no rule <NUMBER>
```

rule

Creates a new Application Denial Policy rule or modifies an existing entry. Enters the config-app-denial-policy-rule context.

```
rule <NUMBER>
```

Syntax Description

abort	Exits the config-app-denial-policy-rule context without saving changes.

end	Saves changes, and then exits the config-app-denial-policy-rule context.
exit	Saves changes, and then exits the config-app-denial-policy-rule context.
quit	Exits the config-app-denial-policy-rule context without saving changes.
application <WORD>	Sets the application of Application Denial Policy rule.
description <WORD>	Sets the description of Application Denial Policy rule.

Defaults

None

Example

```
ruckus(config)# app-denial-policy policy1
The Application Denial Policy entry 'policy1' has been loaded. To
save the Application Denail Policy entry, type end or exit.
ruckus(config-app-denial-policy)# rule 1
ruckus(config-app-denial-policy-rule)# application "HTTP hostname"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-app-denial-policy-rule)# description facebook.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-app-denial-policy-rule)# end
ruckus(config-app-denial-policy)# show
Application Denial Policy:
  ID:
    1:
      Name= policy1
      Description=
      Default Mode= accept
      Rules:
        1:
          Application= HTTP hostname
          Description= facebook.com
```

```
ruckus(config-app-denial-policy)#
```

Configuring User-Defined Applications

Use the following commands to configure user-defined applications. Once created, user-defined applications can be blocked using the application denial policy commands.

user-defined-app

To configure User Defined Application settings, and enter the config-user-defined-app context, use the following command:

```
user-defined-app
```

Example

```
ruckus(config)# user-defined-app
ruckus(config-user-defined-app)# rule rule1
The User Defined Application entry rule1 has been created.
ruckus(config-user-defined-app-rule)# application skype
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-user-defined-app-rule)# destination-IP 192.168.10.4
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-user-defined-app-rule)# netmask 255.255.255.0
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-user-defined-app-rule)# destination-port 100
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-user-defined-app-rule)# end
ruckus(config-user-defined-app)# show
User Defined Application:
  ID:
    1:
      Application= skype
      DST-IP= 192.168.10.4
      Netmask= 255.255.255.0
```

```
      DST-Port= 100
      Protocal=

ruckus(config-user-defined-app)#
```

exit

Saves changes, and then exits the config-user-defined-app context.

end

Saves changes, and then exits the config-user-defined-app context.

show

Displays User defined Application settings.

no rule

Deletes an User Defined Application.

```
no rule <WORD>
```

rule

Creates a new User defined Application rule or modifies an existing entry. Enters the config-user-defined-app-rule context.

```
rule <WORD>
```

abort

Exits the config-user-defined-app-rule context without saving changes.

end

Saves changes, and then exits the config-user-defined-app-rule context.

exit

Saves changes, and then exits the config-user-defined-app-rule context.

destination-IP

Sets the destination address of a User defined Application rule.

```
destination-IP <IP-ADDR>
```

netmask

Sets the netmask of a User defined Application rule.

```
netmask <IP-ADDR>
```

destination-port

Sets the destination port of a User defined Application rule.

```
destination-port <NUMBER>
```

protocol

Sets the protocol of a User defined Application rule.

```
protocol <WORD>
```

application

Sets the application of User defined Application rule.

```
application <WORD>
```

Configure Application Port Mapping

Use the following commands to configure application port mapping.

app-port-mapping

Configures Application Port Map settings. Enters config-app-port-mapping context.

exit

Saves changes, and then exits the config-app-port-mapping context.

end

Saves changes, and then exits the config-app-port-mapping context.

show

Displays Application Port Mapping settings.

no rule

Deletes an Application Port Mapping rule.

```
no rule <WORD>
```

rule

Creates a new Application Port Mapping rule or modifies an existing entry. Enters config-app-port-mapping-rule context.

```
rule <WORD>
```

abort

Exits the config-app-port-mapping context without saving changes.

end

Saves changes, and then exits the config-app-port-mapping context.

exit

Saves changes, and then exits the config-app-port-mapping context.

port

Sets the Port of Application Port Mapping rule.

```
port <NUMBER>
```

description

Sets the Description of Application Port Mapping rule.

```
description <WORD>
```

protocol

Sets the Protocol of Application Port Mapping rule.

```
protocol <WORD>
```

Configure Whitelist Commands

Use the `whitelist` command to create a new client isolation whitelist or modify an existing whitelist, and enter the `config-whitelist` context.

whitelist

To create a new white list entry or modify an existing entry, use the following command:

```
whitelist <WORD>
```

no whitelist

To delete a whitelist entry, use the following command:

```
no whitelist <WORD>
```

name

To set the White List entry name, use the following command:

```
name <WORD>
```

description

To set the description of the whitelist entry, use the following command:

```
description <WORD>
```

Configuring Whitelist Rules

Use the `rule` command from within the `config-whitelist` context to create a new rule or modify an existing rule, and enter the `config-whitelist-rule` context.

rule

To create a new whitelist rule or modify an existing rule, use the following command:

```
rule <NUMBER>
```

no rule

To delete a whitelist rule, use the following command:

```
no rule <NUMBER>
```

description

To set the White List rule description, use the following command:

```
description <WORD>
```

mac

To set the MAC address, use the following command (format: XX:XX:XX:XX:XX:XX):

```
mac <MAC>
```

ip

To set the IP address, use the following command (format: 172.18.110.12).

```
ip <IP>
```

Configure Band Balancing Commands

Client Band Balancing attempts to balance the number of clients across AP radios, allowing configurable thresholds for ratio of clients on the 2.4 vs. 5 GHz radio bands. Use the band-balancing commands to configure the controller's band balancing settings. To run these commands, you must first enter the `config-band-balancing` context.

band-balancing

To enable load-balancing and enter the `config-band-balancing` context, use the following command:

```
band-balancing
```

abort

Exits the band balancing context without saving changes.

end

Saves changes, and then exits the band balancing context.

exit

Saves changes, and then exits the band balancing context.

quit

Exits the band balancing context without saving changes.

enable

Enable the band balancing settings.

disable

Disables the band balancing settings.

percent-2.4G <NUMBER>

Configures percent of clients on 2.4G band.

show

Displays information about Band balancing.

Example

```
ruckus(config)# band-balancing
ruckus(config-band-balancing)# enable
The band balancing settings have been updated.
ruckus(config-band-balancing)# percent-2.4G 25
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-band-balancing)# show
Band Balancing:
  Status= Enabled
  Percent of clients on 2.4G band: 25%

ruckus(config-band-balancing)# end
The band balancing settings have been updated.
ruckus(config)#
```

Configure Load Balancing Commands

Client Load Balancing attempts to balance the number of clients across APs, per radio band. Use the load-balancing commands to configure the controller's load balancing settings. To run these commands, you must first enter the `config-load-balancing` context.

load-balancing

To enable load-balancing and enter the `config-load-balancing` context, use the following command:

```
load-balancing
```

Example

```
ruckus(config)# load-balancing
ruckus(config-load-balancing)#
```

no load-balancing

To disable load balancing settings (from the `config` context), use the following command:

```
no load-balancing
```

Example

```
ruckus(config)# no load-balancing
The load balancing settings have been updated.
ruckus(config)# show load-balancing
Load Balancing:
  Status= Disabled
  Radio:
    0:
      AdjacentThreshold= 50
      WeakBypass= 33
      StrongBypass= 55
      ActivationThreshold= 10
      NewTrigger= 3
      Headroom= 3

    1:
      AdjacentThreshold= 43
      WeakBypass= 35
      StrongBypass= 55
      ActivationThreshold= 10
      NewTrigger= 3
      Headroom= 3


ruckus(config)#
```

adj-threshold

To configure the adjacent threshold for load balancing, use the following command:

```
adj-threshold [wifi0|wifi1] <NUMBER>
```

Syntax Description

adj-threshold	Configure the adjacent threshold for load balancing
wifi0, wifi1	Configure this interface
<NUMBER>	Set the adjacent threshold value (1~100)

Defaults

Wifi0: 50

Wifi1: 43

weak-bypass

To configure the weak bypass for load balancing, use the following command:

```
weak-bypass [wifi0|wifi1] <NUMBER>
```

Syntax Description

weak-bypass	Configure the weak bypass for load balancing
wifi0, wifi1	Configure this interface
<NUMBER>	Set the weak-bypass value (1~100)

Defaults

wifi0: 33

wifi1: 35

strong-bypass

To configure the strong bypass for load balancing, use the following command:

```
strong-bypass [wifi0|wifi1] <NUMBER>
```

Syntax Description

strong-bypass	Configure the strong bypass for load balancing
wifi0, wifi1	Configure this interface

<NUMBER>	Set the strong-bypass value (1~100)

Defaults

55

act-threshold

To configure the activation threshold for load balancing, use the following command:

```
act-threshold [wifi0|wifi1] <NUMBER>
```

Syntax Description

act-threshold	Configure the activation threshold for load balancing.
wifi0, wifi1	Configure this interface.
<NUMBER>	Set the activation threshold value (1~100).

Defaults

10

Example

```
ruckus(config-load-balancing)# act-threshold wifi0 50
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-load-balancing)#
```

new-trigger

To configure new trigger threshold (1-100), use the following command:

```
new-trigger [wifi0|wifi1] <NUMBER>
```

Syntax Description

new-trigger	Configure a new trigger threshold for the specified interface.
wifi0, wifi1	Configure this interface.

<NUMBER>	Set the new trigger threshold value (1~100).

Defaults

3

Example

```
ruckus(config-load-balancing)# new-trigger wifi0 3
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-load-balancing)#
```

headroom

To configure headroom settings for the specified interface, use the following command:

```
headroom [wifi0|wifi1] <NUMBER>
```

Syntax Description

headroom	Configure headroom for the specified interface.
wifi0, wifi1	Configure this interface.
<NUMBER>	Set the headroom value (1~100).

Defaults

3

Example

```
ruckus(config-load-balancing)# headroom wifi0 3
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-load-balancing)#
```

disable wifi0

Disable wifi0 load balancing.

disable wifi1

Disable wifi1 load balancing.

enable wifi0

Enable wifi0 load balancing.

enable wifi1

Enable wifi1 load balancing.

show

To display the current service settings, use the following command:

```
show
```

Syntax Description

show	Display the current service settings

Defaults

None.

Example

```
ruckus(config-load-balancing)# show
Load Balancing:
  Status= Disabled
  Radio:
    0:
      AdjacentThreshold= 50
      WeakBypass= 33
      StrongBypass= 55
      ActivationThreshold= 1
      NewTrigger= 3
      Headroom= 3

    1:
      AdjacentThreshold= 43
      WeakBypass= 35
```

```
      StrongBypass= 55
      ActivationThreshold= 10
      NewTrigger= 3
      Headroom= 3


ruckus(config-load-balancing)#
```

Configure STP Commands

Both Ethernet ports of a ZoneDirector 1200/3000/5000 are one Logical interface. They are designed to provide high availability connections to separate switches and do not provide dual-port ISL channel bonding. Switches should use STP to block one path. The default for Zonedirector is “no stp”.

stp

To enable Spanning Tree Protocol, use the following command:

```
stp
```

no stp

To disable Spanning Tree Protocol, use the following:

```
no stp
```

Configure System Commands

Use the `sys` or `system` command to configure the controller’s system settings, including its host name, FlexMaster server, NTP server, SNMP, and QoS settings. To run these commands, you must first enter the `config-sys` context.

system

To enter the `config-sys` context and configure system settings, use the following command:

```
system
```

Example

```
ruckus(config)# system
ruckus(config-sys)#
```

dot11-country-code

To set the controller's country code, use the following command:

```
dot11-country-code <COUNTRY-CODE> {arguments}
```

Syntax Description

`dot11-country-code`	Configure the controller's country code setting
`<COUNTRY-CODE>`	Set the country code to this value
channel-mode	Contains commands that can be executed from within the context
allow-indoor	Allows ZoneFlex Outdoor APs to use channels regulated as indoor use-only
not-allow-indoor	Disallows ZoneFlex Outdoor APs to use channels regulated as indoor use-only
channel-optimization	Set channel optimization type (compatibility, interoperability, performance)

Defaults

None.

Example

To set the country code to US, enter the following command:

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# dot11-country-code US
The country code settings have been updated.
ruckus(config-sys)#
```

hostname

To set the system hostname, use the following command:

```
hostname
```

Syntax Description

`hostname`	Set the controller's system hostname

Defaults

None

Example

```
ruckus(config-sys)# hostname ruckus-xjoe
The system identity/hostname settings have been updated.
```

Interface Commands

Use the `interface` commands to configure the controller's IP address and VLAN settings. To run these commands, you must first enter the `config-sys-if` context.

interface

To enter the `config-sys-if` context and configure IP address and VLAN settings, use the following command:

```
interface
```

Example

```
ruckus(config-sys)# interface
ruckus(config-sys-if)#
```

ip enable

To enable IPv4 addressing, use the following command:

```
ip enable
```

ip route gateway

To set the controller's gateway IP address, use the following command:

```
ip route gateway <GATEWAY-ADDR>
```

Syntax Description

ip route gateway	Configure the controller's gateway IP address
<GATEWAY-ADDR>	Set the controller' gateway IP address to this value

Defaults

None.

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# interface
ruckus(config-sys-if)# ip route gateway 192.168.0.1
The command was executed successfully.
```

ip name-server

To set the controller's DNS servers, use the ip name-server command. Use a space to separate the primary and secondary DNS servers.

```
ip name-server <DNS-ADDR> [<DNS-ADDR>]
```

Syntax Description

ip name-server	Configure the controller's DNS server address or addresses
DNS-ADDR	Set the DNS server address to this value. If entering primary and secondary DNS server addresses, use a space to separate the two addresses.

Defaults

192.168.0.1

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# interface
```

```
ruckus(config-sys-if)# ip name-server 192.168.0.1
The command was executed successfully.
```

ip addr

To set the controller's IP address and netmask, use the following command:

```
ip addr <IP-ADDR> <NET-MASK>
```

Use a space to separate the IP address and netmask.

Syntax Description

ip addr	Configure the controller's IP address and netmask
<IP-ADDR>	Set the controller's IP address to this value
<NET-MASK>	Set the controller's netmask to this value

Defaults

IP address: 192.168.0.2

Subnet mask: 255.255.255.0

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# interface
ruckus(config-sys-if)# ip addr 192.168.0.2 255.255.255.0
The command was executed successfully.
```

ip mode

To set the controller's IP address mode, use the following command:

```
ip mode <dhcp|static>
```

Syntax Description

ip mode	Configure the controller's IP address mode
dhcp	Set the controller's IP address mode to DHCP
static	Set the controller's IP address mode to static

Defaults

None.

Example

To set the controller's IP address mode to DHCP, enter the following command:

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# interface
ruckus(config-sys-if)# ip mode dhcp
The command was executed successfully.
```

show

To display the current management interface settings, use the following command:

```
show
```

Syntax Description

`show`	Display the current management interface settings

Defaults

None.

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# interface
ruckus(config-sys-if)# show
Protocol Mode= IPv4-Only
Device IP Address:
Mode= Manual
IP Address= 192.168.11.100
Netmask= 255.255.255.0
Gateway Address= 192.168.11.1
Primary DNS= 192.168.11.1
Secondary DNS= 168.95.1.1
```

```
Management VLAN:
Status= Disabled
VLAN ID=

ruckus(config-sys-if)#
```

ipv6 enable

To enable IPv6 addressing, use the following command:

```
ipv6 enable
```

ipv6 route gateway

To set the controller's IPv6 gateway addressing, use the following command:

```
ipv6 route gateway <GATEWAY-ADDR>
```

ipv6 name-server

To set the IPv6 DNS server, use the following command:

```
name-server <DNS-ADDR> [<DNS-ADDR>]
```

ipv6 addr

To set the IPv6 addressing, use the following command:

```
addr <IPv6-ADDR> <IPv6-PREFIX>
```

ipv6 mode

To set the IPv6 address mode, use the following command:

```
ipv6 mode [auto|manual]
```

vlan

If the ZoneDirector is on a tagged Access VLAN, to set the VLAN ID, use the following command:

```
vlan <NUMBER>
```

no ip

To disable IPv4 addressing, use the following command:

```
no ip
```

no ipv6

To disable IPv6 addressing, use the following command:

```
no ipv6
```

no ntp

To disable the NTP client, use the following command:

```
no ntp
```

Syntax Description

`no ntp`	Disable the NTP client on the controller.

Defaults

Enabled. The default NTP server addresss is `ntp.ruckuswireless.com`.

Example

```
ruckus(config-sys)# no ntp
The NTP settings have been updated.
```

ntp

To enable the NTP client, use the following command:

```
ntp <IP-ADDR/DOMAIN-NAME>
```

Syntax Description

`ntp`	Enable the NTP client
`<IP-ADDR/ DOMAIN-NAME>`	Set the NTP server address to this IP address/domain name

Defaults

None.

Example

```
ruckus(config-sys)# ntp 192.168.2.21
```

```
The NTP settings have been updated.
ruckus(config-sys)# ntp sohu.com
The NTP settings have been updated.
```

timezone

To configure time zone settings, use the following command:

```
timezone <TIMEZONE>
```

Defaults

GMT+0

Example

```
ruckus(config-sys)# timezone +8
The timezone settings have been updated.
ruckus(config-sys)#
```

ftp-anon

To enable FTP anonymous access, use the following command:

```
ftp-anon
```

no ftp-anon

To disable FTP anonymouse access, use the following command:

```
no ftp-anon
```

ftp

Enable FTP server.

no ftp

Disable FTP server.

Smart Redundancy Commands

To configure the Smart Redundancy settings, you must first enter the `config-sys-smart-redundancy` context from within the config-sys context.

smart-redundancy

To enter the config-sys-smart-redundancy context and configure Smart Redundancy settings, use the following command:

```
smart-redundancy
```

Syntax Description

smart-redundancy	Configures smart redundancy settings.
abort	Exits the smart redundancy context without saving changes.
end	Saves changes, and then exits the smart redundancy context.
exit	Saves changes, and then exits the smart redundancy context.
quit	Exits the smart redundancy context without saving changes
peer-addr <IP-ADDR>	Sets the peer's IP/IPv6 address.
secret <WORD>	Sets the shared secret to the specified secret.
show	Displays information about smart redundancy.

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# smart-redundancy
ruckus(config-sys-smart-redundancy)# peer-addr 192.168.40.101
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-sys-smart-redundancy)# secret secret
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-sys-smart-redundancy)# show
Smart Redundancy:
  Status= Disabled
  Peer IP/IPv6 Address=
  Shared Secret=

ruckus(config-sys-smart-redundancy)# end
The smart redundancy settings have been updated.
Your changes have been saved.
```

```
ruckus(config-sys)#
```

no smart-redundancy

Disables the smart redundancy settings.

Example

```
ruckus(config-sys)# no smart-redundancy
The smart redundancy settings have been updated.
ruckus(config-sys)#
```

Management Interface Commands

To configure management interface settings, you must first enter the config-sys-mgmt-if context from the config-sys context.

mgmt-if

To enter the `config-sys-mgmt-if` context and configure the management interface settings, use the following command:

```
mgmt-if
```

Syntax Description

mgmt-if	Configure the management interface settings

Defaults

None.

Example

```
ruckus(config-sys)# mgmt-if
ruckus(config-sys-mgmt-if)#
```

no mgmt-if

To disable the management interface, use the following command:

```
no mgmt-if
```

Syntax Description

no mgmt-if	Disable the management interface

Defaults

None.

Example

```
ruckus(config-sys)# no mgmt-if
   The management interface has been updated.
```

ip addr

To set the management interface IP address, use the following command:

```
ip addr <IP-ADDR> <NET-MASK>
```

gateway

To set the management interface gateway address, use the following command:

```
gateway <GATEWAY-ADDR>
```

no gateway

To disable the management interface gateway address, use the following command:

```
no gateway
```

vlan

To enable the management VLAN and set the VLAN ID, use the following command:

```
vlan <NUMBER>
```

mgmt-if-ipv6

To enter the `config-sys-mgmt-if-ipv6` context and configure the management interface settings, use the following command:

```
mgmt-if-ipv6
```

Syntax Description

mgmt-if-ipv6	Configure the management interface settings

Defaults

None.

Example

```
ruckus(config-sys)# mgmt-if-ipv6
ruckus(config-sys-mgmt-if-ipv6)#
```

no mgmt-if-ipv6

To disable the management interface, use the following command:

```
no mgmt-if-ipv6
```

Syntax Description

no mgmt-if-ipv6	Disable the management interface

Defaults

None.

Example

```
ruckus(config-sys)# no mgmt-if-ipv6
  The management interface has been updated.
```

ipv6 addr

To set the management interface IP address, use the following command:

```
ip addr <IPv6-ADDR> <IPv6-PREFIX>
```

gateway

To set the management interface gateway address, use the following command:

```
gateway <GATEWAY-ADDR>
```

no gateway

To disable the management interface gateway address, use the following command:

```
no gateway
```

vlan

To enable the management VLAN and set the VLAN ID, use the following command:

```
vlan <NUMBER>
```

flexmaster

To set the FlexMaster server address and the periodic inform interval, use the following command:

```
flexmaster <IP-ADDR/DOMAIN-NAME> interval <NUMBER>
```

Syntax Description

flexmaster	Configure the FlexMaster server settings
<IP-ADDR/DOMAIN-NAME>	Set to this URL or IP address
interval	Configure the periodic inform interval
<NUMBER>	Set to this interval (in minutes)

Defaults

None.

Example

```
ruckus(config-sys)# flexmaster http://172.18.30.118 interval 30
The FlexMaster Management settings have been updated.
```

no flexmaster

To disable FlexMaster management of the controller, use the following command:

```
no flexmaster
```

Syntax Description

no flexmaster	Disable FlexMaster management of the controller

Defaults

None

Example

```
ruckus(config-sys)# no flexmaster
FlexMaster Management has been disabled.
```

northbound

To enable northbound portal interface support and set the northbound portal password, use the following command:

```
northbound password <WORD>
```

Defaults

Disabled

Example

```
ruckus(config-sys)# northbound password pass123
The northbound portal interface settings have been updated.
```

no northbound

To disable northbound portal interface support, use the following command:

```
no northbound
```

Example

```
ruckus(config-sys)# no northbound
Northbound portal interface has been disabled.
```

SNMPv2 Commands

Use the following commands to configure SNMPv2 settings. To use these commands, you must first enter the config-sys-snmpv2 context.

snmpv2

To configure the SNMPv2 settings, use the following command:

```
snmpv2
```

Executing this command enters the `config-sys-snmpv2` context.

Syntax Description

snmpv2	Configure the SNMPv2 settings
abort	Exits the config-sys-snmpv2 context without saving changes.
end	Saves changes, and then exits the config-sys-snmpv2 context.
exit	Saves changes, and then exits the config-sys-snmpv2 context.
quit	Exits the config-sys-snmpv2 context without saving changes.
no access-v3	Disables special MIB node for customer's kt.
access-v3	Enables special MIB node for customer's kt.
contact <WORD>	Enables SNMPV2 agent and sets the system contact.
location <WORD>	Enables SNMPV2 agent and sets the system location.
ro-community <WORD>	Enables SNMPV2 agent and sets the RO community name.
rw-community <WORD>	Enables SNMPV2 agent and sets the RW community name.
show	Displays SNMPV2 agent and SNMP trap settings.

Defaults

```
SNMP Agent:
  Status= Enabled
  Contact= https://support.ruckuswireless.com/contact_us
  Location= 350 West Java Dr. Sunnyvale, CA 94089 US
  RO Community= public
  RW Community= private

SNMP Trap:
```

```
  Format= Version2
  Status= Disabled

Support-access-V3:
  Status= Disabled
```

Example

```
ruckus(config-sys)# snmpv2
ruckus(config-sys-snmpv2)#
```

contact

To enable SNMPv2 agent and set the system contact, use the following command:

```
contact <WORD>
```

location

To enable SNMPv2 agent and set the system location, use the following command:

```
location <WORD>
```

ro-community

To set the read-only (RO) community name, use the following command:

```
ro-community <WORD>
```

Syntax Description

ro-community	Configure the read-only community name
<WORD>	Set the read-only community name to this value

Defaults

public

Example

```
ruckus(config-sys-snmpv2)# ro-community private-123
The command was executed successfully
```

rw-community

To set the read-write (RW) community name, use the following command:

```
rw-community <WORD>
```

This command must be entered from within the `snmp-agent` context.

Syntax Description

rw-community	Configure the read-write community name
<WORD>	Set the read-write community name to this value

Defaults

private

Example

```
ruckus(config-sys-snmpv2)# rw-community private-123
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

show

To display SNMPv2 agent and SNMP trap settings, use the show command.

Example

```
ruckus(config-sys-snmpv2)# show
SNMP Agent:
  Status= Enabled
  Contact= https://support.ruckuswireless.com/contact_us
  Location= 350 West Java Dr. Sunnyvale, CA 94089 US
  RO Community= public
  RW Community= private

SNMP Trap:
  Format= Version2
  Status= Disabled

Support-access-V3:
  Status= Disabled
```

snmpv2-ap

To enable SNMP AP notification, use the following command:

```
snmpv2-ap
```

Example

```
ruckus(config-sys)# snmpv2-ap
The SNMP v2 agent settings have been updated.
ruckus(config-sys)#
```

no snmpv2-ap

To disable SNMP AP notification, use the following command:

```
no snmpv2-ap
ruckus(config-sys)# no snmpv2-ap
The SNMP v2 agent settings have been updated.
ruckus(config-sys)#
```

SNMPv3 Commands

Use the following commands to configure SNMPv3 settings. To use these commands, you must first enter the config-sys-snmpv3 context.

snmpv3

To configure the SNMPv3 settings, use the following command:

```
snmpv3
```

Executing this command enters the `config-sys-snmpv3` context.

Syntax Description

snmpv3	Configure the SNMPv3 settings
abort	Exits the config-sys-snmpv3 context without saving changes.

end	Saves changes, and then exits the config-sys-snmpv3 context.
exit	Saves changes, and then exits the config-sys-snmpv3 context.
quit	Exits the config-sys-snmpv3 context without saving changes.
ro-user <WORD>	Contains commands that can be executed from within the context.
ro-user <WORD> MD5 <WORD>	Contains commands that can be executed from within the context.
ro-user <WORD> MD5 <WORD> DES <WORD>	Sets the privacy phrase of DES for SNMPV3.
ro-user <WORD> MD5 <WORD> AES <WORD>	Sets the privacy phrase of AES for SNMPV3.
ro-user <WORD> MD5 <WORD> None	Sets the privacy to None for SNMPV3.
ro-user <WORD> SHA <WORD>	Contains commands that can be executed from within the context.
ro-user <WORD> SHA <WORD> DES <WORD>	Sets the privacy phrase of DES for SNMPV3.
ro-user <WORD> SHA <WORD> AES <WORD>	Sets the privacy phrase of AES for SNMPV3.
ro-user <WORD> SHA <WORD> None	Sets the privacy to None for SNMPV3.
rw-user <WORD>	Contains commands that can be executed from within the context.
rw-user <WORD> MD5 <WORD>	Contains commands that can be executed from within the context.
rw-user <WORD> MD5 <WORD> DES <WORD>	Sets the privacy phrase of DES for SNMPV3.

rw-user <WORD> MD5 <WORD> AES <WORD>	Sets the privacy phrase of AES for SNMPV3.
rw-user <WORD> MD5 <WORD> None	Sets the privacy to None for SNMPV3.
rw-user <WORD> SHA <WORD>	Contains commands that can be executed from within the context.
rw-user <WORD> SHA <WORD> DES <WORD>	Sets the privacy phrase of DES for SNMPV3.
rw-user <WORD> SHA <WORD> AES <WORD>	Sets the privacy phrase of AES for SNMPV3.
rw-user <WORD> SHA <WORD> None	Sets the privacy to None for SNMPV3.
show	Displays SNMPV3 agent and SNMP trap settings.

Defaults

```
SNMPV3 Agent:
  Status= Disabled
  Ro:
    User=
    Authentication Type= MD5
    Authentication Pass Phrase=
    Privacy Type= DES
    Privacy Phrase=
  Rw:
    User=
    Authentication Type= MD5
    Authentication Pass Phrase=
    Privacy Type= DES
    Privacy Phrase=

SNMP Trap:
  Format= Version3
  Status= Disabled
```

snmp-trap-format

To set the SNMP trap format to SNMPV2 or SNMPV3, use the following command:

```
snmp-trap-format [SNMPv2 | SNMPv3]
```

Syntax Description

snmp-trap-format	Set the SNMP trap format
[SNMPv2 | SNMPv3]	Set to either SNMPv2 or SNMPv3

Defaults

SNMPv2

Example

```
ruckus(config-sys)# snmp-trap-format SNMPV2
The SNMP trap settings have been updated.
```

snmpv2-trap

To enable the SNMPv2 trap and set the IP address of the trap server, use the following command:

```
snmpv2-trap <NUMBER> <IP/IPv6-ADDR>
```

Syntax Description

snmpv2-trap	Enable the SNMPv2 trap and set the trap server's IP address
<NUMBER>	Assign the trap receiver ID (1-4)
<IP/IPv6-ADDR>	Set the trap receiver IP address

Defaults

None

Example

```
ruckus(config-sys)# snmpv2-trap 1 192.168.10.22
The SNMP trap settings have been updated.
```

snmpv3-trap

To enable and configure the SNMPv3 trap parameters, use the following command:

```
snmpv3-trap <user_name> <snmp_trap_server_ip> [MD5 | SHA]
<auth_pass_phrase> [DES <privacy_phrase>|AES <priva-
cy_phrase>| None]
```

Syntax Description

`snmpv3-trap`	Enable the SNMPv3 trap and configure the trap parameters
`<user_name>`	Trap user name
`<snmp_trap_server_ip>`	Trap server IP address
`[MD5 | SHA]`	Authentication method
`<auth_pass_phrase>`	Authentication passphrase
`[DES <privacy_phrase>|AES <privacy_phrase>| None]`	Privacy method and privacy phrase

Defaults

None

Example

```
ruckus(config-sys)#snmpv3-trap test1234 192.168.0.22 MD5 test1234
DES test4321
The command was executed successfully.
```

no snmp-trap-ap

To disable SNMP trap server configuration for AP, use the following command:

```
no snmp-trap-ap
```

Example

```
ruckus(config-sys)#no snmp-trap-ap
The SNMP AP trap settings have been updated.
```

Syslog Settings Commands

Use the `syslog` commands to configure the controller's syslog notification settings. To run these commands, you must first enter the `config-sys` context.

no syslog

To disable syslog notification, use the following command:

```
no syslog
```

Syntax Description

`no syslog`	Disable syslog notification

Defaults

Disabled.

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# no syslog
The command was executed successfully.
```

syslog

To enable syslog notifications and enter the config-sys-syslog context, use the following command:

```
syslog
```

server

To set the syslog server address, use the following command:

```
server <IP-ADDR>
```

Syntax Description

`server`	Set the syslog server IP address.
<IPADDR>	Send syslog notifications to this IP address.

Defaults

Disabled.

facility

To set the facility name, use the following command:

```
facility <FACILITY NAME>
```

Syntax Description

`facility` <FACILITY NAME>	Sets the syslog facility name (local0 - local7)

Defaults

Disabled.

priority

To set the syslog priority level, use the following command:

```
priority <PRIORITY LEVEL>
```

Syntax Description

`priority` `<PRIORITY LEVEL>`	Sets the syslog priority level (emerg, alert, crit, err, warning, notice, info, debug).

Defaults

Disabled.

ap-facility

To set the AP syslog facility name, use the following command:

```
ap-facility <FACILITY-NAME>
```

Syntax Description

ap-facility <FACILITY-NAME>	Sets the AP syslog facility name (local0 - local7).

Defaults

Disabled.

ap-priority

To set the AP syslog priority level, use the following command:

```
ap-priority <PRIORITY LEVEL>
```

Syntax Description

`ap-priority <PRIORITY LEVEL>`	Sets the AP syslog priority level (emerg, alert, crit, err, warning, notice, info, debug).
<IPADDR>	Send syslog notifications to this IP address.

Defaults

Disabled.

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# syslog
ruckus(config-sys-syslog)# server 192.168.3.10
The syslog settings have been updated.
ruckus(config-sys-syslog)# facility local0
The syslog settings have been updated.
ruckus(config-sys-syslog)# priority emerg
The syslog settings have been updated.
ruckus(config-sys-syslog)# ap-facility local0
The syslog settings have been updated.
```

```
ruckus(config-sys-syslog)# ap-priority emerg
The syslog settings have been updated.
ruckus(config-sys-syslog)# end
The syslog settings have been updated.
Your changes have been saved.
ruckus(config-sys)#
```

event-log-level

To configure the event log level, use the following command:

```
event-log-level <EVENT LOG LEVEL>
```

Syntax Description

event-log-level	Enter the syslog event log level <1-3> (1:Critical Events Only, 2:Warning and Critical Events, 3:Show More).

Defaults

2: Warning and Critical Events

Example

```
ruckus# config
You have all rights in this mode.
ruckus(config)# sys
ruckus(config-sys)# syslog
ruckus(config-sys-syslog)# event-log-level 1
The syslog settings have been updated.
ruckus(config-sys-syslog)#
```

bypasscna

Use the following command to bypass Apple Captive Network Assistance (CNA) on iDevices and OS X machines.

```
bypasscna <WLAN-TYPE>
```

Syntax Description

bypasscna	Bypass Apple Captive Network Assistance (CNA) on iDevices and OS X machines
<WLAN-TYPE>	Enter the WLAN service type (web-auth, guestaccess, wispr)

Example

```
ruckus(config-sys)# bypasscna web-auth
```

no bypasscna

To disable the ignore Apple CNA feature, use the following command:

```
no bypasscna
```

Example

```
ruckus(config-sys)# no bypasscna
```

no syslog-ap

To disable external syslog server configuration for AP, use the following command:

```
no syslog-ap
```

Example

```
ruckus(config-sys)#no syslog-ap
The AP syslog settings have been updated.
```

Management Access Control List Commands

Use the following commands to create or configure management ACLs and enter the config-sys-mgmt-acl or config-sys-mgmt-acl-ipv6 contexts. These commands must be used from the config-sys context.

mgmt-acl

To create or configure a management ACL, use the following command:

```
mgmt-acl <WORD>
```

Executing this command enters the `config-mgmt-acl` context.

Syntax Description

mgmt-acl	Create or configure a management ACL
<WORD>	Create or configure this management ACL

Defaults

None.

Example

```
ruckus(config-sys)# mgmt-acl macl1
The management ACL 'macl1' has been created. To save the Management
ACL, type 'end' or 'exit'.
ruckus(config-mgmt-acl)#
```

no mgmt-acl

To delete a management ACL for IPv4, use the following command:

```
no mgmt-acl <WORD>
```

mgmt-acl-ipv6

To create or configure an IPv6 management ACL, use the following command:

```
mgmt-acl-ipv6 <WORD>
```

Executing this command enters the `config-mgmt-acl-ipv6` context.

Syntax Description

mgmt-acl-ipv6	Create or configure a management ACL
<WORD>	Create or configure this management ACL

Defaults

None.

Example

```
ruckus(config-sys)# mgmt-acl-ipv6 macl1
The management ACL 'macl1' has been created. To save the Management
ACL, type 'end' or 'exit'.
ruckus(config-mgmt-acl-ipv6)#
```

no mgmt-acl-ipv6

To delete a management ACL for IPv6, use the following command:

```
no mgmt-acl-ipv6 <WORD>
```

exit

Saves changes, and then exits the config-mgmt-acl context.

end

Saves changes, and then exits the config-mgmt-acl context.

quit

Exits the config-mgmt-acl context without saving changes.

abort

Exits the config-mgmt-acl context without saving changes.

name

To set the management ACL name, use the following command:

```
name <WORD>
```

restrict-type

To set the management ACL restriction type, use the following command:

```
restrict-type [single ip-addr <IP-ADDR> | range ip-range
<IP-ADDR> <IP-ADDR> | subnet ip-subnet <IP-ADDR> <IP-
SUBNET>]
```

Syntax Description

restrict-type	Set the management ACL restriction type (single/range).
single ip-addr	Set management ACL restriction type to single.
range	Sets the management ACL restriction type to range.

ip-range	Sets the IP address range for management ACL. Use a space ( ) to separate addresses.
subnet ip-subnet	Sets the subnet for management ACL IP address. Use a space ( ) to separate IP address and Netmask (128.0.0.0 to 255.255.255.252).

show

To display management ACL settings, use the show command.

QoS Commands

Use the following commands to configure QoS settings on the controller. These commands must be executed from the config-sys context.

no qos

To disable QoS on the controller, use the following command:

```
no qos
```

Syntax Description

`no qos`	Disable QoS on the controller

Defaults

None.

Example

```
ruckus(config-sys)# no qos
Changes are saved!
System QoS function has been disabled.
```

qos

To enable and configure Quality of Service settings on the controller, use the following command:

```
qos
```

Executing this command enters the `config-sys-qos` context. The following commands can be executed from within the qos context.

Example

```
ruckus(config-sys)# qos
ruckus(config-sys-qos)#
```

heuristics video inter-packet-gap

Use the following command to set the QoS heuristics video inter-packet gap minimum/maximum values:

```
heuristics video inter-packet-gap min <NUMBER> max
<NUMBER>
```

heuristics video packet-length

Use the following command to set the heuristics video packet-length values:

```
heuristics video packet-length min <NUMBER> max <NUMBER>
```

heuristics voice inter-packet-gap

Use the following command to set the heuristics voice inter-packet-gap values:

```
heuristics voice inter-packet-gap min <NUMBER> max
<NUMBER>
```

heuristics voice packet-length

Use the following command to set the heuristics voice packet-length values:

```
heuristics voice packet-length min <NUMBER> max <NUMBER>
```

heuristics classification video packet-octet-count

Use the following command to set the heuristics classification video packet-octet-count value:

```
heuristics classification video packet-octet-count
<NUMBER>
```

heuristics classification voice packet-octet-count

Use the following command to set the heuristics classification voice packet-octect-count value:

```
heuristics classification voice packet-octet-count
<NUMBER>
```

heuristics no-classification video packet-octet-count

Use the following command to set the heuristics no-classification video packet-octet-count value

```
heuristics no-classification video packet-octet-count
<NUMBER>
```

heuristics no-classification voice packet-octet-count

Use the following command to set the heuristics no-classification voice packet-octet-count value

```
heuristics no-classification voice packet-octet-count
<NUMBER>
```

tos classification video

Use the following command to set the TOS classification video value:

```
tos classification video <WORD>
```

tos classification voice

Use the following command to set the TOS classification voice value:

```
tos classification voice <WORD>
```

tos classification data

Use the following command to set the TOS classification data value:

```
tos classification data <WORD>
```

tos classification background

Use the following command to set the TOS classification background value:

```
tos classification background <WORD>
```

show

Use the following command to display the system QoS settings:

```
show
```

tunnel-mtu

To set the tunnel MTU, use the following command:

```
tunnel-mtu <NUMBER>
```

Syntax Description

`tunnel-mtu`	Set the tunnel MTU

Defaults

None.

Example

```
ruckus(config-sys)# tunnel-mtu 1500
The Tunnel MTU settings have been updated.
ruckus(config-sys)#
```

bonjour

To enable bonjour service, use the following command:

```
bonjour
```

Defaults

Disabled.

Example

```
ruckus(config-sys)# bonjour
The bonjour service settings have been updated.
ruckus(config-sys)#
```

no bonjour

To disable bonjour service, use the following command:

```
no bonjour
```

telnetd

To enable the telnet server, use the following command:

```
telnetd
```

Syntax Description

`telnetd`	Enable the telnet server

Defaults

None.

Example

```
ruckus(config-sys)# telnetd
The telnet server settings have been updated.
ruckus(config-sys)#
```

no telnetd

To disable the telnet server, use the following command:

```
telnetd
```

Syntax Description

`no telnetd`	Disable the telnet server

Defaults

None.

Example

```
ruckus(config-sys)# no telnetd
The telnet server settings have been updated.
```

ruckus(config-sys)#

static-route

To create and configure static route settings, use the following command:

```
static-route <WORD>
```

Syntax Description

`static-route`	Create and configure a static route
name <WORD>	Set the name of the static route
subnet <IP-SUBNET>	Set the subnet for the destination network. Use a slash (/) to separate IP address and subnet
gateway <GATEWAY-ADDR>	Set the gateway address
show	Show a list of all static routes

Defaults

None.

Example

```
ruckus(config-sys)# static-route route1
The static route 'route1' has been created. To save the static
route, type 'end' or 'exit'.
ruckus(config-static-route)# subnet 192.168.11.1/24
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-static-route)# gateway 192.168.11.1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-static-route)# show
Static Route:
ID=
Name= route1
IP subnet= 192.168.11.1/24
IP gateway= 192.168.11.1

ruckus(config-static-route)#
```

no static-route

To delete a static route, use the following command:

```
no static-route
```

static-route-ipv6

To create and configure IPv6 static route settings, use the following command:

```
static-route-ipv6 <WORD>
```

Syntax Description

`static-route-ipv6`	Create and configure a static route
name <WORD>	Set the name of the static route
prefix <IPv6-PREFIX>	Set the subnet for the destination network. Use a slash (/) to separate IP address and prefix length
gateway <GATEWAY-ADDR>	Set the gateway address
show	Show a list of all static routes

Defaults

None.

Example

```
ruckus(config-sys)# static-route route1
The static route 'route1' has been created. To save the static
route, type 'end' or 'exit'.
ruckus(config-static-route)# subnet 192.168.11.1/24
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-static-route)# gateway 192.168.11.1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-static-route)# show
Static Route:
ID=
```

```
Name= route1
IP subnet= 192.168.11.1/24
IP gateway= 192.168.11.1

ruckus(config-static-route)#
```

no static-route-ipv6

To delete an IPv6 static route, use the following command:

```
no static-route-ipv6 <WORD>
```

login-warning

To configure the login warning message, use the following command:

login-warning

Syntax Description

`login-warning`	Configure the login warning message.
`abort`	Exits the login-warning context without saving changes.
`end`	Saves changes, and then exits the login-warning context.
`exit`	Saves changes, and then exits the login-warning context.
`quit`	Exits the login-warning context without saving changes.
`content <WORD>`	Customize login warning content.

Example

```
ruckus(config-sys)# login-warning
ruckus(config-sys-login-warning)# content "Warning, you are logging
into equipment belonging to ruckus, if you are not an authorized
user please logout immediately."
The login warning settings have been updated.
ruckus(config-sys-login-warning)# end
The login warning settings have been updated.
Your changes have been saved.
ruckus(config-sys)#
```

no login-warning

To disable the login warning message, use the following command:

```
no login-warning
```

show

Use the following command to display system configuration information:

```
show
```

show support-entitle

To display the content of the entitlement file, use the following command:

```
show support-entitle
```

Example

```
ruckus(config-sys)# show support-entitle
Serial Number: SN1150
Services purchased: 904
Date to Start :Thu Oct 16 00:00:00 2014

Date to End: Wed Jan 14 23:59:00 2015

Number of APs: licensed
Status: active
Detailed: Support service activated
ruckus(config-sys)#
```

show shared-username-control

To display the web authentication username control setting, use the following command:

```
show shared-username-control
```

Example

```
ruckus(config-sys)# show shared-username-control
Disabled the checking function of the number of online stations
shared the same user account.
ruckus(config-sys)#
```

support-entitle

Use the following command to manually download entitlement file:

```
support-entitle
```

Example

```
ruckus(config-sys)# support-entitle
Your Support service has been successfully activated for this
ZoneDirector. You may proceed with firmware upgrade.
ruckus(config-sys)#
```

session-stats-resv

To enable session statistics recording, use the following command:

```
session-stats-resv
```

Defaults

Disabled

Example

```
ruckus(config-sys)# session-stats-resv
The session statistics function has been enabled.
ruckus(config-sys)#
```

no session-stats-resv

Use the following command to disable recording of session statistics:

```
no session-stats-resv
```

Example

```
ruckus(config-sys)# no session-stats-resv
The session statistics function has been disabled.
ruckus(config-sys)#
```

session-limit-unauth-stats

To enable recording of Layer 2 unauthorized session statistics, use the following command:

```
session-limit-unauth-stats
```

Defaults

Enabled

Example

```
ruckus(config-sys)# session-limit-unauth-stats
The limited unauthorized session statistics function has been
enabled.
ruckus(config-sys)#
```

no session-limit-unauth-stats

To disable recording of Layer 2 unauthorized session statistics, use the following command:

```
no session-limit-unauth-stats
```

shared-username-control-enable

To enable the checking function of the number of online stations sharing the same user account, use the following command:

```
shared-username-control-enable
```

Example

```
ruckus(config-sys)# shared-username-control-enable
Enable the checking function of the number of online stations shared
the same user account.
ruckus(config-sys)#
```

no shared-username-control-enable

To disable the checking function of the number of online stations sharomg the same user account, use the following command:

```
no shared-username-control-enable
```

Example

```
ruckus(config-sys)# no shared-username-control
Disable the checking function of the number of online stations
shared the same user account.
ruckus(config-sys)#
```

no snmpv2

To disable the SNMPv2 agent, use the following command:

```
no snmpv2
```

Syntax Description

`no snmpv2`	Disables the SNMPv2 agent

Example

```
ruckus(config-sys)# no snmpv2
The SNMP v2 agent settings have been updated.
```

no snmpv3

To disable the SNMPv3 agent, use the following command:

```
no snmpv3
```

Syntax Description

`no snmpv3`	Disables the SNMPv3 agent

Example

```
ruckus(config-sys)# no snmpv3
The SNMP v3 agent settings have been updated.
```

no snmp-trap

To disable the SNMP trap notifications, use the following command:

```
no snmp-trap <NUMBER>
```

Syntax Description

`no snmp-trap`	Disables SNMP trap notification by index

Example

```
ruckus(config-sys)# no snmp-trap 1
The SNMP trap settings have been updated.
```

no snmpv2-trap

To disable the SNMP trap notifications, use the following command:

```
no snmp-trap <NUMBER>
```

Syntax Description

`no snmpv2-trap`	Disables SNMP trap notification by index

Example

```
ruckus(config-sys)# no snmpv2-trap 1
The SNMP trap settings have been updated.
```

no snmpv3-trap

To disable the SNMPv3 trap notification, use the following command:

```
no snmpv3-trap <NUMBER>
```

Syntax Description

`no snmpv3-trap`	Disables SNMP trap notification by index

Example

```
ruckus(config-sys)# no snmpv3-trap 1
The SNMP trap settings have been updated.
```

snmp-trap

To set the SNMP trap format, use the following command:

```
snmp-trap {trap server address}
```

Syntax Description

`snmp-trap`	Enable SNMP trap notifications
{trap server address}	Set the trap server address to this IP address or host name

Example

```
ruckus# config
ruckus(config)# system
ruckus(config-sys)# snmp-trap 192.168.0.3
```

Management ACL Commands

Use the `mgmt-acl` commands to configure the management ACL settings. To run these commands, you must first enter the `config-mgmt-acl` context.

abort

To exit the `config-mgmt-acl` context without saving changes, use the abort command.

```
abort
```

end

To save changes, and then exit the config-services context, use the following command:

```
end
```

exit

To save changes, and then exit the config-services context, use the following command:

```
exit
```

quit

To exit the `config-mgmt-acl` context without saving changes, use the abort command.

```
quit
```

name

To set the management ACL name, use the following command:

```
name <WORD>
```

restrict-type single ip-addr

To set the management ACL restriction type to a single IP address, use the following command:

```
restrict-type single ip-addr <ip_address>
```

Syntax Description

restrict-type single ip-addr	Set the management ACL restriction type to a single IP address
<ip_address>	Set to this IP address only

Example

```
ruckus(config-mgmt-acl)# restrict-type single ip-addr
192.168.110.22
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

restrict-type subnet ip-subnet

To set the management ACL restriction type to certain subnets, use the following command:

```
restrict-type subnet ip-subnet <IP-SUBNET> <IP-SUBNET>
```

Syntax Description

restrict-type subnet ip-subnet	Set the management ACL restriction type to a single IP address
<IP-SUBNET>	Set to this subnet

Example

```
ruckus(config-mgmt-acl)#restrict-type subnet ip-subnet
172.30.110.26 255.255.254.0
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

restrict-type range ip-range

To set the management ACL restriction type to an IP address range, use the following command:

```
restrict-type range ip-range <ip_address> <ip_address>
```

Syntax Description

restrict-type range ip-range	Set the management ACL restriction type to a single IP address
<ip_address> <ip_address>	Set to this IP address range. The first <ip_address> is for the startui

Example

```
ruckus(config-mgmt-acl)#restrict-type range ip-range 172.30.110.28
172.30.110.39
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

show

To display the current management ACL settings, use the following command:

```
show
```

Syntax Description

show	Display the current management ACL settings

Example

```
ruckus(config-mgmt-acl)# show
Management ACL:
ID:
:
Name= macl2
Restriction Type= range
```

```
IP range= 172.30.110.28-172.30.110.39
```

Configure UPNP Settings

Use the following commands to enable or disable Universal Plug and Play:

upnp

```
upnp
```

Syntax Description

upnp	Enable UPnP

Defaults

Enabled.

Example

```
ruckus(config)# upnp
UPnP Service is enabled
/bin/upnp enable
ruckus(config)#
```

no upnp

```
no upnp
```

Syntax Description

no upnp	Enable UPnP

Defaults

Enabled.

Example

```
ruckus(config)# no upnp
```

```
UPnP Service is disabled
/bin/upnp disable
ruckus(config)#
```

Configure Zero-IT Settings

To configure Zero-IT settings, use the following commands.

zero-it

To configure Zero-IT settings, use the following command:

```
zero-it [local | name <WORD>]
```

zero-it-auth-server

To configure Zero-IT settings, use the following command:

```
zero-it-auth-server [local | name <WORD>]
```

Syntax Description

zero-it-auth-server	Set Zero-IT authentication server
local	Set the Zero-IT authentication server to local database
name	Set the Zero-IT authentication server to an external AAA server
<WORD>	Name of AAA server

Defaults

None.

Example

```
ruckus(config)# zero-it-auth-server name radius
The Authentication Server of Zero IT Activation has been updated.
ruckus(config)#
```

Configure Dynamic PSK Expiration

The following section lists commands for configuring Dynamic Pre-Shared Keys.

dynamic-psk-expiration

To set DPSK expiration, use the following command:

```
dynamic-psk-expiration <TIME>
```

Syntax Description

dynamic-psk-expiration	Set DPSK expiration
<TIME>	Set DPSK expiration to this time limit (one-day, one-week, two-weeks, one-month, two-months, three-months, half-a-year, one-year, two-years)
unlimited	Set DPSKs to never expire

Defaults

None.

Example

```
ruckus(config)# dynamic-psk-expiration unlimited
The Dynamic psk expiration value has been updated.
ruckus(config)#
```

Configure WLAN Settings Commands

Use the `config-wlan` commands to configure the WLAN settings, including the WLAN's description, SSID, and its security settings. To run these commands, you must first enter the `config-wlan` context.

wlan

To create a WLAN or configure an existing WLAN, use the following command:

```
wlan <WORD/NAME>
```

Executing this command enters the config-wlan context.

Syntax Description

wlan	Configure a WLAN
<WORD/NAME>	Name of the WLAN service

Defaults

None.

Example

```
ruckus(config)# wlan ruckus2
The WLAN service 'ruckus2' has been created. To save the WLAN
service, type 'end' or 'exit'.
ruckus(config-wlan)#
```

abort

Exits the config-wlan context without saving changes.

end

Saves changes, and then exits the config-wlan context.

exit

Saves changes, and then exits the config-wlan context.

quit

Exits the config-wlan context without saving changes.

description

To set the WLAN service description, use the following command:

```
description <WORD>
```

Syntax Description

description	Configure the WLAN description
<WORD>	Set the WLAN description this value

Defaults

None.

Example

```
ruckus(config-wlan)# description ruckustestwlan2
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

called-station-id-type

To set the called station ID type to, use the following command:

```
called-station-id-type [wlan-bssid | ap-mac]
```

Syntax Description

`wlan-bssid`	Set the called station ID type to 'BSSID:SSID'
`ap-mac`	Set the called station ID type to 'APMAC:SSID'

Defaults

wlan-bssid

Example

```
ruckus(config-wlan)# called-station-id-type wlan-bssid
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

ssid

To set the WLAN service's SSID or network name, use the following command:

```
ssid <SSID>
```

Syntax Description

`ssid`	Configure the WLAN service's SSID
`<SSID>`	Set the SSID to this value

Defaults

None.

Example

```
ruckus(config-wlan)# ssid ruckus2
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

beacon-interval

To set the beacon interval for mesh links, use the following command:

```
beacon-interval <NUMBER>
```

Syntax Description

beacon-interval	Set the beacon interval for the WLAN
<NUMBER>	Enter the beacon interval (100~1000 TUs)

Defaults

100

Example

```
ruckus(config-wlan)# beacon-interval 100
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

mgmt-tx-rate

To set the transmit rate for management frames, use the following command:

```
mgmt-tx-rate <RATE>
```

Syntax Description

mgmt-tx-rate	Set the max transmit rate for management frames
<RATE>	Set the transmit rate (in Mbps).

Defaults

2

Example

```
ruckus(config-wlan)# mgmt-tx-rate 2
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

name

To set the name of the WLAN, use the following command:

```
name <NAME>
```

Syntax Description

name	Set the WLAN name
<NAME>	Set to this name

Defaults

None.

Example

```
ruckus(config-wlan)# name ruckus2
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

type

To configure the WLAN type, use the following command:

```
type [standard-usage | guest-access | hotspot <WORD> |
hs20 <WORD> | autonomous]
```

Syntax Description

type	Set the WLAN type
standard-usage	Set the WLAN type to standard usage
guest-access	Set the WLAN type to guest access
hotspot <WORD>	Set the WLAN type to Hotspot using the hotspot service specified
hs20 <WORD>	Set the WLAN type to Hotspot 2.0 using the HS2.0 operator specified
autonomous	Set the WLAN type to Autonomous.

Defaults

Standard usage

Example

```
ruckus(config-wlan)# type standard-usage
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

type standard-usage

To set the WLAN type to “Standard Usage”, use the following command:

```
type standard-usage
type standard
```

type guest-access

To set the WLAN type to “Guest Access”, use the following command:

```
type guest-access <WORD>
```

Example

```
ruckus(config-wlan)# type guest-access guestpolicy1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

type hotspot

To set the WLAN type to “Hotspot”, use the following command:

```
type hotspot
```

type hs20

To set the WLAN type to “Hotspot 2.0”, use the following command:

```
type hs20
```

type autonomous

To set the WLAN type to “Autonomous”, use the following command:

```
type autonomous
```

open none

To set the authentication method to 'open' and encryption method to 'none', use the following command:

```
open none
```

Syntax Description

open	Set the authentication method to 'open'
none	Set the encryption method to 'none'

Defaults

None.

Example

```
ruckus(config)# wlan wlan2
The WLAN service 'wlan2' has been created. To save the WLAN service,
type 'end' or 'exit'.
```

```
ruckus(config-wlan)# open none
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)# end
The WLAN service 'wlan2' has been updated and saved.
Your changes have been saved.
ruckus(config)#
```

open wpa passphrase algorithm AES

To set the authentication method to 'open', encryption method to 'WPA', and algorithm to 'AES', use the following command:

```
open wpa passphrase <PASSPHRASE> algorithm AES
```

Syntax Description

open	Set the authentication method to open
wpa	Set the encryption method to WPA
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm AES	Set the encryption algorithm to AES

Defaults

None.

Example

```
ruckus(config)# wlan wlan2
The WLAN service 'wlan2' has been created. To save the WLAN service,
type 'end' or 'exit'.
ruckus(config-wlan)# open wpa passphrase pass1234 algorithm AES
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)# end
The WLAN service 'wlan2' has been updated and saved.
Your changes have been saved.
ruckus(config)#
```

open wpa passphrase algorithm TKIP

To set the authentication method to 'open', encryption method to 'WPA', and algorithm to 'TKIP', use the following command:

```
open wpa passphrase <PASSPHRASE> algorithm TKIP
```

Syntax Description

open	Set the authentication method to open
wpa	Set the encryption method to WPA
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm TKIP	Set the encryption algorithm to TKIP

Defaults

None.

Example

```
ruckus(config)# wlan randy-wlansvc-01-open
The WLAN service 'randy-wlansvc-01-open' has been created. To save
the WLAN service, type end or exit.
ruckus(config-wlan)# open wpa passphrase 12345678 algorithm TKIP
The command was executed successfully.
ruckus(config-wlan)#
```

open wpa passphrase algorithm auto

To set the authentication method to 'open', encryption method to 'WPA', and algorithm to 'Auto', use the following command:

```
open wpa passphrase <PASSPHRASE> algorithm auto
```

Syntax Description

open	Set the authentication method to open

wpa	Set the encryption method to WPA
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm auto	Set the encryption algorithm to Auto

Defaults

None.

Example

```
ruckus(config)# wlan randy-wlansvc-01-open
The WLAN service 'randy-wlansvc-01-open' has been created. To save
the WLAN service, type end or exit.
ruckus(config-wlan)# open wpa passphrase 12345678 algorithm auto
The command was executed successfully.
ruckus(config-wlan)#
```

open wpa2 passphrase algorithm AES

To set the authentication method to 'open', encryption method to 'WPA2', and algorithm to 'AES', use the following command:

```
open wpa2 passphrase <PASSPHRASE> algorithm AES
```

Syntax Description

open	Set the authentication method to open
wpa2	Set the encryption method to WPA2
passphrase <PASSPHRASE>	Set the WPA2 passphrase to <PASSPHRASE>
algorithm AES	Set the encryption algorithm to AES

Defaults

None.

Example

```
ruckus(config)# wlan randy-wlansvc-01-open
```

```
The WLAN service 'randy-wlansvc-01-open' has been created. To save
the WLAN service, type end or exit.
ruckus(config-wlan)# open wpa2 passphrase 12345678 algorithm AES
The command was executed successfully.
ruckus(config-wlan)#
```

open wpa2 passphrase algorithm TKIP

To set the authentication method to 'open', encryption method to 'WPA2', and algorithm to 'TKIP', use the following command:

```
open wpa2 passphrase <PASSPHRASE> algorithm TKIP
```

Syntax Description

open	Set the authentication method to open
wpa2	Set the encryption method to WPA2
passphrase <PASSPHRASE>	Set the WPA2 passphrase to <PASSPHRASE>
algorithm TKIP	Set the encryption algorithm to TKIP

Defaults

None.

Example

```
ruckus(config)# wlan randy-wlansvc-01-open
The WLAN service 'randy-wlansvc-01-open' has been created. To save
the WLAN service, type end or exit.
ruckus(config-wlan)# open wpa2 passphrase 12345678 algorithm TKIP
The command was executed successfully.
ruckus(config-wlan)#
```

open wpa2 passphrase algorithm auto

To set the authentication method to 'open', encryption method to 'WPA2', and algorithm to 'Auto', use the following command:

```
open wpa2 passphrase <PASSPHRASE> algorithm auto
```

Syntax Description

open	Set the authentication method to open
wpa2	Set the encryption method to WPA2
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm auto	Set the encryption algorithm to Auto

Defaults

None.

Example

```
ruckus(config)# wlan randy-wlansvc-01-open
The WLAN service 'randy-wlansvc-01-open' has been created. To save
the WLAN service, type end or exit.
ruckus(config-wlan)# open wpa2 passphrase 12345678 algorithm auto
The command was executed successfully.
ruckus(config-wlan)#
```

open wpa-mixed passphrase algorithm auto

To set the authentication method to 'open', encryption method to 'WPA mixed', and algorithm to 'Auto', use the following command:

```
open wpa-mixed passphrase <PASSPHRASE> algorithm [AES |
TKIP | auto]
```

Syntax Description

open	Set the authentication method to open
wpa-mixed	Set the encryption method to WPA-mixed
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm AES	Set the encryption algorithm to AES
algorithm TKIP	Set the encryption algorithm to TKIP
algorithm auto	Set the encryption algorithm to Auto

Defaults

None.

Example

```
ruckus(config-wlan)# open wpa-mixed passphrase pass1234 algorithm
auto
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

open wep-64 key {KEY} key-id {KEY-ID}

To set the authentication method to 'open', encryption method to 'WEP-64', key index, and WEP key, use the following command:

```
open wep-64 key {key} key-id {key ID}
```

Syntax Description

open		Set the authentication method to open
wep-64		Set the encryption method to WEP 64-bit
key {key}		Set the WEP key to {key}
	key-id {key ID}	Set the WEP key ID to {key ID}

Defaults

None.

Example

```
ruckus(config)# wlan wlan2
The WLAN service 'wlan2' has been created. To save the WLAN service,
type 'end' or 'exit'.
ruckus(config-wlan)# open wep-64 key 1234567890 key-id 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

open wep-128 key key-id

To set the authentication method to 'open', encryption method to 'WEP-128', key index, and WEP key, use the following command:

```
open wep-128 key {key} key-id {key ID}
```

Syntax Description

open		Set the authentication method to open
wep-128		Set the encryption method to WEP 128-bit
key {key}		Set the WEP key to {key}
	key-id {key ID}	Set the WEP key ID to {key ID}

Defaults

None.

Example

```
ruckus(config)# wlan wlan2
The WLAN service 'wlan2' has been loaded. To save the WLAN service,
type 'end' or 'exit'.
ruckus(config-wlan)# open wep-128 key 11111111111111111111111111
key-id 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

mac none auth-server

To set the authentication method to 'MAC Address' and encryption method to 'none', use the following command:

```
mac none auth-server <WORD>
```

Syntax Description

mac	Set the authentication method to 'MAC Address'
none	Set the encryption method to 'none'
auth-server <WORD>	Set the authorization server address to <WORD>

Defaults

None.

Example

```
ruckus(config-wlan)# mac none auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

mac wpa passphrase alogrithm AES auth-server

To set the authentication method to 'MAC Address', encryption method to 'WPA', and algorithm to 'AES', use the following command:

```
mac wpa passphrase <PASSPHRASE> algorithm AES auth-server
<WORD>
```

Syntax Description

mac	Set the authentication method to 'MAC Address'
wpa	Set the encryption method to 'WPA'
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm AES	Set the encryption algorithm to ‘AES’
auth-server <WORD>	Set the authorization server address to `<WORD>`

Defaults

None.

Example

```
ruckus(config-wlan)# mac wpa passphrase 12345678 algorithm AES
auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

mac wpa passphrase alogrithm TKIP auth-server

To set the authentication method to 'MAC Address', encryption method to 'WPA', and algorithm to 'TKIP', use the following command:

```
mac wpa passphrase <PASSPHRASE> alogrithm TKIP auth-server
<WORD>
```

Syntax Description

mac wpa	Set the authentication method to 'MAC Address' and encryption method to 'WPA'
passphrase <PASSPHRASE>	Set the WPA passphrase to <PASSPHRASE>
algorithm TKIP	Set the encryption algorithm to 'TKIP'
auth-server <WORD>	Set the authorization server address to <WORD>

Defaults

None.

Example

```
ruckus(config-wlan)# mac wpa passphrase 12345678 algorithm TKIP
auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

mac wpa2 passphrase alogrithm AES auth-server

To set the authentication method to 'MAC Address', encryption method to 'WPA2', and algorithm to 'AES', use the following command:

```
mac wpa2 passphrase <PASSPHRASE> alogrithm AES auth-server
<WORD>
```

Syntax Description

mac wpa2	Set the authentication method to 'MAC Address' and encryption method to 'WPA2'
passphrase <PASSPHRASE>	Set the WPA2 passphrase to <PASSPHRASE>
algorithm AES	Set the encryption algorithm to ‘AES’
auth-server <WORD>	Set the authorization server address to <WORD>

Defaults

None.

Example

```
ruckus(config-wlan)# mac wpa2 passphrase 12345678 algorithm AES
auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

mac wpa2 passphrase alogrithm TKIP auth-server

To set the authentication method to 'MAC Address', encryption method to 'WPA2', and algorithm to 'TKIP’, use the following command:

```
mac wpa2 passphrase <PASSPHRASE> alogithm TKIP auth-server
<WORD>
```

Syntax Description

mac wpa2	Set the authentication method to 'MAC Address' and encryption method to 'WPA2'
passphrase <PASSPHRASE>	Set the WPA2 passphrase to <PASSPHRASE>
algorithm TKIP	Set the encryption algorithm to ‘TKIP’
auth-server <WORD>	Set the authorization server address to <WORD>

Defaults

None.

Example

```
ruckus(config-wlan)# mac wpa2 passphrase 12345678 algorithm TKIP
auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

mac wpa-mixed passphrase algorithm AES auth-server

To set the authentication method to ‘MAC Address’, encryption method to WPA-Mixed, and algorithm to AES, use the following command:

```
mac wpa-mixed passphrase <PASSPHRASE> algorithm AES auth-
server <WORD>
```

Syntax Description

`mac wpa-mixed`	Set the authentication method to 'MAC Address' and encryption method to 'WPA-Mixed'
`passphrase <PASSPHRASE>`	Set the WPA2 passphrase to <PASSPHRASE>
`algorithm AES`	Set the encryption algorithm to ‘AES’
`auth-server <WORD>`	Set the authorization server to this auth server

Defaults

None.

Example

```
ruckus(config-wlan)# mac wpa-mixed passphrase pass1234 algorithm
AES auth-server radius
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

mac wpa-mixed passphrase algorithm TKIP auth-server

To set the authentication method to 'MAC Address', encryption method to 'WPA-Mixed', algorithm to TKIP, use the following command:

```
mac wpa-mixed passphrase <PASSPHRASE> algorithm TKIP auth-server <WORD>
```

Syntax Description

mac wpa-mixed	Set the authentication method to 'MAC Address' and encryption method to 'WPA-Mixed'
passphrase <PASSPHRASE>	Set the WPA2 passphrase to <PASSPHRASE>
algorithm TKIP	Set the encryption algorithm to 'TKIP'
auth-server <WORD>	Set the authorization server to this auth server

Defaults

None.

Example

```
ruckus(config-wlan)# mac wpa-mixed passphrase pass1234 algorithm TKIP auth-server radius
The command was executed successfully. To save the changes, type 'end' or 'exit'.
ruckus(config-wlan)#
```

mac wep-64 key key-id auth-server

To set the authentication method to 'MAC Address', encryption method to 'WEP-64', key index, and WEP key, use the following command:

```
mac wep-64 key {KEY} key-id {KEY-ID} auth-server <WORD>
```

Syntax Description

mac	Set the authentication method to MAC address
wep-64	Set the encryption method to WEP 64-bit

key {KEY}	Set the WEP key to {KEY}
key-id {KEY-ID}	Set the WEP key ID to {KEY-ID}
auth-server <WORD>	Set the authorization server address to <WORD>

Defaults

None.

Example

```
ruckus(config-wlan)# mac wep-64 key 15791BD8F2 key-id 2 auth-server
Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

mac wep-128 key key-id auth-server

To set the authentication method to 'MAC Address', encryption method to 'WEP-128', key index, and WEP key, use the following command:

```
mac wep-128 key {KEY} key-id {KEY-ID} auth-server <WORD>
```

Syntax Description

mac	Set the authentication method to MAC address
wep-128	Set the encryption method to WEP 128-bit
key {KEY}	Set the WEP key to {key}
key-id {KEY-ID}	Set the WEP key ID to {key ID}
auth-server <WORD>	Set the authorization server address to <WORD>

Defaults

None.

Example

```
ruckus(config-wlan)# mac wep-128 key 15715791BD8F212345691BD8F2
key-id 2 auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x eap-type EAP-SIM auth-server

To set the authentication method to 'EAP-SIM', use the following command:

```
dot1x eap-type EAP-SIM auth-server[local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
eap-type	Set the EAP type
EAP-SIM	Set the authentication method to EAP-SIM
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x eap-type EAP-SIM auth-server local
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

dot1x eap-type PEAP auth-server

To set the authentication method to 'PEAP', use the following command:

```
dot1x eap-type PEAP auth-server [local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
eap-type	Set the EAP type
PEAP	Set the authentication method to PEAP
auth-server	Set authentication server

local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x eap-type PEAP auth-server local
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

dot1x wpa algorithm AES auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WPA', and algorithm to 'AES', use the following command:

```
dot1x wpa algorithm AES auth-server [local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wpa	Set the encryption method to WPA
algorithm AES	Set the algorithm to AES
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa algorithm AES auth-server Ruckus-
Auth-01
```

```
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa algorithm TKIP auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WPA', and algorithm to 'TKIP', use the following command:

```
dot1x wpa algorithm TKIP auth-server <WORD>
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wpa	Set the encryption method to WPA
algorithm TKIP	Set the algorithm to TKIP
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa algorithm TKIP auth-server Ruckus-
Auth-01
The command was executed successfully.
```

dot1x wpa algorithm auto auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WPA', and algorithm to 'Auto', use the following command:

```
dot1x wpa algorithm auto auth-server [local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’

wpa	Set the encryption method to WPA
algorithm auto	Set the algorithm to Auto
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa algorithm auto auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa2 algorithm AES auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WPA2', and algorithm to 'AES', use the following command:

```
dot1x wpa2 algorithm AES auth-server [local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wpa2	Set the encryption method to WPA2
algorithm AES	Set the algorithm to AES
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa2 algorithm AES auth-server Ruckus-
RADIUS
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa2 algorithm TKIP auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WPA2', and algorithm to 'TKIP', use the following command:

```
dot1x wpa2 algorithm TKIP auth-server [local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wpa2	Set the encryption method to WPA2
algorithm TKIP	Set the algorithm to TKIP
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x authentication encryption wpa2 algorithm
TKIP auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa2 algorithm auto auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WPA2', and algorithm to 'Auto', use the following command:

```
dot1x wpa2 algorithm auto auth-server [local | name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wpa2	Set the encryption method to WPA2
algorithm auto	Set the algorithm to auto
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa2 algorithm auto auth-server Ruckus-
Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa-mixed algorithm AES auth-server

To set the authentication method to 802.1x EAP, encryption method to WPA-Mixed, and encryption method to AES, use the following command:

```
dot1x wpa-mixed algorithm AES auth-server [local | name
<WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’

wpa-mixed	Set the encryption method to WPA-Mixed
algorithm AES	Set the algorithm to AES
auth-server	Set authentication server
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa-mixed algorithm AES auth-server
local
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa-mixed algorithm TKIP auth-server

To set the authentication method to 802.1x EAP, encryption method to WPA-Mixed, and encryption method to TKIP, use the following command:

```
dot1x wpa-mixed algorithm TKIP auth-server [local | name
<WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’

wpa-mixed	Set the encryption method to WPA-Mixed
algorithm TKIP	Set the algorithm to TKIP
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa-mixed algorithm AES auth-server
local
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wpa-mixed algorithm auto auth-server

To set the authentication method to 802.1x EAP, encryption method to WPA-Mixed, and encryption method to Auto, use the following command:

```
dot1x wpa-mixed algorithm auto auth-server [local | name
<WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wpa-mixed	Set the encryption method to WPA-Mixed
algorithm auto	Set the algorithm to Auto
local	Set the authentication server to ‘local database’
name	Set the auth server
<WORD>	Name of the auth server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x wpa-mixed algorithm AES auth-server
local
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x authentication encryption wep-64 auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WEP-64', key index, and WEP key, use the following command:

```
dot1x authentication encryption wep-64 auth-server {auth
server}
```

Syntax Description

dot1x authentication	Set the authentication method to ‘802.11x’
encryption wep-64	Set the encryption method to WEP 64-bit
auth-server {auth server}	Set the auth server to {auth server}

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x authentication encryption wep-64 auth-
server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x wep-128 auth-server

To set the authentication method to '802.1x EAP', encryption method to 'WEP-128', key index, and WEP key, use the following command:

```
dot1x wep-128 auth-server [local|name <WORD>]
```

Syntax Description

dot1x	Set the authentication method to ‘802.11x’
wep-128	Set the encryption method to WEP 128-bit
auth-server [local|name<WORD>]	Set the auth server to local or to the named server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x authentication encryption wep-128 auth-
server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x none

To set the encryption as none and authentication server to 'Local Database' or the named server, use the following command:

```
dot1x none auth-server [local|name<WORD>]
```

Syntax Description

dot1x none	Set the authentication method to '802.1x' and encryption to none
auth-server [local|name<WORD>]	Set the auth server to local or to the named server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x none auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

dot1x-mac none

To set the encryption as none and authentication method to 802.1x-MAC, use the following command:

```
dot1x-mac none auth-server name <WORD>
```

Syntax Description

dot1x-mac none	Set the authentication method to '802.1x-MAC' and encryption to none

auth-server name<WORD>	Set the auth server to the named server

Defaults

None.

Example

```
ruckus(config-wlan)# dot1x-mac none auth-server Ruckus-Auth-01
The command was executed successfully.
ruckus(config-wlan)#
```

bgscan

To enable background scanning on the WLAN, use the following command:

```
bgscan
```

Example

```
ruckus(config-wlan)# bgscan
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no bgscan

To disable background scanning on the WLAN, use the following command:

```
no bgscan
```

Example

```
ruckus(config-wlan)# no bgscan
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

ft-roaming

To enable FT Roaming, use the following command:

```
ft-roaming
```

Example

```
ruckus(config-wlan)# ft-roaming
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no ft-roaming

To disable FT Roaming, use the following command:

```
no ft-roaming
```

rrm-neigh-report

To enable 802.11k Neighbor-list report, use the following command:

```
rrm-neigh-report
```

Example

```
ruckus(config-wlan)# rrm-neigh-report
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no rrm-neigh-report

To isable 802.11k Neighbor-list report, use the following command:

```
no rrm-neigh-report
```

https-redirection

To enable HTTPS redirection, use the following command:

```
https-redirection
```

no https-redirection

To disable HTTPS redirection, use the following command:

```
no https-redirection
```

social-media-login

To set the social media login, use the following command:

```
social-media-login <WORD>
```

social-media-login facebook-wifi

To set the social media login to Facebook WiFI, use the following command:

```
social-media-login facebook-wifi
```

social-media-login google

To set the social media login to Google/Google+, use the following command:

```
social-media-login google <WORD> <WORD>
```

social-media-login linkedin

To set the social media login to LinkedIn, use the following command

```
social-media-login linkedin <WORD> <WORD>
```

social-media-login microsoft

To sets the social media login to Microsoft, use the following command:

```
social-media-login microsoft <WORD> <WORD>
```

client-isolation

To enable client isolation (per-AP or across APs, use the following command:

```
client-isolation [isolation-on-ap|isolation-on-subnet]
[enable|disable]
```

Syntax Description

client-isolation	Enable client isolation for this WLAN.
isolation-on-ap	Enable client isolation per AP.
isolation-on-subnet	Enable client isolation across APs.

Example

```
ruckus(config-wlan)# client-isolation isolation-on-ap enable
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

whitelist

To apply a client isolation whitelist to this WLAN, use the following command:

```
whitelist name <WORD>
```

no whitelist

To disable the whitelist for this WLAN, use the following command:

```
no whitelist
```

load-balancing

To enable load balancing for this WLAN, use the following command:

```
load-balancing
```

Defaults

Disabled

Example

```
ruckus(config-wlan)# load-balancing
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no load-balancing

To disable load balancing for this WLAN, use the following command:

```
no load-balancing
```

Example

```
ruckus(config-wlan)# no load-balancing
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

band-balancing

To enable band balancing for this WLAN, use the following command:

```
band-balancing
```

Defaults

Enabled.

Example

```
ruckus(config-wlan)# band-balancing
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no band-balancing

To disable band balancing for this WLAN, use the following command:

```
no band-balancing
```

send-eap-failure

To enable send EAP failure messages, use the following command:

```
send-eap-failure
```

Defaults

Disabled

Example

```
ruckus(config-wlan)# send-eap-failure
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no send-eap-failure

To disable send EAP failure messages, use the following command:

```
no send-eap-failure
```

Example

```
ruckus(config-wlan)# no send-eap-failure
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

```
ruckus(config-wlan)#
```

pap-authenticator

To enable RADIUS message authenticator in PAP requests, use the following command:

```
pap-authenticator
```

Example

```
ruckus(config-wlan)# pap-authenticator
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no pap-authenticator

To disable RADIUS message authenticator in PAP requests, use the following command:

```
no pap-authenticator
```

Example

```
ruckus(config-wlan)# no pap-authenticator
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

nasid-type

To set the NAS ID type, use the following command:

```
nasid-type [wlan-bssid|mac-addr|user-define <WORD>]
```

Syntax Description

`nasid-type`	Set the NAS ID type
`wlan-bssid`	Set NAS ID type WLAN-BSSID (default)
mac-addr	Set NAS ID type to Controller MAC Address

user-define <WORD>	Set NAD ID type to a user-defined string

Defaults

WLAN-BSSID

Example

```
ruckus(config-wlan)# nasid-type wlan-bssid
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

priority low

To set the WLAN priority to low, use the following command:

```
priority low
```

priority high

To set the WLAN priority to high, use the following command:

```
priority high
```

web-auth

To enable Web authentication, use the following command:

```
web-auth [local | name <WORD>]
```

Syntax Description

web-auth	Enable Web authentication
local	Use local database as auth server
name	Specify an external auth server
<WORD>	The AAA server to use for Web authentication

Defaults

None

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# web-auth Ruckus-RADIUS
The command was executed successfully.
ruckus(config-wlan)#
```

no web-auth

To disable Web authentication, use the following command:

```
no web-auth
```

Syntax Description

no web-auth	Disable Web authentication

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# no web-auth
The command was executed successfully.
```

grace-period

To enable and set a maximum time (in minutes) for which users must re-authenticate after disconnecting, use the following command:

```
grace-period <NUMBER>
```

Syntax Description

grace-period	Enables and Sets a maximum time (in minutes) for which users must re-authenticate after disconnecting.

Defaults

Disabled.

Example

```
ruckus(config-wlan)# grace-period 20
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no grace-period

To disable the grace period, use the following command:

```
no grace-period <NUMBER>
```

Syntax Description

`no grace-period`	Disables the grace period timeout.

Defaults

Disabled.

Example

```
ruckus(config-wlan)# no grace-period
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

acct-server

To set the accounting server, use the following command:

```
acct-server <WORD>
```

Syntax Description

acct-server	Configure the AAA server
<WORD>	Set the AAA server to this address

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# acct-server Ruckus-Acct-01
The command was executed successfully.
```

acct-server interim-update

To configure the interim update frequency (in minutes) of the AAA server, use the following command:

```
acct-server <WORD> interim-update <NUMBER>
```

Syntax Description

acct-server	Confgure the interim update frequency of the AAA server
interim-update{minutes}	Set the update frequency to this value (in minutes)

Defaults

5 (minutes)

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# acct-server Ruckus-Acct-01 interim-update 5
The command was executed successfully.
```

no acct-server

To disable the AAA server, use the following command:

```
no acct-server
```

Syntax Description

no acct-server	Disable AAA server authentication

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# no acct-server
The command was executed successfully.
```

inactivity-timeout

To set the inactivity timeout to the specified number in minutes, use the following command:

```
inactivity-timeout <NUMBER>
```

Syntax Description

inactivity-timeout	Enable and set the inactivity timeout
<NUMBER>	Set the inactivity timeout in minutes (1-500 min.)

Defaults

5

Example

```
ruckus(config-wlan)# inactivity-timeout 15
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

web-auth-timeout

To enable and set the web authentication timeout time to the specified number in minutes, use the following command:

```
web-auth-timeout <NUMBER>
```

Syntax Description

web-auth-timeout	Enable and set the web authentication timeout
<NUMBER>	Set the inactivity timeout in minutes

Defaults

5

Example

```
ruckus(config-wlan)# web-auth-timeout 15
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

vlan

To set the VLAN ID for the WLAN, use the following command:

```
vlan <NUMBER>
```

Syntax Description

vlan	Enable VLAN
<NUMBER>	Set the VLAN ID to this value

Defaults

1

Example

```
ruckus(config-wlan)# vlan 123
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

dynamic-vlan

To enable dynamic VLAN, use the following command:

```
dynamic-vlan
```

Syntax Description

dynamic-vlan	Enable dynamic VLAN

Notes

Dynamic VLAN can be enabled or disabled in the following two conditions: 1) The authentication method is '802.1X/EAP' or 'MAC Address', Encryption method is WPA, WPA2, WPA mixed, or none. 2) Authentication method is 'Open', Encryption method is WPA, WPA2 (Algorithm may not be Auto), enable Zero-IT Activation, enable Dynamic PSK.

Example

```
ruckus(config-wlan)# dynamic-vlan
The command was executed successfully. To save the changes, type
'end' or 'exit'
```

no dynamic-vlan

To disable dynamic VLAN, use the following command:

```
no dynamic-vlan
```

Syntax Description

no dynamic-vlan	Disable dynamic VLAN

Defaults

Disabled.

Example

```
ruckus(config-wlan)# no dynamic-vlan
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

mcast-filter

To enable multicast filter for the WLAN, use the following command:

```
mcast-filter
```

no mcast-filter

To disable multicast filter for the WLAN, use the following command:

```
no mcast-filter
```

hide-ssid

To hide an SSID from wireless users, use the following command.Wireless users who know the SSID will still be able to connect to the WLAN service.

```
hide-ssid
```

Syntax Description

hide-ssid	Hide SSID from wireless users

Defaults

Disabled

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# hide-ssid
The command was executed successfully.
```

no hide-ssid

To unhide or broadcast an SSID to wireless users, use the following command:

```
no hide-ssid
```

Syntax Description

no hide-ssid	Broadcast SSID to wireless users

Defaults

Disabled

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# no hide-ssid
The command was executed successfully
```

ofdm-only

To enable support of OFDM rates only, use the following command:

```
ofdm-only
```

no ofdm-only

To disable OFDM only rates, use the following command:

```
no ofdm-only
```

admission-control

To enable Call Admission Control, use the following command:

```
admission-control
```

no admission-control

To disable Call Admissino Control, use the following command:

```
no admission-control
```

bss-minrate

To set the minimum BSS transmission rate of the WLAN (in Mbps), use the following command:

```
bss-minrate <NUMBER>
```

Syntax Description

bss-minrate	Set the minimum BSS transmission rate in Mbps.
<NUMBER>	Minimum BSS transmission rate

Defaults

None.

Example

```
ruckus(config-wlan)# bss-minrate 2
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no bss-minrate

To disable the minimum BSS transmission rate for the WLAN, use the following command:

```
no bss-minrate
```

tunnel-mode

To enable tunnel mode, use the following command:

```
tunnel-mode
```

Syntax Description

tunnel-mode	Enable tunnel mode

Defaults

Disabled.

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan)# tunnel-mode
The command was executed successfully.
```

no tunnel-mode

To disable the tunnel mode, use the following command:

```
no tunnel-mode
```

Syntax Description

no tunnel-mode	Disable the tunnel mode

Defaults

Disabled.

Example

```
ruckus# config
ruckus(config)# wlan wlan-123
ruckus(config-wlan-wlan-123)# no tunnel-mode
The command was executed successfully.
```

dhcp-relay

To set the DHCP relay server to the specified address (tunneled WLANs only), use the following command:

```
dhcp-relay <WORD>
```

no dhcp-relay

To disable DHCP relay, use the following command:

```
no dhcp-relay
```

smart-roam

To enable and set SmartRoam with the specified roam factor (1-10), use the following command:

```
smart-roam <NUMBER/EMPTY>
```

no smart-roam

To disable the SmartRoam feature, use the following command:

```
no smart-roam
```

force-dhcp

To enable the Force DHCP option, use the following command:

```
force-dhcp
```

Defaults

Disabled

Example

```
ruckus(config-wlan)# force-dhcp
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

force-dhcp-timeout

To disconnect the client if it does not obtain valid IP address within the specified timeout period (in seconds), use the following command:

```
force-dhcp-timeout <NUMBER>
```

Defaults

10 seconds

Example

```
ruckus(config-wlan)# force-dhcp-timeout 10
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no force-dhcp

To disable the Force DHCP option, use the following command:

```
no force-dhcp
```

Configuring DHCP Option 82 Sub-Option Settings

Use the following commands to enable DHCP Option 82 and configure sub-option settings for a WLAN.

option82

To enable DHCP option 82 and enter the `config-wlan-option82` context, use the following command:

```
option82
```

Defaults

Disabled

Syntax Description

`subopt1`	Enables and sets the DHCP option 82 sub-option1.
`subopt1 disable`	Disables the DHCP option 82 sub-option1.
`subopt1 rks-circuitid`	sets the DHCP option 82 sub-option1 is RKS_CircuitID.
`subopt1 ap-mac-hex`	sets the DHCP option 82 sub-option1 is AP-MAC.
`subopt1 ap-mac-hex-essid`	sets the DHCP option 82 sub-option1 is AP-MAC and ESSID.
`subopt2`	Enables and sets the DHCP option 82 sub-option2.
`subopt2 disable`	Disables the DHCP option 82 sub-option2.
`subopt2 client-mac-hex`	sets the DHCP option 82 sub-option2 is Client-Mac.
`subopt2 client-mac-hex-essid`	sets the DHCP option 82 sub-option2 is Client-Mac and Essid.
`subopt2 ap-mac-hex`	sets the DHCP option 82 sub-option2 is AP-MAC.
`subopt2 ap-mac-hex-essid`	sets the DHCP option 82 sub-option2 is AP-MAC and ESSID.
`subopt2 cuid`	Sets the DHCP option 82 sub-option2 is CUID.
`subopt150`	Enables and sets the DHCP option 82 sub-option150.
`subopt150 disable`	Disables the DHCP option 82 sub-option150.
`subopt150 vlan-id`	sets the DHCP option 82 sub-option150 is Vlan ID.
`subopt151`	Enables and sets the DHCP option 82 sub-option151.
`subopt151 disable`	Disables the DHCP option 82 sub-option151.
`subopt151 area-name <WORD/NAME>`	Sets the DHCP option 82 sub-option151's Area Name.
`subopt151 essid`	Sets the DHCP option 82 sub-option151 is Essid.

no option82

To disable DHCP option 82, use the following command:

```
no option82
```

sta-info-extraction

To enable station information extraction (client fingerprinting), use the following command:

```
sta-info-extraction
```

Defaults

Enabled

no sta-info-extraction

To disable station information extraction (client fingerprinting), use the following command:

```
no sta-info-extraction
```

max-clients

To set the maximum number of clients for a specific WLAN, use the following command:

```
max-clients <NUMBER>
```

Syntax Description

max-clients	Configure the maximum number of clients that the WLAN can support
<NUMBER>	Set the maximum clients to this value

Defaults

100

Example

```
ruckus(config-wlan)# max-clients 100
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

802dot11d

To enable 802.11d for the WLAN, use the following command:

```
802dot11d
```

Defaults

Enabled

no 802dot11d

To disable 802.11d for the WLAN, use the following command:

```
no 802dot11d
```

application-visibility

Use the following command to enable application visibility:

```
application-visibility
```

Defaults

Disabled

Example

```
ruckus(config-wlan)# application-visibility
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no application-visibility

Use the following command to disable application visibility:

```
no application-visibility
```

apply-policy-group

Use the following command to apply an application denial policy to the WLAN:

```
apply-policy-group <WORD>
```

Defaults

None

Example

```
ruckus(config-wlan)# apply-policy-group facebook
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

auto-proxy

To enable auto-proxy and set the location of the wpad.dat file, use the following command:

```
auto-proxy [<wpad-saved-on-zd | wpad-saved-on-external-
server>] url <WORD>
```

Syntax Description

`auto-proxy`	Enable auto-proxy and specify the location of the wpad.dat file
`wpad-saved-on-ZD`	WPAD.DAT file is saved on ZoneDirector
`wpad-saved-on-external-server`	WPAD.DAT file is saved on an external server
`url`	Specify the WPAD URL configured on DHCP/DNS server
`<WORD>`	Auto-proxy path and file name

Defaults

None.

Example

```
ruckus(config-wlan)# auto-proxy wpad-saved-on-zd url 192.168.0.2/
wpad.dat
The file has been loaded into ZoneDirector successfully,Please use
'import' to apply it
ruckus(config-wlan)#
```

no auto-proxy

To disable auto-proxy, use the following command:

```
no auto-proxy
```

pmk-cache

To set the PMK cache time to the specified number in minutes (1~720 minutes), use the following command:

```
pmk-cache timeout <NUMBER>
```

Defaults

720 minutes

no pmk-cache

To disable PMK cache, use the following command:

```
no pmk-cache
```

pmk-cache-for-reconnect

To apply PMK cache when client reconnects (default), use the following command:

```
pmk-cache-for-reconnect
```

no pmk-cache-for-reconnect

To disable application of PMK caching when client reconnects, use the following command:

```
no pmk-cache-for-reconnect
```

When “no pmk-cache-for-reconnect” is set, the controller attempts to look up PMK cache for roaming clients only, so every client reconnection requires a full reauthentication. A graceful roaming (disconnect before connecting to the roam-to AP) is not regarded as roaming from the controller’s perspective.

Defaults

Enabled

roaming-acct-interim-update

To enable accounting interim-updates when a client roams, use the following command:

```
roaming-acct-interim-update
```

When “roaming-acct-interim-update” is set, all traffic and session-id data from the original session is carried over to the new session.

Defaults

Disabled.

no roaming-acct-interim-update

To disable accounting interim updates when a client roams (default: disabled), use the following command:

```
no roaming-acct-interim-update
```

zero-it-activation

To enable Zero-IT activation, use the following command:

```
zero-it-activation
zero-it
```

Syntax Description

zero-it-activation	Enable Zero-IT activation
zero-it	Enable Zero-IT activation

Defaults

Disabled.

Example

```
ruckus(config-wlan)# zero-it-activation
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no zero-it-activation

To disable Zero-IT activation, use the following command:

```
no zero-it-activation
no zero-it
```

Syntax Description

no zero-it-activation	Disable Zero-IT activation
no zero-it	Disable Zero-IT activation

Defaults

Disabled.

Example

```
ruckus(config-wlan)# no zero-it
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

Configuring Dynamic PSKs

Use the following commands to enable and configure Ruckus Dynamic Pre-Shared Key functionality for the WLAN.

dynamic-psk enable

To enable Dynamic Pre-Shared Keys, use the following command:

```
dynamic-psk enable
```

Syntax Description

dynamic-psk enable	Enable Dynamic PSK

Defaults

None.

Example

```
ruckus(config-wlan)# dynamic-psk enable
The DPSK can't be enabled or disabled when the wlan type is not
Standard Usage and Encryption method is not WPA or WPA2 and
Authentication method is not open and Zero-IT is not enabled.
ruckus(config-wlan)# zero-it
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)# dynamic-psk enable
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

dynamic-psk passphrase-len

To set the Dynamic Pre-Shared Key passphrase length, use the following command:

```
dynamic-psk passphrase-len <NUMBER>
```

dynamic-psk type

To sets the type of dynamic PSK (secure or mobile-friendly), use the following command:

```
dynamic-psk type [mobile-friendly|secure]
```

Syntax Description

dynamic-psk type	Set the DPSK type
mobile-friendly	Set the DPSK type to mobile-friendly
secure	Set the DPSK type to secure

Defaults

Secure

Example

```
ruckus(config-wlan)# dynamic-psk type mobile-friendly
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no dynamic-psk

To disable Dynamic Pre-Shared Keys on the WLAN, use the following command:

```
no dynamic-psk
```

limit-dpsk

To enable Dynamic PSK limits and set the max number of devices per user, use the following command:

```
limit-dpsk <NUMBER>
```

no limit-dpsk

To disable Dynamic PSK limits, use the following command:

```
no limit-dpsk
```

dynamic-psk-expiration

To set the WLAN Dynamic PSK expiration, use the following command:

```
dynamic-psk-expiration [length|start-point] <WORD>
```

Syntax Description

dynamic-psk-expiration	Sets the DPSK expiration.
length	Sets the DPSK expiration length.
unlimited	Sets wlan dynamic psk expiration to unlimited.
one-day	Sets wlan dynamic psk expiration to one day.
one-week	Sets wlan dynamic psk expiration to one week.
two-weeks	Sets wlan dynamic psk expiration to two weeks.
one-month	Sets wlan dynamic psk expiration to one month.
two-months	Sets wlan dynamic psk expiration to two months.
three-months	Sets wlan dynamic psk expiration to three months.
half-a-year	Sets wlan dynamic psk expiration to half a year.
one-year	Sets wlan dynamic psk expiration to one year.
two-years	Sets wlan dynamic psk expiration to two years.
start-point	Sets the DPSK validity start-point.
first-use	The D-PSK expiration will be calculated from when it is first used.
creation-time	The D-PSK expiration will be calculated from when it is created.

Example

```
ruckus(config-wlan)# dynamic-psk-expiration start-point first-use
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)# dynamic-psk-expiration length one-week
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

no l2acl

To disable Layer 2 Access Control Lists, use the following command:

```
no l2acl
```

no role-based-access-ctrl

To disable role based access control policy service, use the following command:

```
no role-based-access-ctrl
```

no l3acl

To disable Layer 3/4 ACLs, use the following command:

```
no l3acl
```

no l3acl-ipv6

To disable Layer 3/4 IPv6 ACLs, use the following command:

```
no l3acl-ipv6
```

no vlanpool

To disable the VLAN pool for this WLAN, use the following command:

```
no vlanpool
```

no dvcpcy

To disable device policy for this WLAN, use the following command:

```
no dvcpcy
```

rate-limit

To set the rate limiting for the WLAN, use the following command:

```
rate-limit uplink <NUMBER> downlink <NUMBER>
```

Syntax Description

rate-limit	Set the rate limit
uplink	Set the uplink rate limit
downlink	Set the downlink rate limit
<NUMBER>	Set the rate limiting to the value specified.

Defaults

None.

Example

ruckus(config-wlan)# **rate-limit uplink 20 downlink 20**
The command was executed successfully. To save the changes, type 'end' or 'exit'.
ruckus(config-wlan)#

no rate-limit

To disable the rate limit, use the following command:

```
no rate-limit
```

Syntax Description

no rate-limit	Disable rate limiting for the WLAN

Defaults

Disabled.

Example

```
ruckus(config-wlan)# no rate-limit
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

vlanpool

To configure a VLAN pool with the specified name, use the following command:

```
vlanpool <WORD>
```

no mac-addr-format

Sets MAC auth username and password to format aabbccddeeff.

mac-addr-format

Sets MAC auth username and password to one of the following formats:

`mac-addr-format aa-bb-cc-dd-ee-ff`	Sets MAC auth username and password to format aa-bb-cc-dd-ee-ff.

`mac-addr-format aa:bb:cc:dd:ee:ff`	Sets MAC auth username and password to format aa:bb:cc:dd:ee:ff.
`mac-addr-format AABBCCDDEEFF`	Sets MAC auth username and password to format AABBCCDDEEFF.
`mac-addr-format AA-BB-CC-DD-EE-FF`	Sets MAC auth username and password to format AA-BB-CC-DD-EE-FF.
`mac-addr-format AA:BB:CC:DD:EE:FF`	Sets MAC auth username and password to format AA:BB:CC:DD:EE:FF.

acl dvcpcy

To apply a Device Policy to the WLAN, use the following command:

```
acl dvcpcy <WORD>
```

acl prece

To apply a Precedence Policy to the WLAN, use the following command:

```
acl prece <WORD>
```

acl role-based-access-ctrl

To enable Role based Access Control Policy on the WLAN, use the following command:

```
acl role-based-access-ctrl
```

Defaults

Disabled

Example

```
ruckus(config-wlan)# acl role-based-access-ctrl
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlan)#
```

qos classification

To enable Quality of Service classification, use the following command:

```
qos classification
```

no qos classification

To disable Quality of Service classification, use the following command:

```
no qos classification
```

qos heuristics-udp

To enable QoS heuristics for UDP traffic, use the following command:

```
qos heuristics-udp
```

no qos heuristics-udp

To disable QoS heuristics for UDP traffic, use the following command:

```
no qos heuristics-udp
```

qos directed-multicast

To enable QoS directed multicast, use the following command:

```
qos directed-multicast
```

no qos directed-multicast

To disable QoS directed multicast, use the following command:

```
no qos directed-multicast
```

qos igmp-snooping

To disable QoS directed multicast, use the following command:

```
qos igmp-snooping
```

no qos igmp-snooping

To disable QoS IGMP snooping, use the following command:

```
no qos igmp-snooping
```

qos mld-snooping

To enable QoS MLD snooping, use the following command:

```
no qos mld-snooping
```

no qos mld-snooping

To disable QoS MLD snooping, use the following command:

```
no qos mld-snooping
```

qos tos-classification

To enable QoS TOS classification, use the following command:

```
qos tos-classification
```

no qos tos-classification

To disable QoS TOS classification, use the following command:

```
no qos tos-classification
```

qos priority high

To set QoS priority to 'high', use the following command:

```
qos priority high
```

qos priority low

To set QoS priority to 'low', use the following command:

```
qos priority low
```

qos directed-threshold

To set the QoS directed threshold, use the following command:

```
qos directed-threshold <NUMBER>
```

disable-dgaf

To disable Downstream Group-Address Frame Forwarding, use the following command (Hotspot 2.0 WLAN only):

```
disable-dgaf
```

no disable-dgaf

To enable Downstream Group-Address Frame Forwarding, use the following command (Hotspot 2.0 WLAN only):

```
no disable-dgaf
```

proxy-arp

To enable Proxy ARP service for the WLAN, use the following command:

```
proxy-arp
```

no proxy-arp

To disable Proxy ARP service for the WLAN, use the following command:

```
no proxy-arp
```

80211w-pmf

To enable 802.11w PM, use the following command:

```
80211w-pmf
```

no 80211w-pmf

To disable 802.11w PMF, use the following command:

```
no 80211w-pmf
```

ignor-unauth-stats

To enable ignoring unauthorized client statistics, use the following command:

```
ignor-unauth-stats
```

no ignor-unauth-stats

To disable ignoring unauthorized client statistics, use the following command:

```
no ignor-unauth-stats
```

show

To display the WLAN settings, use the following command:

```
show
```

Syntax Description

`show`	Display WLAN settings

Defaults

None.

Example

```
ruckus(config)# wlan ruckus1
```

```
The WLAN service 'ruckus1' has been loaded. To save the WLAN service,
type 'end' or 'exit'.
ruckus(config-wlan)# show
WLAN Service:
  ID:
    1:
      NAME = Ruckus-Wireless-1
      Tx. Rate of Management Frame(2.4GHz) = 2.0Mbps
      Tx. Rate of Management Frame(5GHz)   = 6.0Mbps
      Beacon Interval = 100ms
      SSID = Ruckus-Wireless-1
      Description = Ruckus-Wireless-1
      Type = Standard Usage
      Authentication = open
      Encryption = wpa
      Algorithm = aes
      Passphrase = password
      FT Roaming = Disabled
      802.11k Neighbor report = Disabled
      Web Authentication = Disabled
      Authentication Server = Disabled
      Accounting Server = Disabled
      Called-Station-Id type = wlan-bssid
      Tunnel Mode = Disabled
      DHCP relay = Disabled
      Max. Clients = 100
      Isolation per AP = Disabled
      Isolation across AP = Disabled
      Zero-IT Activation = Enabled
      Load Balancing = Disabled
      Band Balancing = Disabled
      Dynamic PSK = Enabled
      Dynamic PSK Passphrase Length =
      Limit Dynamic PSK = Disabled
      Auto-Proxy configuration:
        Status = Disabled
      Inactivity Timeout:
          Status = Disabled
      VLAN-ID = 1
```

```
        Dynamic VLAN = Disabled
        Closed System = Disabled
        OFDM-Only State = Disabled
        Multicast Filter State = Disabled
        802.11d State = Disabled
        Force DHCP State = Disabled
        Force DHCP Timeout = 0
        DHCP Option82:
            Status = Disabled
            Option82 sub-Option1 = Disabled
            Option82 sub-Option2 = Disabled
            Option82 sub-Option150 = Disabled
            Option82 sub-Option151 = Disabled
        Ignore unauthorized client statistic = Disabled
        STA Info Extraction State = Enabled
        BSS Minrate = Disabled
        Call Admission Control State = Disabled
        PMK Cache Timeout= 720 minutes
        PMK Cache for Reconnect= Enabled
        NAS-ID Type= wlan-bssid
        Roaming Acct-Interim-Update= Disabled
        PAP Message Authenticator = Enabled
        Send EAP-Failure = Disabled
        L2/MAC = No ACLS
        L3/L4/IP Address = No ACLS
        L3/L4/IPv6 Address = No ACLS
        Precedence = No ACLS
        Proxy ARP = Disabled
        Device Policy = No ACLS
        Role based Access Control Policy = Disabled
        SmartRoam = Disabled  Roam-factor = 1
        White List = No ACLS
        Application Visibility = disabled
        Apply Policy Group = No_Denys


ruckus(config)#
```

ConfigureWLANGroupSettingsCommands

Use the `wlan-group` commands to configure the settings of a particular WLAN group.

wlan-group

To create a new WLAN group or update an existing WLAN group, use the following command:

```
wlan-group <WORD>
```

Syntax Description

wlan-group	Configure the WLAN group
<WORD>	Name of the WLAN group

Defaults

Default.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
The WLAN group 'wlangroup2' has been created. To save the WLAN
group, type 'end' or 'exit'.
ruckus(config-wlangrp)#
```

no wlan-group

To delete a WLAN group from the list, use the following command:

```
no wlan-group <WORD>
```

Syntax Description

no wlan-group	Delete the WLAN group
<WORD>	Name of the WLAN group

Defaults

None.

Example

```
ruckus(config)# no wlan-group wlan-grp-01
The WLAN group 'wlan-grp-01' has been removed.
ruckus(config)#
```

abort

To exit the `wlan-group` context without saving changes, use the `abort` command. Enter this command from within the context of the WLAN group that you are configuring.

```
abort
```

Syntax Description

`abort`	Exit the WLAN group without saving changes

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
The WLAN group 'wlangroup2' has been created. To save the WLAN
group, type 'end'  or 'exit'.
ruckus(config-wlangrp)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes to the WLAN group settings and exit the `wlan-group` context, use the following command. Enter this command from within the context of the WLAN group that you are configuring.

```
end
```

Syntax Description

`end`	Save changes, and then exit the WLAN group

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
The WLAN group 'wlangroup2' has been created. To save the WLAN
group, type 'end' or 'exit'.
ruckus(config-wlangrp)# end
The WLAN group 'wlangroup2' has been updated.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes to the WLAN group settings and exit the `wlan-group` context, use the `exit` command. Enter this command from within the context of the WLAN group that you are configuring.

```
exit
```

Syntax Description

`exit`	Save changes, and then exit the WLAN group

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
```

```
The WLAN group entry 'wlangroup2' has been loaded. To save the WLAN
group, type 'end' or 'exit'.
ruckus(config-wlangrp)# exit
The WLAN group 'wlangroup2' has been updated.
Your changes have been saved.
ruckus(config)#
```

quit

To exit the `wlan-group` context without saving changes, use the following command. Enter this command from within the context of the WLAN group that you are configuring.

```
quit
```

Syntax Description

`quit`	Exit the WLAN group without saving changes

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
The WLAN group entry 'wlangroup2' has been loaded. To save the WLAN
group, type 'end' or 'exit'.
ruckus(config-wlangrp)# quit
No changes have been saved.
ruckus(config)#
```

name

To set the WLAN group name, use the following command. Enter this command from within the context of the WLAN group that you are configuring.

```
name <WORD>
```

Syntax Description

`name`	Configure the WLAN group name
<WORD>	Set the WLAN group name to this value

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
The WLAN group entry 'wlangroup2' has been loaded. To save the WLAN
group, type 'end' or 'exit'.
ruckus(config-wlangrp)# name wlangroup2
ruckus(config-wlangrp)# show
WLAN Group:
  ID:
    2:
      Name= wlangroup2
      Description=
      WLAN Service:

ruckus(config-wlangrp)#
```

description

To set the WLAN group description, use the following command. Enter this command from within the context of the WLAN group that you are configuring. Multiple word text must be enclosed in quotes.

```
description <WORD>
```

Syntax Description

`description`	Configure the WLAN group description
<WORD>	Set the WLAN group description to this value

Defaults

None.

Example

```
ruckus# config
ruckus(config)# wlan-group wlangroup2
ruckus(config-wlangrp)# description "WLAN Group 2"
ruckus(config-wlangrp)# show
WLAN Group:
  ID:
    2:
      Name= wlangroup2
      Description= WLAN Group 2
      WLAN Service:

ruckus(config-wlangrp)#
```

wlan

To add a WLAN service to the WLAN group, use the following command. Enter this command from within the context of the WLAN group that you are configuring.

```
wlan <WORD>
```

Syntax Description

`wlan`	Add a WLAN to the WLAN group
<WORD>	Name of the WLAN to be added

Defaults

None.

Example

```
rruckus(config-wlangrp)# wlan ruckus1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

```
ruckus(config-wlangrp)# show
WLAN Group:
  ID:
    :
      Name= wlangroup1
      Description=
      WLAN Service:
        WLAN1:
          NAME= ruckus1
          VLAN=

ruckus(config-wlangrp)#
```

no wlan

To remove a WLAN service from the WLAN group, use the following command. Enter this command from within the context of the WLAN group that you are configuring.

```
no wlan <WORD>
```

Syntax Description

`no wlan`	Delete an existing WLAN service from the WLAN group
<WORD>	Name of the WLAN to be removed

Defaults

None.

Example

```
ruckus(config-wlangrp)# no wlan ruckus1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlangrp)#
```

wlan vlan override none

To add a WLAN service to the WLAN group and set the VLAN tag to 'No Change', use the following command. Enter this command from within the context of the WLAN group that you are configuring.

```
wlan <WORD> vlan override none
```

Syntax Description

wlan <WORD>	Add the WLAN to the WLAN group
vlan override none	Set the VLAN tag to No Change

Defaults

None.

Example

```
ruckus(config-wlangrp)# wlan ruckus1 vlan override none
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlangrp)#
```

wlan vlan override tag

To add a WLAN service to the WLAN group and set the VLAN tag to the specified VLAN ID, use the following command:

```
wlan <NAME> vlan override tag <NUMBER>
```

Syntax Description

wlan <NAME>	Add the <NAME> to the WLAN group
vlan override tag <NUMBER>	Set the VLAN tag of <NAME> to the specified <NUMBER>

Defaults

None.

Example

```
ruckus(config-wlangrp)# wlan ruckus1 vlan override tag 12
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-wlangrp)#
```

show

To display WLAN group settings, use the following command:

```
show
```

Defaults

```
ruckus(config-wlangrp)# show
WLAN Group:
  ID:
    1:
      Name= Default
      Description= Default WLANs for Access Points
      WLAN Service:
        WLAN1:
          NAME= Ruckus1
          VLAN=

ruckus(config-wlangrp)#
```

Configure Role Commands

Use the `role` commands to configure user roles on the controller. To run these commands, you must first enter the `config-role` context.

role

To create a new role or modify an existing role, use the following command:

```
role <WORD>
```

Syntax Description

role	Create or modify a user role
<WORD>	Name of role

Defaults

None.

Example

```
ruckus(config)# role role1
The role entry 'role1' has been created
ruckus(config-role)#
```

no role

To delete a role entry from the list, use the following command:

```
no role <WORD>
```

Syntax Description

no role	Delete a user role
<WORD>	Name of role

Defaults

None.

Example

```
ruckus(config)# no role role1
The Role 'role1' has been deleted.
ruckus(config)#
```

abort

To exit the `config-role` context without saving changes, use the `abort` command. Enter this command from within the context of the role that you are configuring.

```
abort
```

Syntax Description

abort	Exit the role without saving changes

Defaults

None.

Example

```
ruckus(config-role)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the `config-role` context, use the following command:

```
end
```

Syntax Description

end	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-role)# end
The Role entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-role` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-role)# exit
The Role entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

quit

To exit the `config-role` context without saving changes, use the `quit` command. Enter this command from within the context of the role that you are configuring.

```
quit
```

Syntax Description

quit	Exit the role without saving changes

Defaults

None.

Example

```
ruckus(config-role)# quit
No changes have been saved.
ruckus(config)#
```

name

To set the name of a user role, use the following command:

```
name <WORD>
```

Syntax Description

name	Set the name of a user role
<WORD>	Set to this role

Defaults

None.

Example

```
ruckus(config-role)# name guest33
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

description

To set the description for a user role, use the following command:

```
description <WORD>
```

Syntax Description

description	Set the description of a user role
<WORD>	Set to this description

Defaults

None.

Example

```
ruckus(config-role)# description testforCLI
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

group-attributes

To set the group attributes of a user role, use the following command:

```
group-attributes <WORD>
```

Syntax Description

group-attributes	Set the attributes of a user role
<WORD>	Set to this attribute

Defaults

None.

Example

```
ruckus(config-role)# group-attributes ruckus1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

wlan-allowed

To set the WLANs to which a user role will have access, use the following command:

```
wlan-allowed [all | specify-wlan]
```

Syntax Description

wlan-allowed	Set the WLANs to which a role will have access
all	Grant access to all WLANs
specify-wlan	Grant access to a specific WLAN

Defaults

None.

Example

```
ruckus(config-role)# wlan-allowed all
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-role)# wlan-allowed specify-wlan
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no specify-wlan-access

To remove a particular WLAN from the list of WLANs that a user role can access, use the following command:

```
no specify-wlan-access <WORD/SSID>
```

Syntax Description

no specify-wlan-access	Remove access to a WLAN by a user role
<WORD/SSID>	Remove access to this WLAN

Defaults

None.

Example

```
ruckus(config-role)# no specify-wlan-access joejoe98
The wlan 'joejoe98' has been removed from the Role.
```

specify-wlan-access

To adda particular WLAN to the list of WLANs that a user role can access, use the following command:

```
specify-wlan-access <wlan_ssid>
```

Syntax Description

specify-wlan-access	Add access to a WLAN by a user role
<wlan_ssid>	Add access to this WLAN

Defaults

None.

Example

```
ruckus(config-role)# specify-wlan-access joejoe98
The wlan 'joejoe98' has been added to the Role.
```

no guest-pass-generation

To remove guest pass generation privileges from a user role, use the following command:

```
no guest-pass-generation
```

Syntax Description

no guest-pass-generation	Remove guest pass generation privileges from a user role

Defaults

None.

Example

```
ruckus(config-role)# no guest-pass-generation
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

guest-pass-generation

To add guest pass generation privileges to a user role, use the following command:

```
guest-pass-generation
```

Syntax Description

guest-pass-generation	Add guest pass generation privileges to a user role

Defaults

None.

Example

```
ruckus(config-role)# guest-pass-generation
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no admin

To remove ZoneDirector administration privileges from a user role, use the following command:

```
no admin
```

Syntax Description

no admin	Remove ZoneDirector administration privileges from a user role

Defaults

None.

Example

```
ruckus(config-role)# no admin
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

admin

To add ZoneDirector administration privileges to a user role, use the following command:

```
admin [super | operator | monitoring]
```

Syntax Description

admin	Add ZoneDirector administration privileges to a user role
super	Sets to Super (Perform all configuration and management tasks)
operator	Sets to Operator (Change settings affecting single AP's only)
monitoring	Sets to Monitoring (Monitoring and viewing operation status only)

Defaults

None.

Example

```
ruckus(config-role)# admin super
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

access-ctrl

Enables access control policy.

Defaults

Disabled

Example

```
ruckus(config)# role role1
The Role entry 'role1' has been created.
ruckus(config-role)# access-ctrl
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-role)# show
Role:
  ID:
    :
      Name= role1
      Description=
      Group Attributes=
      Guest Pass Generation= Disallowed
      ZoneDirector Administration:
        Status= Disallowed
      Allow All WLANs:
        Mode= Allow Specify WLAN access
      Access Control Policy= Allowed
      Allow All OS Types:
        Mode= Allow all OS types to access
      VLAN = Any
```

```
      Rate Limiting Uplink = Disabled
      Rate Limiting Downlink = Disabled

ruckus(config-role)#
```

no access-ctrl

Disables access control policy.

```
no access-ctrl
```

os-type-allowed all

Allows all OS types to access.

```
os-type-allowed all
```

os-type-allowed specify

Specifies OS types access.

```
os-type-allowed specify
```

specify-os-type-access

Adds the specify OS type into the role entry.

```
specify-os-type-access <WORD>
```

Defaults

None

Example

```
ruckus(config)# role role1
The Role entry 'role1' has been created.
ruckus(config-role)# access-ctrl
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-role)# os-type-allowed specify
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-role)# specify-os-type-access Windows
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-role)#
```

no specify-os-type-access

Deletes the specify OS type from the role entry.

```
no specify-os-type-access <WORD>
```

vlan

Sets the VLAN ID to the specified ID number or "none"

```
vlan <NUMBER>
```

rate-limit uplink

Sets the rate limiting of uplink.

```
rate-limit uplink <NUMBER>
```

rate-limit uplink downlink

Sets the rate limiting of downlink.

```
rate-limit uplink <NUMBER> downlink <NUMBER>
```

no rate-limit

Sets rate limiting to Disable.

```
no rate-limit
```

show

To display the settings of a role, use the following command:

```
show
```

Syntax Description

show	Display the settings of a role

Defaults

None.

Example

```
ruckus(config-role)# show
```

```
Role:
  ID:
    :
      Name= role1
      Description=
      Group Attributes=
      Guest Pass Generation= Disallowed
      ZoneDirector Administration:
        Status= Disallowed
      Allow All WLANs:
        Mode= Allow Specify WLAN access

ruckus(config-role)#
```

Configure VLAN Pool Commands

Use the vlan-pool commands to create and configure a VLAN pool. Running these commands enters the config-vlan-pool context from within the config context.

vlan-pool

To create a new VLAN pool or modify an existing pool, and enter the config-vlan-pool context, use the following command:

```
vlan-pool <WORD>
```

Syntax Description

abort	Exits the config-vlanpool context without saving changes.
end	Saves changes, and then exits the config-vlanpool context.
exit	Saves changes, and then exits the config-vlanpool context.
quit	Exits the config-vlanpool context without saving changes.
name <WORD>	Sets the vlan pool entry name.

description <WORD>	Sets the vlan pool entry description.
vlan	Adds or deletes vlans from the vlan pool.
vlan add <WORD>	Add the vlan to the specified pool.
vlan delete <WORD>	Delete the vlan from the specified pool.
vlan show	
option <NUMBER>	Set the option 1 'Mac Hash' 2 'Round-Robin' 3 'Least-Used' to the specified pool.
show	Displays pool settings.

Example

```
ruckus(config)# vlan-pool vlan-pool-1
The vlan pool entry 'vlan-pool-1' has been created.
ruckus(config-vlanpool)# description "vlan pool for printers"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-vlanpool)# option 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-vlanpool)# vlan add 10
ruckus(config-vlanpool)# vlan add 20
ruckus(config-vlanpool)# vlan add 30
ruckus(config-vlanpool)# vlan add 50-56
ruckus(config-vlanpool)# show
VLAN Pool:
  ID:
    :
      Name = vlan-pool-1
      Description = vlan pool for printers
      Option = 1
      VLANSET = 10,20,30,50-56

ruckus(config-vlanpool)# end
The vlan pool entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

no vlan-pool

To delete a VLAN pool, use the following command:

```
no vlan-pool <WORD>
```

Example

```
ruckus(config)# no vlan-pool vlan-pool-1
The vlan pool 'vlan-pool-1' has been deleted.
ruckus(config)#
```

Configure User Commands

Use the `user` commands to configure a user's name, password, and role.To run these commands, you must first enter the `config-user` context.

user

To create a user or modify an existing user and enter the `config-user` context, use the following command:

```
user <WORD>
```

Syntax Description

user	Create or modify a user entry
<WORD>	Name of the user

Defaults

None.

Example

```
ruckus(config)# user johndoe
The User entry 'johndoe' has been created.
ruckus(config-user)#
```

no user

To delete a user record, use the following command:

```
no user <WORD>
```

Syntax Description

user	Create or modify a user entry
<WORD>	Name of the user

Defaults

None.

Example

```
ruckus(config)# no user johndoe
The User 'johndoe' has been deleted.
ruckus(config)#
```

abort

To exit the `config-user` context without saving changes, use the `abort` command. Enter this command from within the context of the user that you are configuring.

```
abort
```

Syntax Description

abort	Exit the user settings without saving changes

Defaults

None.

Example

```
ruckus(config-user)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the `config-user` context, use the following command (you must first set a password before exiting):

```
end
```

Syntax Description

end	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-user)# end
The User entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-user` context, use the following command (you must first set a password before exiting):

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-user)# exit
The User entry has saved successfully.
Your changes have been saved.
```

```
ruckus(config)#
```

quit

To exit the `config-user` context without saving changes, use the `quit` command. Enter this command from within the context of the user that you are configuring.

```
quit
```

Syntax Description

quit	Exit the user settings without saving changes

Defaults

None.

Example

```
ruckus(config-role)# quit
No changes have been saved.
ruckus(config)#
```

user-name

To set the name of a user, use the following command:

```
user-name <WORD>
```

Syntax Description

user-name	Set the name of a user
<WORD>	Set to this user name

Defaults

None.

Example

```
ruckus(config-user)# user-name joe1
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

full-name

To set the full name of a user, use the following command:

```
full-name <WORD>
```

Syntax Description

full-name	Set the full name of a user
<WORD>	Set to this full name

Defaults

None.

Example

```
ruckus(config-user)# full-name joejoe
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

password

To set the password of a user, use the following command:

```
password <WORD>
```

Syntax Description

password	Set the password of a user
<WORD>	Set to this password

Defaults

None.

Example

```
ruckus(config-user)# password 1234
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

role

To assign a role to a user, use the following command:

```
role <WORD>
```

Syntax Description

role	Assign a role to a user
<WORD>	Assign this role

Defaults

Default

Example

```
ruckus(config-user)# role guest
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

show

To display the settings of a user, use the following command:

```
show
```

Syntax Description

show	Show user settings

Defaults

None.

Example

```
ruckus(config-user)# show
User:
ID:
```

```
:
User Name= joe1
Full Name= joejoe
Password= 1234
Role= guest
```

Configure Guest Access Commands

Use the `guest-access` commands to configure guest access services. To run these commands, you must first enter the `config-guest-access` context.

guest-access

To create/configure a Guest Access service and enter the config-guest-access context, use the following command:

```
guest-access <WORD>
```

Example

```
ruckus(config)# guest-access guestpolicy1
The Guest Access entry 'guestpolicy1' has been created.
ruckus(config-guest-access)#
```

no guest-access

To delete a Guest Access service, use the following command:

```
no guest-access
```

Example

```
ruckus(config)# no guest-access guest1
The Guest Access 'guest1' has been deleted.
ruckus(config)#
```

abort

To exit the `config-guest-access` context without saving changes, use the `abort` command.

```
abort
```

end

To save changes, and then exit the `config-guest-access` context, use the following command:

```
end
```

exit

To save changes, and then exit the `config-guest-access` context, use the following command:

```
exit
```

quit

To exit the `config-guest-access` context without saving changes, use the `quit` command.

```
quit
```

name

To set the name of the guest access policy, use the following command:

```
name <WORD>
```

self-service

To enable guest pass self-registration, use the following command:

```
self-service
```

no self-service

To disable guest pass self-registration, use the following command:

```
no self-service
```

guestpass-duration

To set the guest pass duration, use the following command:

```
guestpass-duration [hour|day|week] <NUMBER>
```

guestpass-reauth

To set the guest pass reauthorization timeout, use the following command:

```
guestpass-reauth [min|hour|day|week] <NUMBER>
```

no guestpass-reauth

To disable guest pass reauthorization timeout, use the following command:

```
no guestpass-reauth
```

guestpass-share-number

To set the limit on how many devices can share one guest pass, use the following command (valid values: [0, 10] and 0 means unlimited):

```
guestpass-share-number <NUMBER>
```

guestpass-sponsor

To enable guest pass sponsor approval, use the following command:

```
guestpass-sponsor
```

no guestpass-sponsor

To disable guest pass sponsor approval, use the following command:

```
no guestpass-sponsor
```

guestpass-sponsor-auth-server

Sets the authentication server to 'Local Database' or to a specified AAA server name, use the following command:

```
guestpass-sponsor-auth-server [local|name <WORD>]
```

guestpass-sponsor-number

To set the number of sponsors that can be used for this guest pass service (valid values: [1,5]), use the following command:

```
guestpass-sponsor-number <NUMBER>
```

guestpass-notification

To set the notification method for delivering guest passes, use the following command:

```
guestpass-notification <NUMBER>
```

Options

1-Device Screen

2-Mobile

3-Email

4-Mobile and Email

guestpass-terms-and-conditions

To enable and set the terms and conditions, use the following command:

```
guestpass-terms-and-conditions <WORD>
```

no guestpass-terms-and-conditions

To disable the terms and conditions, use the following command:

```
no guestpass-terms-and-conditions
```

onboarding

To configure onboarding portal options, use the following command:

```
onboarding [key-and-zeroit|zeroit]
```

Syntax Description

onboarding	Enable onboarding portal.
key-and-zeroit	Enables guest pass and zero-it activation.
zeroit	Enables zero-it activation only.

Defaults

Enabled, Guest Pass and Zero-IT.

Example

```
ruckus(config-guest-access)# onboarding key-and-zeroit
The command was executed successfully.
ruckus(config-guest-access)#
```

no onboarding

To disable the onboarding portal, use the following command:

```
no onboarding
```

no authentication

To disable guest access authentication, use the following command:

```
no authentication
```

Syntax Description

no authentication	Disable guest access authentication

Defaults

Enabled.

Example

```
ruckus(config-guest-access)# no authentication
The command was executed successfully.
```

authentication guest-pass

To enable guest pass authentication for this guest access service, use the following command:

```
authentication guest-pass
```

Syntax Description

authentication guest-pass	Enable guest pass authentication

Example

```
ruckus(config-guest-access)# authentication guest-pass
The command was executed successfully.
```

no term-of-use

To hide the Terms of Use text on the guest pass access page, use the following command:

```
no term-of-use
```

Syntax Description

no term-of-use	Hide Terms of Use

Defaults

Disabled.

Example

```
ruckus(config-guest-access)# no term-of-use
The command was executed successfully.
```

term-of-use

To display and specify the Terms of Use text on the guest pass access page, use the following command:

```
term-of-use <WORD>
```

Syntax Description

term-of-use	Display Terms of Use
<WORD>	Display this text as content of Terms of Use on Guest Pass access page

Defaults

Disabled.

Example

```
ruckus(config-guest-access)# term-of-use test.guest
The command was executed successfully.
```

redirect

To set the URL to which to redirect a guest user after passing authentication, use the following command:

```
redirect [original | url <WORD>]
```

Syntax Description

redirect	Set the URL to which the guest user will be redirected
original	Redirect user to the original page that he intended to visit
url <WORD>	Redirect user to a different URL. Specify the URL in `<WORD>`.

Defaults

original

Example

```
ruckus(config-guest-access)# redirect url http://www.ruckuswireless.com
The command was executed successfully.
```

welcome-text

To configure the text to display on the guest access user login page, use the following command:

```
welcome-text <WORD>
```

Syntax Description

welcome-text	Configure the welcome message
<WORD>	Use this as the welcome message

Defaults

Welcome to the Guest Access login page.

Example

```
ruckus(config-guest-access)# welcome-text "Welcome to the Guest Access Login Page."
The command was executed successfully.
ruckus(config-guest-access)#
```

show

To display the guest access policy settings, use the following command:

```
show
```

Syntax Description

show	Display the guest access settings

Example

```
ruckus(config-guest-access)# show
Guest Access:
  Name = guestservice1
  Onboarding Portal:
    Aspect = Guest pass and ZeroIT
  Authentication:
    Mode = Use guest pass authentication
    Multiple users to share a single guest pass = Disallowed
  Title = Welcome to the Guest Access login page.
  Terms of Use:
    Status = Disabled
  Redirection:
    Mode = To the URL that the user intends to visit
  Restricted Subnet Access:
      Rules:
        1:
          Description=
          Type= Deny
          Destination Address= local
          Destination Port= Any
          Protocol= Any
        2:
          Description=
          Type= Deny
          Destination Address= 10.0.0.0/8
          Destination Port= Any
          Protocol= Any
        3:
```

```
          Description=
          Type= Deny
          Destination Address= 172.16.0.0/12
          Destination Port= Any
          Protocol= Any
        4:
          Description=
          Type= Deny
          Destination Address= 192.168.0.0/16
          Destination Port= Any
          Protocol= Any

  Restricted IPv6 Access:
      Rules:
        1:
          Description=
          Type= Deny
          Destination Address= local
          Destination Port= Any
          Protocol= Any
          ICMPv6 Type= Any

ruckus(config-guest-access)#
```

Configuring Guest Access Restriction Rules

Use the following commands to configure restricted access rules for a guest policy. To use these commands, you must enter the `config-guest-restrict-access` context from within the `config-guest-access` context.

no restrict-access-order

To delete a restrict access order, use the following command:

```
no restrict-access-order <NUMBER>
```

Syntax Description

no restrict-access-order	Delete a restrict access order
<NUMBER>	Delete this order ID

Example

```
ruckus(config-guest-access)# no restrict-access-order 4
The Restricted Subnet Access entry has been removed from the Guest Access.
ruckus(config-guest-access)#
```

restrict-access-order

To create a new restrict access order or modify an existing restrict access order, use the following command:

```
restrict-access-order <NUMBER>
```

This command enters the config-guest-restrict-access context. The following commands are available from within this context:

Syntax Description

help	Shows available commands
history	Shows a list of previously run commands.
abort	Exits the config-guest-restrict-access context without saving changes.
end	Saves changes, and then exits the config-guest-restrict-access context.
exit	Saves changes, and then exits the config-guest-restrict-access context.
quit	Exits the config-guest-restrict-access context without saving changes.
order <NUMBER>	Sets the guest access rule order.
description <WORD>	Sets the guest access rule description.

type [allow | deny]	Sets the guest access rule type to allow or deny.
destination [address <ADDR> | port <NUMBER/WORD>	Sets the destination address/port of a guest access rule.
protocol <NUMBER/WORD>	Sets the protocol of a guest access rule.
show	Displays restricted subnet access settings.

show

To display guest access restriction settings, use the following command:

```
show
```

Syntax Description

show	Display guest access restriction settings

Defaults

None.

order

To configure the guest access rule order, use the following command:

```
order <NUMBER>
```

Syntax Description

order	Set the order of a guest access rule
<NUMBER>	Assign the rule this order

Example

```
ruckus(config-guest-restrict-access)# order 3
The command was executed successfully.
```

description

To set the description of a guest access rule, use the following command:

```
description <WORD>
```

Syntax Description

description	Set the description of a guest access rule
<WORD>	Set this as description

Defaults

None.

Example

```
ruckus(config-guest-restrict-access)# description guestd3
The command was executed successfully.
```

type allow

To set the guest access rule type to ‘allow’, use the following command:

```
type allow
```

Syntax Description

type	Set the guest access rule type
allow	Set the rule type to ‘allow’

Defaults

Deny.

Example

```
ruckus(config-guest-restrict-access)# type allow
The command was executed successfully.
```

type deny

To set the guest access rule type to ‘deny’, use the following command:

```
type deny
```

Syntax Description

type	Set the guest access rule type
deny	Set the rule type to ‘deny’

Defaults

Deny.

Example

```
ruckus(config-guest-restrict-access)# type deny
The command was executed successfully.
```

destination address

To set the destination address of the rule, use the following command:

```
destination address <IP-ADDR/WORD>
```

Syntax Description

destination address	Set the destination address of the rule
IP-ADDR/WORD	Set the destination to this IP address

Defaults

Any.

Example

```
ruckus(config-guest-restrict-access)# destination address
192.168.0.20/24
The command was executed successfully.
```

destination port

To set the destination port of the rule, use the following command:

```
destination port <NUMBER/WORD>
```

Syntax Description

destination port	Set the destination port of the rule
<NUMBER/WORD>	Set the destination to this port number

Defaults

Any.

Example

```
ruckus(config-guest-restrict-access)# destination port 562
The command was executed successfully.
```

protocol

To set the protocol for the rule, use the following command:

```
protocol <NUMBER/WORD>
```

Syntax Description

protocol	Set the protocol for the rule
<NUMBER/WORD>	Set to this protocol

Defaults

Any.

Example

```
ruckus(config-guest-restrict-access)# protocol 69
The command was executed successfully.
```

IPv6 Guest Restrict Access Commands

Use the IPv6 guest restrict access commands to configure IPv6 restrict access rules. To run these commands, you must first enter the `config-ipv6-guest-restrict-access` context.

no restrict-access-order-ipv6

To delete a restrict access order, use the following command:

```
no restrict-access-order-ipv6 <NUMBER>
```

Syntax Description

no restrict-access-order-ipv6	Delete a restrict access order
<NUMBER>	Delete this order ID

Defaults

None.

Example

```
ruckus(config-guest-access)# no restrict-access-order-ipv6 2
The IPv6 Restricted Subnet Access entry has been removed from the
Guest Access.
ruckus(config-guest-access)#
```

restrict-access-order-ipv6

To create a new restrict access order or modify an existing restrict access order, use the following command:

```
restrict-access-order-ipv6 <NUMBER>
```

This command enters the config-ipv6-guest-restrict-access context. The following commands are available from within this context:

Syntax Description

help	Shows available commands
history	Shows a list of previously run commands.
abort	Exits the config-guest-restrict-access context without saving changes.
end	Saves changes, and then exits the config-guest-restrict-access context.

exit	Saves changes, and then exits the config-guest-restrict-access context.
quit	Exits the config-guest-restrict-access context without saving changes.
order <NUMBER>	Sets the guest access rule order.
description <WORD>	Sets the guest access rule description.
type [allow | deny]	Sets the guest access rule type to allow or deny.
destination [address <IPv6-ADDR> | port <NUMBER/WORD>	Sets the destination address/port of a guest access rule.
protocol <NUMBER/WORD>	Sets the protocol of a guest access rule.
icmpv6-type	Sets the ICMPv6 type of a Guest Access rule.
show	Displays restricted subnet access settings.

Example

```
ruckus(config-guest-access)# restrict-access-order-ipv6 2
ruckus(config-ipv6-guest-restrict-access)# type allow
The command was executed successfully.
ruckus(config-ipv6-guest-restrict-access)# show
          Description=
          Type= Allow
          Destination Address= Any
          Destination Port= Any
          Protocol= Any
          ICMPv6 Type= Any
ruckus(config-ipv6-guest-restrict-access)# end
The IPv6 Restricted Subnet Access entry has been added to the Guest
Access.
Your changes have been saved.
ruckus(config-guest-access)#
```

show

To display guest access restriction settings, use the following command:

```
show
```

Syntax Description

show	Display guest access restriction settings

Example

```
ruckus(config-ipv6-guest-restrict-access)# show
          Description=
          Type= Allow
          Destination Address= Any
          Destination Port= Any
          Protocol= Any
          ICMPv6 Type= Any
ruckus(config-ipv6-guest-restrict-access)#
```

order

To configure the guest access rule order, use the following command:

```
order <NUMBER>
```

Syntax Description

order	Set the order of a guest access rule
<NUMBER>	Assign the rule this order

Defaults

None.

Example

```
ruckus(config-ipv6-guest-restrict-access)# order 3
The command was executed successfully.
```

description

To set the description of a guest access rule, use the following command:

```
description <WORD>
```

Syntax Description

description	Set the description of a guest access rule
<WORD>	Set this as description

Defaults

None.

Example

```
ruckus(config-ipv6-guest-restrict-access)# description guestd3
The command was executed successfully.
```

type allow

To set the guest access rule type to ‘allow’, use the following command:

```
type allow
```

Syntax Description

type	Set the guest access rule type
allow	Set the rule type to ‘allow’

Defaults

Deny.

Example

```
ruckus(config-ipv6-guest-restrict-access)# type allow
The command was executed successfully.
```

type deny

To set the guest access rule type to ‘deny’, use the following command:

```
type deny
```

Syntax Description

type	Set the guest access rule type
deny	Set the rule type to ‘deny’

Defaults

Deny.

Example

```
ruckus(config-ipv6-guest-restrict-access)# type deny
The command was executed successfully.
```

destination address

To set the destination address of the rule, use the following command:

```
destination address <IP-ADDR/WORD>
```

Syntax Description

destination address	Set the destination address of the rule
IP-ADDR/WORD	Set the destination to this IP address

Defaults

None.

Example

```
ruckus(config-ipv6-guest-restrict-access)# destination address
fe80::/64
The command was executed successfully.
ruckus(config-ipv6-guest-restrict-access)#
```

destination port

To set the destination port of the rule, use the following command:

```
destination port <NUMBER/WORD>
```

Syntax Description

destination port	Set the destination port of the rule
<NUMBER/WORD>	Set the destination to this port number

Defaults

None.

Example

```
ruckus(config-ipv6-guest-restrict-access)# destination port 562
The command was executed successfully.
```

protocol

To set the protocol for the rule, use the following command:

```
protocol <NUMBER/WORD>
```

Syntax Description

protocol	Set the protocol for the rule
<NUMBER/WORD>	Set to this protocol

Defaults

None.

Example

```
ruckus(config-ipv6-guest-restrict-access)# protocol 69
The command was executed successfully.
```

icmpv6-type

To set the ICMPv6 type of a Guest Access rule, use the following command:

```
icmpv6-type [any | number <NUMBER>]
```

Defaults

Any.

Example

```
ruckus(config-ipv6-guest-restrict-access)# icmpv6-type any
The command was executed successfully.
ruckus(config-ipv6-guest-restrict-access)#
```

Configure Hotspot Commands

Use the `hotspot` commands to configure the controller's hotspot settings. To run these commands, you must first enter the `config-hotspot` context.

hotspot

To create a new hotspot or edit an existing entry and enter the config-hotspot context, use the following command:

```
hotspot <WORD>
```

Syntax Description

hotspot	Create or edit a hotspot service
<WORD>	Name of hotspot service

Defaults

None.

Example

```
ruckus(config)# hotspot hotspot1
The Hotspot entry 'hotspot1' has been loaded. To save the Hotspot
entry, type end or exit.
ruckus(config-hotspot)#
```

no hotspot

To delete a hotspot record from the list, use the following command:

```
no hotspot <WORD>
```

Syntax Description

hotspot	Create or edit a hotspot service
<WORD>	Name of hotspot service

Defaults

None.

Example

```
ruckus(config)# hotspot hotspot1
The Hotspot entry 'hotspot1' has been loaded. To save the Hotspot
entry, type end or exit.
ruckus(config-hotspot)#
```

abort

To exit the `config-hotspot` context without saving changes, use the `abort` command.

```
abort
```

Syntax Description

abort	Exit the hotspot settings without saving changes

Defaults

None.

Example

```
ruckus(config-hotspot)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the `config-hotspot` context, use the following command:

```
end
```

Syntax Description

end	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-hotspot)# end
The login page url can't be empty.
ruckus(config-hotspot)# end
The Hotspot entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-hotspot` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-hotspot)# exit
The login page url can't be empty
ruckus(config-hotspot)# exit
The Hotspot entry has saved successfully.
Your changes have been saved.
```

quit

To exit the `config-hotspot` context without saving changes, use the `quit` command.

```
quit
```

Syntax Description

quit	Exit the hotspot settings without saving changes

Defaults

None.

Example

```
ruckus(config-hotspot)# quit
No changes have been saved.
ruckus(config)#
```

show

To display the current hotspot settings, use the following command:

```
show
```

Syntax Description

show	Display the current hotspot settings

Defaults

None.

Example

```
ruckus(config-hotspot)# show
Hotspot:
ID:
1:
Name= h1
```

```
Login Page Url= http://172.18.110.122
Start Page= redirect to the URL that the user intends to visit.
Session Timeout= Disabled
Idle Timeout= Enabled
Timeout= 60 Minutes
Authentication Server= Local Database
Accounting Server= Disabled
Location ID=
Location Name=
Walled Garden 1=
Walled Garden 2=
Walled Garden 3=
Walled Garden 4=
Walled Garden 5=
Rules:
Order= 1
Description= h1_order1
Type= Deny
Destination Address= 192.168.20.20/24
Destination Port= 920
Protocol= 58
```

name

To set the hotspot name, use the following command

```
name <WORD>
```

Syntax Description

name	Set the hotspot name
<WORD>	Set to this name

Defaults

None.

Example

```
ruckus(config-hotspot)# name ruckus1
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

smartclient

Use the following command to enable WISPr smart client support

```
smartclient [secure https] [secure http] [wispr-only
secure https] [wispr-only secure-http] [info]
```

Syntax Description

smartclient	Enable WISPr smartclient support.
secure https	Enables WISPr smart client support with HTTPS security.
secure http	Enables WISPr smart client support with no security.
wispr-only secure https	Enables only WISPr smart client support with HTTPS security.
wispr-only secure http	Enables only WISPr smart client support with no security.
info	Sets the instruction to guide user to login by Smart Client application.

Defaults

None.

Example

```
ruckus(config-hotspot)# smartclient secure https
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

no smartclient

To disable WISPr Smart Client support, use the following command:

```
no smartclient
```

login-page

To set the URL of the hotspot login, use the following command:

```
login-page [original|<WORD>]
```

Syntax Description

login-page	Set the URL of the hotspot login
<WORD>	Set to this URL
original	Redirect to the URL that the user intends to visit

Defaults

None.

Example

```
ruckus(config-hotspot)# login-page http://ruckuswireless.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

start-page

To set the URL or page to which the user will be redirected after logging into the hotspot, use the following command:

```
start-page [original | url <WORD>]
```

Syntax Description

start-page	Set the URL or page to which the user will be redirected after logging into the hotspot
original	Redirect user to the original page he or she intended to visit
url <WORD>	Redirect use to another page. Set the URL of the page in <WORD>.

Defaults

original

Example

```
ruckus(config-hotspot)# start-page url
http://www.ruckuswireless.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no session-timeout

To disable the session timeout for hotspot usage, use the following command:

```
no session-timeout
```

Syntax Description

no session-timeout	Disable the session timeout for hotspot usage

Defaults

None.

Example

```
ruckus(config-hotspot)# no session-timeout
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

session-timeout

To enable and set the session timeout for hotspot usage, use the following command:

```
session-timeout <minutes>
```

Syntax Description

session-timeout	Disable the session timeout for hotspot usage
<minutes>	Set the session timeout to this value (in minutes)

Defaults

1440 minutes

Example

```
ruckus(config-hotspot)# session-timeout 20
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no grace-period

To disable the grace period (idle timeout) for hotspot users, use the following command:

```
no grace-period
```

Syntax Description

no grace-period	Disable the idle timeout for hotspot users

Defaults

None.

Example

```
ruckus(config-hotspot)# no grace-period
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

grace-period

To enable and set the grace period (idle timeout) for hotspot users, use the following command:

```
grace-period <minutes>
```

Syntax Description

grace-period	Set the idle timeout for hotspot users
<minutes>	Set the idle timeout to this value (in minutes)

Defaults

60 minutes

Example

```
ruckus(config-hotspot)# grace-period 20
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

auth-server local

To use ZoneDirector as the authentication server for hotspot users, use the following command:

```
auth-server local
```

Syntax Description

auth-server	Set an authentication server for hotspot users
local	Use ZoneDirector as the authentication server

Defaults

local

Example

```
ruckus(config-hotspot)# auth-server local
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

auth-server name

To use an external server for authenticating hotspot users, use the following command:

```
auth-server name <WORD>
```

Syntax Description

auth-server name	Set an external authentication server for hotspot users
<WORD>	Use this server as the authentication server

Defaults

None.

Example

```
ruckus(config-hotspot)# auth-server name radius1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

auth-server name no-mac-bypass

To disable MAC authentication bypass (no redirection), use the following command:

```
auth-server name <WORD> no-mac-bypass
```

auth-server name mac-bypass

To enable MAC authentication bypass (no redirection) and use password as authentication password, use the following command:

```
auth-server name <WORD> mac-bypass [mac | password <WORD>]
```

Syntax Description

auth-server name	Set an external authentication server for hotspot users
<WORD>	Authentication server name
mac-bypass	Enable MAC auth bypass
mac	Enables MAC authentication bypass (no redirection) and use device MAC address as authentication password.
password <WORD>	Enables MAC authentication bypass (no redirection) and use password as authentication password.
mac-in-dot1x	Use device MAC address as authentication password and enable to send username and password in 802.1X format of 00-10-A4-23-19-C0 (by default 0010a42319c0).

password-in-dot1x <WORD>	Use password as authentication password and enable to send username and password in 802.1Xformatof00-10-A4-23-19-C0(bydefault 0010a42319c0).

Defaults

None.

Example

```
ruckus(config-hotspot)# auth-server name radius1 mac-bypass mac
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

auth-server name mac-bypass mac-addr-format

To set MAC auth username and password to one of the following formats, use the following command:

```
auth-server name <WORD> mac-bypass mac-addr-format
[FORMAT]
```

Syntax Description

auth-server name	Set an external authentication server for hotspot users
<WORD>	Authentication server name
mac-bypass	Enable MAC auth bypass
mac-addr-format	Enable MAC authentication bypass (no redirection) and use device MAC address as authentication password.
[FORMAT]	Set the MAC address format.
aabbccddeeff	Set the MAC address format to aabbccddeeff.
aa-bb-cc-dd-ee-ff	Set the MAC address format to aa-bb-cc-dd-ee-ff.

aa:bb:cc:dd:ee:ff	Set the MAC address format to aa:bb:cc:dd:ee:ff.
AABBCCDDEEFF	Set the MAC address format to AABBCCDDEEFF.
AA-BB-CC-DD-EE-FF	Set the MAC address format to AA-BB-CC-DD-EE-FF.
AA:BB:CC:DD:EE:FF	Set the MAC address format to AA:BB:CC:DD:EE:FF.

acct-server

To enable the accounting server for hotspot usage, use the following command:

```
acct-server <WORD>
```

Syntax Description

acct-server	Enable the accounting server for hotspot usage
<WORD>	Name of the AAA server

Defaults

None.

Example

```
ruckus(config-hotspot)# acct-server "RADIUS Accounting"
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

no acct-server

To disable the accounting server for hotspot usage, use the following command:

```
no acct-server
```

Syntax Description

no acct-server	Disable the accounting server for hotspot usage

Defaults

None.

Example

```
ruckus(config-hotspot)# no acct-server
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

acct-server interim-update

To enable and set the accounting server for hotspot usage, use the following command:

```
acct-server <WORD> interim-update <NUMBER>
```

Syntax Description

no acct-server	Enable and set the accounting server for hotspot usage
<WORD>	Set to this accounting server
interim-update	Set the interim update interval
<NUMBER>	Set to this interval (in minutes)

Defaults

5 minutes

Example

```
ruckus(config-hotspot)# acct-server asd interim-update 10
The AAA server 'asd' could not be found. Please check the spelling,
and then try again.
ruckus(config-hotspot)# acct-server acct1 interim-update 20
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

client-isolation

To enable wireless client isolation (on AP or across APs), use the following command:

```
client-isolation [isolation-on-ap|isolation-across-ap]
[enable|disable]
```

Syntax Description

client-isolation	Enable client isolation.
isolation-on-ap	Enable client isolation per AP.
isolation-on-subnet	Enable spoof guarding and across AP client isolation using whitelist.

Defaults

Disabled

Example

```
ruckus(config-hotspot)# client-isolation isolation-on-ap enable
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)# client-isolation isolation-on-subnet
enable
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

whitelist

To apply a client isolation whitelist to this Hotspot, use the following command:

```
whitelist name <WORD>
```

location-id

To set the location ID of the hotspot, use the following command:

```
location-id <location-id>
```

Syntax Description

`location-id`	Set the location ID of the hotspot
`<location-id>`	Set to this location ID

Defaults

None.

Example

```
ruckus(config-hotspot)# location-id us
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

location-name

To set the location name of the hotspot, use the following command:

```
location-name <location-name>
```

Syntax Description

`location-name`	Set the location name of the hotspot
`<location-name>`	Set to this location name

Defaults

None.

Example

```
ruckus(config-hotspot)# location-name shenzhen
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

walled-garden

To set a hotspot “walled garden” URL, use the following command:

```
walled-garden <INDEX> <WORD>
```

Syntax Description

`walled-garden`	Create a walled garden rule
`<INDEX>`	Enter walled garden URL index. (1~35)
<WORD>	Destination URL

Defaults

None.

Example

```
ruckus(config-hotspot)# walled-garden 1 www.ruckuswireless.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

no walled-garden

To delete a walled garden URL, use the following command

```
no walled-garden <INDEX>
```

Syntax Description

`walled-garden`	Delete a walled garden rule
`<INDEX>`	Enter walled garden URL index. (1~35)

Defaults

None.

Example

```
ruckus(config-hotspot)# no walled-garden 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

Configuring Hotspot Restricted Access Rules

The following commands are used to create and modify Hotspot restricted access rules. Use the restrict-access-order command from the config-hotspot context to enter the config-hotspot-restrict-access context.

restrict-access-order

To create a new restrict access order or modify an existing restrict access order, use the following command:

```
restrict-access-order <NUMBER>
```

Syntax Description

`restrict-access-order`	Add a restrict access order
`<NUMBER>`	Add this order ID
order <NUMBER>	Sets the hotspot rule order.
description <WORD>	Sets the hotspot rule description.
type allow	Sets the hotspot rule type to 'allow'.
type deny	Sets the hotspot rule type to 'deny'.
destination address <IP-ADDR/ WORD>	Sets the destination address of a hotspot rule.
destination port <NUMBER/ WORD>	Sets the destination port of a hotspot rule.
protocol <NUMBER/WORD>	Sets the protocol of a hotspot rule.
show	Displays the policy rule.

Defaults

None.

Example

```
ruckus(config-hotspot)# restrict-access-order 1
ruckus(config-hotspot-restrict-access)#
ruckus(config-hotspot-restrict-access)# show
          Description=
          Type= Deny
```

```
          Destination Address= Any
          Destination Port= Any
          Protocol= Any
ruckus(config-hotspot-restrict-access)#
```

no restrict-access-order

To delete a restrict access order, use the following command:

```
no restrict-access-order <NUMBER>
```

Syntax Description

`no restrict-access-order`	Delete a restrict access order
`<NUMBER>`	Delete this order ID

Defaults

None.

Example

```
ruckus(config-hotspot)# no restrict-access-order 1
The rule '1' has been removed from the Hotspot.
```

restrict-access-order-ipv6

To create a new IPv6 restrict access order or modify an existing restrict access order, use the following command:

```
restrict-access-order-ipv6 <NUMBER>
```

Syntax Description

`restrict-access-order-ipv6`	Add a restrict access order
`<NUMBER>`	Add this order ID
order <NUMBER>	Sets the hotspot rule order.
description <WORD>	Sets the hotspot rule description.

type allow	Sets the hotspot rule type to 'allow'.
type deny	Sets the hotspot rule type to 'deny'.
destination address <IP-ADDR/WORD>	Sets the destination address of a hotspot rule.
destination port <NUMBER/WORD>	Sets the destination port of a hotspot rule.
protocol <NUMBER/WORD>	Sets the protocol of a hotspot rule.
icmpv6 type [any|number <NUMBER>]	Sets the icmpv6 type of a hotspot rule.
show	Displays the policy rule.

Defaults

None.

Example

```
ruckus(config-hotspot)# restrict-access-order-ipv6 1
ruckus(config-hotspot-restrict-access)#
ruckus(config-hotspot-restrict-access-ipv6)# show
          Description=
          Type= Deny
          Destination Address= Any
          Destination Port= Any
          Protocol= Any
          ICMPv6 Type= Any
ruckus(config-hotspot-restrict-access-ipv6)#
```

no restrict-access-order-ipv6

To delete a restrict access order, use the following command:

```
no restrict-access-order-ipv6 <order_id>
```

Syntax Description

`no restrict-access-order`	Delete a restrict access order

<order_id>	Delete this order ID

Defaults

None.

Example

```
ruckus(config-hotspot)# no restrict-access-order-ipv6 1
The rule '1' has been removed from the Hotspot.
```

icmpv6-type

To set the ICMPv6 type, use the following command:

```
icmpv6-type [any | number <NUMBER>]
```

Defaults

Any.

Example

```
ruckus(config-hotspot-restrict-access-ipv6)# icmpv6-type any
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot-restrict-access-ipv6)#
```

Hotspot Access Restriction Commands

Use the `hotspot-restrict-access` commands to configure network segments to which hotspot access will be blocked. To run these commands, you must first enter the `config-hotspot-restrict-access` context.

The same commands are available for IPv6 networks from the `config-hotspot-restrict-access-ipv6` context.

end

To save changes, and then exit the `config-hotspot-restrict-access` context, use the following command:

```
end
```

Syntax Description

end	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# end
ruckus(config-hotspot)#
```

exit

To save changes, and then exit the `config-hotspot-restrict-access` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# exit
ruckus(config-hotspot)#
```

show

To display hotspot access restriction settings, use the following command:

```
show
```

Syntax Description

show	Display the hotspot access restriction settings

Defaults

None.

order

To configure the hotspot access rule order, use the following command:

```
order <NUMBER>
```

Syntax Description

order	Set the order of a hotspot access rule
<NUMBER>	Assign the rule this order

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# order 1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

description

To set the description of a hotspot access rule, use the following command:

```
description <WORD>
```

Syntax Description

description	Set the description of a hotspot access rule
<WORD>	Set this as description

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# description h1_order1
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

type allow

To set the hotspot access rule type to ‘allow’, use the following command:

```
type allow
```

Syntax Description

type	Set the hotspot access rule type
allow	Set the rule type to ‘allow’

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# type allow
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

type deny

To set the hotspot access rule type to ‘deny’, use the following command:

```
type deny
```

Syntax Description

type	Set the hotspot access rule type
deny	Set the rule type to ‘deny’

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# type deny
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

destination address

To set the destination address of the rule, use the following command:

```
destination address <IP-ADDR/WORD>
```

Syntax Description

destination address	Set the destination address of the rule
IP-ADDR/WORD	Set the destination to this IP address

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# destination address
192.168.20.20/24
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

destination port

To set the destination port of the rule, use the following command:

```
destination port <NUMBER/WORD>
```

Syntax Description

destination port	Set the destination port of the rule
<NUMBER/WORD>	Set the destination to this port number

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# destination port 920
```

```
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

protocol

To set the protocol for the rule, use the following command:

```
protocol <NUMBER/WORD>
```

Syntax Description

protocol	Set the protocol for the rule
<NUMBER/WORD>	Set to this protocol

Defaults

None.

Example

```
ruckus(config-hotspot-restrict-access)# protocol 58
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

intrusion-prevention

To enable temporary blocking of Hotspot clients with repeated authentication attempts, use the following command:

```
intrusion-prevention
```

Defaults

Disabled.

Example

```
ruckus(config-hotspot)# intrusion-prevention
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

no intrusion-prevention

To disable temporary blocking of Hotspot clients with repeated authentication failure, use the following command:

```
no intrusion-prevention
```

Example

```
ruckus(config-hotspot)# no intrusion-prevention
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hotspot)#
```

Configure Hotspot 2.0 Commands

Use the `hs20op` and `hs20sp` commands to configure the controller's Hotspot 2.0 operator and service provider settings. To run these commands, you must first enter the `config-hs20op` or `config-hs20sp` context.

To deploy a Hotspot 2.0 service, you must configure the following:

- A Hotspot 2.0 Operator entry
- A Hotspot 2.0 Service Provider entry
- A WLAN with Hotspot 2.0 service enabled

hs20op

Use the following command to configure a Hotspot 2.0 Operator entry:

```
hs20op <WORD>
```

Syntax Description

hs20op	Create or configure a Hotspot 2.0 Operator entry
<WORD>	The name of the Hotspot 2.0 Operator entry.

Example

```
ruckus(config)# hs20op operator1
The Hotspot (2.0) operator entry 'operator1' has been created.
ruckus(config-hs20op)# end
The Hotspot (2.0) operator entry has saved successfully.
```

```
Your changes have been saved.
ruckus(config)#
```

no hs20op

Use the following command to delete a Hotspot 2.0 Operator entry:

```
no hs20op <WORD>
```

Example

```
ruckus(config)# no hs20op operator1
The Hotspot (2.0) oeprator 'operator1' has been deleted.
ruckus(config)#
```

Configure Hotspot 2.0 Operator Settings

The following commands can be used to configure Hotspot 2.0 Operator entry settings. To execute these commands, you must first create or edit a Hotspot 2.0 Operator entry using the `hs20op` command and entering the `config-hs20op` context.

Syntax Description

help	Shows available commands.
history	Shows a list of previously run commands.
abort	Exits the config-hs20op context without saving changes.
end	Saves changes, and then exits the config-hs20op context.
exit	Saves changes, and then exits the config-hs20op context.
quit	Exits the config-hs20op context without saving changes.
no internet-option	Disables with connectivity to internet.
no hessid	Sets the HESSID to empty.
no service-provider <WORD>	Deletes a service provider from the Hotspot (2.0) operator.
no venue-group-type	Sets both venue group and venue type to unspecified.

no friendly-name <LANGUAGE>	Disable the friendly name for the specified language.
no asra	Disables additional step required for access.
no asra terms	Disables ASRA Type: Acceptance of terms and conditions.
no asra enrollment	Disables ASRA Type: On-line enrollment supported.
no asra http-https	Disables ASRA Type: http/https redirection.
no asra dns	Disables ASRA Type: DNS redirection.
no asra http-https-url	Sets the redirect URL of http/https redirection to empty.
no wan-metrics sym	Disables Symmetric Link.
no custm-conn-cap <NUMBER>	Deletes a Connection Capability entry.
no adv-gas dos-detect	Disables the GAS DOS detection.
no hs-caps operating-class-indication	Disables the operating class indication.
name <WORD>	Sets the hotspot(2.0) operator entry name.
description <WORD>	Sets the hotspot(2.0) operator entry description.
internet-option	Enables with connectivity to internet.
hessid <MAC>	Sets the HESSID.
hessid-use-bssid	Sets the HESSID to use BSSID.
service-provider <WORD>	Adds a service provider to the Hotspot (2.0) operator.
venue-group-type unspecified	Sets the venue group to unspecified
venue-group-type assembly	Sets the venue group to assembly
venue-group-type assembly unspecified	Sets the venue type to unspecified
venue-group-type assembly arena	Sets the venue type to arena
venue-group-type assembly stadium	Sets the venue type to stadium

venue-group-type assembly passenger-terminal	Sets the venue type to passenger terminal
venue-group-type assembly amphitheater	Sets the venue type to amphitheater
venue-group-type assembly amusement-park	Sets the venue type to amusement park
venue-group-type assembly place-worship	Sets the venue type to place of worship
venue-group-type assembly convention-center	Sets the venue type to convention center
venue-group-type assembly library	Sets the venue type to library
venue-group-type assembly museum	Sets the venue type to museum
venue-group-type assembly restaurant	Sets the venue type to restaurant
venue-group-type assembly theater	Sets the venue type to theater
venue-group-type assembly bar	Sets the venue type to bar
venue-group-type assembly coffee-shop	Sets the venue type to coffee shop
venue-group-type assembly zoo-or-aquarium	Sets the venue type to zoo or aquarium
venue-group-type assembly emergency-coordination-center	Sets the venue type to emergency coordination center
venue-group-type business	Sets the venue group to business
venue-group-type business unspecified	Sets the venue type to unspecified

venue-group-type business doctor-or-dentist-office	Sets the venue type to doctor or dentist office
venue-group-type business bank	Sets the venue type to bank
venue-group-type business fire-station	Sets the venue type to fire station
venue-group-type business police-station	Sets the venue type to police station
venue-group-type business post-office	Sets the venue type to post office
venue-group-type business professional-office	Sets the venue type to professional office
venue-group-type business research-and-development-facility	Sets the venue type to research and development facility
venue-group-type business attorney-office	Sets the venue type to attorney office
venue-group-type educational	Sets the venue group to educational
venue-group-type educational unspecified	Sets the venue type to unspecified
venue-group-type educational school-primary	Sets the venue type to school primary
venue-group-type educational school-secondary	Sets the venue type to school secondary
venue-group-type educational university-or-college	Sets the venue type to university or college
venue-group-type factory-industrial	Sets the venue group to factory industrial

venue-group-type factory-industrial unspecified	Sets the venue type to unspecified
venue-group-type factory-industrial factory	Sets the venue type to factory
venue-group-type institutional	Sets the venue group to institutional
venue-group-type institutional unspecified	Sets the venue type to unspecified
venue-group-type institutional hospital	Sets the venue type to hospital
venue-group-type institutional long-term-care-facility	Sets the venue type to long term care facility
venue-group-type institutional alcohol-and-drug-reHabilitation-center	Sets the venue type to alcohol and drug reHabilitation center
venue-group-type institutional group-home	Sets the venue type to group home
venue-group-type institutional prison-or-jail	Sets the venue type to prison or jail
venue-group-type mercantile	Sets the venue group to mercantile
venue-group-type mercantile unspecified	Sets the venue type to unspecified
venue-group-type mercantile retail-store	Sets the venue type to retail store
venue-group-type mercantile grocery-market	Sets the venue type to grocery market
venue-group-type mercantile automotive-service-station	Sets the venue type to automotive service station

venue-group-type mercantile shopping-mall	Sets the venue type to shopping mall
venue-group-type mercantile gas-station	Sets the venue type to gas station
venue-group-type residential	Sets the venue group to residential
venue-group-type residential unspecified	Sets the venue type to unspecified
venue-group-type residential private-residence	Sets the venue type to private residence
venue-group-type residential hotel-or-motel	Sets the venue type to hotel or motel
venue-group-type residential dormitory	Sets the venue type to dormitory
venue-group-type residential boarding-house	Sets the venue type to boarding house
venue-group-type storage	Sets the venue group to storage
venue-group-type storage unspecified	Sets the venue type to unspecified
venue-group-type utility-miscellaneous	Sets the venue group to utility miscellaneous
venue-group-type utility-miscellaneous unspecified	Sets the venue type to unspecified
venue-group-type vehicular	Sets the venue group to vehicular
venue-group-type vehicular unspecified	Sets the venue type to unspecified

venue-group-type vehicular automobile-or-truck	Sets the venue type to automobile or truck
venue-group-type vehicular airplane	Sets the venue type to airplane
venue-group-type vehicular bus	Sets the venue type to bus
venue-group-type vehicular ferry	Sets the venue type to ferry
venue-group-type vehicular ship-or-boat	Sets the venue type to ship or boat
venue-group-type vehicular train	Sets the venue type to train
venue-group-type vehicular motor-bike	Sets the venue type to motor bike
venue-group-type outdoor	Sets the venue group to outdoor
venue-group-type outdoor unspecified	Sets the venue type to unspecified
venue-group-type outdoor muni-mesh-network	Sets the venue type to muni mesh network
venue-group-type outdoor city-park	Sets the venue type to city park
venue-group-type outdoor rest-area	Sets the venue type to rest area
venue-group-type outdoor traffic-control	Sets the venue type to traffic control
venue-group-type outdoor bus-stop	Sets the venue type to bus stop
venue-group-type outdoor kiosk	Sets the venue type to kiosk
friendly-name <LANGUAGE> <WORD>	Sets the friendly name for the specified language.

asra	Enables additional step required for access.
asra terms	Enables ASRA Type: Acceptance of terms and conditions.
asra enrollment	Enables ASRA Type: On-line enrollment supported.
asra http-https	Enables ASRA Type: http/https redirection.
asra http-https url <WORD>	Sets the redirect URL of http/https redirection.
asra dns	Enables ASRA Type: DNS redirection.
accs-net-type private	Sets the access network type to Private network.
accs-net-type private-with-guest	Sets the access network type to Private network with guest access.
accs-net-type chargeable-public	Sets the access network type to Chargeable public network.
accs-net-type free-public	Sets the access network type to Free public network.
accs-net-type personal-device	Sets the access network type to Personal device network.
accs-net-type test-or-experimental	Sets the access network type to Test or experimental.
accs-net-type wildcard	Sets the access network type to Wildcard.
ip-addr-type ipv4 not-avail	Sets the IPv4 Address Type to not available.
ip-addr-type ipv4 public	Sets the IPv4 Address Type to public address.
ip-addr-type ipv4 port-restricted	Sets the IPv4 Address Type to port-restricted address.
ip-addr-type ipv4 single-nated	Sets the IPv4 Address Type to single NATed private address.
ip-addr-type ipv4 double-nated	Sets the IPv4 Address Type to double NATed private address.
ip-addr-type ipv4 port-single	Sets the IPv4 Address Type to port-restricted address and single NATed private address.
ip-addr-type ipv4 port-double	Sets the IPv4 Address Type to port-restricted address and double NATed private address.

ip-addr-type ipv4 unknown	Sets the IPv4 Address Type to unknown.
ip-addr-type ipv6 not-avail	Sets the IPv6 Address Type to not available.
ip-addr-type ipv6 avail	Sets the IPv6 Address Type to available.
ip-addr-type ipv6 unknown	Sets the IPv6 Address Type to unknown.
wan-metrics sym	Enables Symmetric Link.
wan-metrics link-stat up	Sets Link Status to Link UP.
wan-metrics link-stat down	Sets Link Status to Link Down.
wan-metrics link-stat test	Sets Link Status to Link in Test State.
wan-metrics downlink-load <NUMBER>	Sets WAN downlink load.
wan-metrics downlink-speed <NUMBER>	Sets WAN downlink speed.
wan-metrics uplink-load <NUMBER>	Sets WAN uplink load.
wan-metrics uplink-speed <NUMBER>	Sets WAN uplink speed.
wan-metrics lmd <NUMBER>	Sets Load Measurement Duration.
conn-cap icmp closed	Sets the ICMP Connection Capability Status to closed
conn-cap icmp open	Sets the ICMP Connection Capability Status to open
conn-cap icmp unknown	Sets the ICMP Connection Capability Status to unknown
conn-cap ftp closed	Sets the FTP Connection Capability Status to closed
conn-cap ftp open	Sets the FTP Connection Capability Status to open
conn-cap ftp unknown	Sets the FTP Connection Capability Status to unknown
conn-cap ssh closed	Sets the SSH Connection Capability Status to clsoed
conn-cap ssh open	Sets the SSH Connection Capability Status to open
conn-cap ssh unknown	Sets the SSH Connection Capability Status to unknown

conn-cap http closed	Sets the HTTP Connection Capability Status to clsoed
conn-cap http open	Sets the HTTP Connection Capability Status to open
conn-cap http unknown	Sets the HTTP Connection Capability Status to unknown
conn-cap tls-vpn closed	Sets the TLS VPN Connection Capability Status to clsoed
conn-cap tls-vpn open	Sets the TLS VPN Connection Capability Status to open
conn-cap tls-vpn unknown	Sets the TLS VPN Connection Capability Status to unknown
conn-cap pptp-vpn closed	Sets the PPTP VPN Connection Capability Status to clsoed
conn-cap pptp-vpn open	Sets the PPTP VPN Connection Capability Status to open
conn-cap pptp-vpn unknown	Sets the PPTP VPN Connection Capability Status to unknown
conn-cap voip-tcp closed	Sets the VoIP(TCP) Connection Capability Status to closed
conn-cap voip-tcp open	Sets the VoIP(TCP) Connection Capability Status to open
conn-cap voip-tcp unknown	Sets the VoIP(TCP) Connection Capability Status to unknown
conn-cap ikev2 closed	Sets the IKEv2 Connection Capability Status to clsoed
conn-cap ikev2 open	Sets the IKEv2 Connection Capability Status to open
conn-cap ikev2 unknown	Sets the IKEv2 Connection Capability Status to unknown
conn-cap voip-udp closed	Sets the VoIP(UDP) Connection Capability Status to closed
conn-cap voip-udp open	Sets the VoIP(UDP) Connection Capability Status to open
conn-cap voip-udp unknown	Sets the VoIP(UDP) Connection Capability Status to unknown
conn-cap ipsec-vpn closed	Sets the IPSec VPN Connection Capability Status to clsoed
conn-cap ipsec-vpn open	Sets the IPSec VPN Connection Capability Status to open

conn-cap ipsec-vpn unknown	Sets the IPSec VPN Connection Capability Status to unknown
conn-cap esp closed	Sets the ESP Connection Capability Status to clsoed
conn-cap esp open	Sets the ESP Connection Capability Status to open
conn-cap esp unknown	Sets the ESP Connection Capability Status to unknown
custm-conn-cap <NUMBER> ip-proto <NUMBER> port <NUMBER> status closed	Sets Status to closed.
custm-conn-cap <NUMBER> ip-proto <NUMBER> port <NUMBER> status closed description <WORD>	Sets the description of Connection Capability entry.
custm-conn-cap <NUMBER> ip-proto <NUMBER> port <NUMBER> status open	Sets Status to open.
custm-conn-cap <NUMBER> ip-proto <NUMBER> port <NUMBER> status open description <WORD>	Sets the description of Connection Capability entry.
custm-conn-cap <NUMBER> ip-proto <NUMBER> port <NUMBER> status unknown	Sets Status to unknown.

custm-conn-cap <NUMBER> ip-proto <NUMBER> port <NUMBER> status unknown description <WORD>	Sets the description of Connection Capability entry.
adv-gas cb-delay <NUMBER>	Sets the GAS Comeback Delay.
adv-gas rsp-limit <NUMBER>	Sets the GAS query response length limit.
adv-gas rsp-buf-time <NUMBER>	Sets the GAS query response buffering time.
adv-gas dos-detect	Enables the GAS DOS detection.
adv-gas dos-maxreq <NUMBER>	Set the GAS DOS detection maximum request number.
hs-caps operating-class-indication 2.4	Sets the operating class indication to 2.4 GHz.
hs-caps operating-class-indication 5	Sets the operating class indication to 5 GHz.
hs-caps operating-class-indication dual-band	Sets the operating class indication to 2.4/5 GHz.
show	Displays hotspot 2.0 operator settings.

hs20sp

Use the following command to configure a Hotspot 2.0 Service Provider entry:

```
hs20sp <WORD>
```

Example

ruckus(config)# **hs20sp serviceprovider1**

The Hotspot (2.0) service provider entry 'serviceprovider1' has been created.

ruckus(config-hs20sp)# **end**

The Hotspot (2.0) service provider entry has saved successfully.

Your changes have been saved.
ruckus(config)#

no hs20sp

Use the following command to delete a Hotspot 2.0 Service Provider entry:

```
no hs20sp <WORD>
```

Example

```
ruckus(config)# no hs20sp provider1
The Hotspot (2.0) service provider 'provider1' has been deleted.
ruckus(config)#
```

Configure Hotspot 2.0 Service Provider Settings

The following commands can be used to configure Hotspot 2.0 Service Provider entry settings. To execute these commands, you must first create or edit a Hotspot 2.0 Service Provider entry using the `hs20sp` command and entering the `config-hs20sp` context.

Syntax Description

help	Shows available commands.
history	Shows a list of previously run commands.
abort	Exits the config-hs20sp context without saving changes.
end	Saves changes, and then exits the config-hs20sp context.
exit	Saves changes, and then exits the config-hs20sp context.
quit	Exits the config-hs20sp context without saving changes.
no nai-realm <NUMBER>	Deletes a NAI Realm entry.
no domain-name <NUMBER>	Deletes a domain name entry.
no roam-consortium <NUMBER>	Deletes a roaming consortium entry.

no anqp-3gpp-info <NUMBER>	Deletes a 3GPP cellular network information entry.
name <WORD>	Sets the hotspot(2.0) service provider entry name.
description <WORD>	Sets the hotspot(2.0) service provider entry description.
nai-realm <NUMBER>	Creates a new NAI Realm entry or modifies an existing entry.
domain-name <NUMBER>	Creates a new domain name entry or modifies an existing entry.
domain-name <NUMBER> name <WORD>	Sets the domain name of a domain name entry.
roam-consortium <NUMBER>	Creates a new roaming consortium entry or modifies an existing entry.
roam-consortium <NUMBER> org-id <HEX>	Sets the organization ID of a roaming consortium entry.
roam-consortium <NUMBER> org-id <HEX> name <WORD>	Sets the name of a roaming consortium entry.
anqp-3gpp-info <NUMBER>	Creates a 3GPP cellular network information entry or modifies an existing entry list.
anqp-3gpp-info <NUMBER> mcc <NUMBER>	Sets the MCC of 3GPP cellular network information entry.
anqp-3gpp-info <NUMBER> mcc <NUMBER> mnc <NUMBER>	Sets the MNC of 3GPP cellular network information entry.
anqp-3gpp-info <NUMBER> mcc <NUMBER> mnc <NUMBER> name <WORD>	Sets the name of 3GPP cellular network information entry.
show	Displays hotspot 2.0 service provider settings.

nai-realm

To create, a new NAI Realm entry or modifies an existing entry, use the following command:

```
nai-realm <NUMBER>
```

This command enters the config-hs20sp-nai-realm context. The following commands can be executed from within this context.

Syntax Description

name	Sets the name of the NAI Realm entry.
encoding	Sets the encoding of the NAI Realm entry.
eap-method <NUMBER>	Sets the EAP method #X of the NAI Realm entry. (X:1~4)
no	Contains commands that can be executed from within the context.
show	Displays NAI Realm settings.

Example

```
ruckus(config-hs20sp)# nai-realm 1
ruckus(config-hs20sp-nai-realm)# name realm1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hs20sp-nai-realm)# show
          Name= realm1
          Encoding= RFC-4282
          EAP Method #1= N/A
          EAP Method #2= N/A
          EAP Method #3= N/A
          EAP Method #4= N/A
ruckus(config-hs20sp-nai-realm)# end
To save the changes, type 'end' or 'exit'.
ruckus(config-hs20sp)# end
The Hotspot (2.0) service provider entry has saved successfully.
Your changes have been saved.
ruckus(config)#
```

name

Use the following command to set the name of the NAI Realm entry:

```
name <WORD>
```

encoding

Use the following command to set the encoding of the NAI Realm entry:

```
encoding [rfc-4282 | utf-8]
```

eap-method

Use the following command to set the EAP method of the NAI Realm entry:

```
eap-method <NUMBER>
```

eap-method eap-mthd

Use the following command to set the EAP method of the NAI Realm entry:

```
eap-method <NUMBER> eap-mthd [N/A | <NAME>]
```

Syntax Description

N/A	Sets the EAP method of the NAI Realm entry to N/A.
MD5-Challenge	Sets the EAP method of the NAI Realm entry to MD5-Challenge.
EAP-TLS	Sets the EAP method of the NAI Realm entry to EAP-TLS.
EAP-CISCO	Sets the EAP method of the NAI Realm entry to EAP-Cisco.
EAP-SIM	Sets the EAP method of the NAI Realm entry to EAP-SIM.
EAP-TTLS	Sets the EAP method of the NAI Realm entry to EAP-SIM.
PEAP	Sets the EAP method of the NAI Realm entry to PEAP.
MSCHAP-V2	Sets the EAP method of the NAI Realm entry to EAP-MSCHAP-V2.
EAP-AKA	Sets the EAP method of the NAI Realm entry to EAP-AKA.
EAP-AKA-Prime	Sets the EAP method of the NAI Realm entry to EAP-AKA'.

Reserved	Sets the EAP method of the NAI Realm entry to Reserved.

Syntax Description

```
ruckus(config-hs20sp-nai-realm)# eap-method 1 eap-mthd EAP-TLS
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-hs20sp-nai-realm)#
```

eap-method auth-info

To set the Auth Info of the EAP method, use the following command:

```
eap-method <NUMBER> auth-info <NUMBER>
```

Syntax Description

auth-id	Sets the auth info ID of the auth info.
auth-id expanded-EAP-method	Sets the Auth Info of the EAP method to expanded-EAP-method.
auth-id expanded-EAP-method vndr-id <NUMBER>	Sets the vendor ID of the auth info.
auth-id expanded-EAP-method vndr-id <NUMBER> vndr-type <NUMBER>	Sets the vendor type of the auth info.
auth-id nonEAP-inner-auth	Sets the Auth Info of the EAP method to Non-EAP Inner Authentication Type.
auth-id nonEAP-inner-auth auth-type	Sets the auth info type of the auth info.
auth-id nonEAP-inner-auth auth-type Reserved	Sets the Non-EAP Inner Authentication Type to Reserved.
auth-id nonEAP-inner-auth auth-type PAP	Sets the Non-EAP Inner Authentication Type to PAP.
auth-id nonEAP-inner-auth auth-type CHAP	Sets the Non-EAP Inner Authentication Type to CHAP.
auth-id nonEAP-inner-auth auth-type MSCHAP	Sets the Non-EAP Inner Authentication Type to MSCHAP.

auth-id nonEAP-inner-auth auth-type MSCHAPV2	Sets the Non-EAP Inner Authentication Type to MSCHAPV2.
auth-id inner-auth-EAP-mthd	Sets the Auth Info of the EAP method to Inner Authentication EAP Method Type.
auth-id inner-auth-EAP-mthd auth-type	Sets the auth info type of the auth info.
auth-id inner-auth-EAP-mthd auth-type EAP-TLS	Sets the Inner Authentication EAP Method Type to EAP-TLS.
auth-id inner-auth-EAP-mthd auth-type EAP-SIM	Sets the Inner Authentication EAP Method Type to EAP-SIM.
auth-id inner-auth-EAP-mthd auth-type EAP-TTLS	Sets the Inner Authentication EAP Method Type to EAP-TTLS.
auth-id inner-auth-EAP-mthd auth-type EAP-AKA	Sets the Inner Authentication EAP Method Type to EAP-AKA.
auth-id inner-auth-EAP-mthd auth-type EAP-AKA-Prime	Sets the Inner Authentication EAP Method Type to EAP-AKA'.
auth-id exp-inner-EAP-mthd	Sets the Auth Info of the EAP method to expanded-inner-EAP-method.
auth-id exp-inner-EAP-mthd vndr-id <NUMBER>	Sets the vendor ID of the auth info.
auth-id exp-inner-EAP-mthd vndr-id <NUMBER> vndr-type <NUMBER>	Sets the vendor type of the auth info.
auth-id credential-type	Sets the Auth Info of the EAP method to Credential Type.
auth-id credential-type auth-type	Sets the auth info type of the auth info.
auth-id credential-type auth-type SIM	Sets the Credential Type to SIM.
auth-id credential-type auth-type USIM	Sets the Credential Type to USIM.
auth-id credential-type auth-type NFC-secure-elem	Sets the Credential Type to NFC Secure Element.
auth-id credential-type auth-type hardware-token	Sets the Credential Type to Hardware Token.

auth-id credential-type auth-type softoken	Sets the Credential Type to Softoken.
auth-id credential-type auth-type certificate	Sets the Credential Type to Certificate.
auth-id credential-type auth-type username-password	Sets the Credential Type to username/password.
auth-id credential-type auth-type none	Sets the Credential Type to none.
auth-id credential-type auth-type reserved	Sets the Credential Type to Reserved.
auth-id tunnel-EAP-mthd-crdn-type	Sets the Auth Info of the EAP method to Tunneled EAP Method Credential Type.
auth-id tunnel-EAP-mthd-crdn-type auth-type	Sets the auth info type of the auth info.
auth-id tunnel-EAP-mthd-crdn-type auth-type SIM	Sets the Tunneled EAP Method Credential Type to SIM.
auth-id tunnel-EAP-mthd-crdn-type auth-type USIM	Sets the Tunneled EAP Method Credential Type to USIM.
auth-id tunnel-EAP-mthd-crdn-type auth-type NFC-secure-elem	Sets the Tunneled EAP Method Credential Type to NFC Secure Element.
auth-id tunnel-EAP-mthd-crdn-type auth-type hardware-token	Sets the Tunneled EAP Method Credential Type to Hardware Token.
auth-id tunnel-EAP-mthd-crdn-type auth-type softoken	Sets the Tunneled EAP Method Credential Type to Softoken.
auth-id tunnel-EAP-mthd-crdn-type auth-type certificate	Sets the Tunneled EAP Method Credential Type to Certificate.
auth-id tunnel-EAP-mthd-crdn-type auth-type username-password	Sets the Tunneled EAP Method Credential Type to username/password.
auth-id tunnel-EAP-mthd-crdn-type auth-type reserved	Sets the Tunneled EAP Method Credential Type to Reserved.
auth-id tunnel-EAP-mthd-crdn-type auth-type anonymous	Sets the Tunneled EAP Method Credential Type to Anonymous.

no eap-method <NUMBER>	Sets the EAP method #X of the NAI Realm entry. (X:1~4)
no eap-method <NUMBER> auth-info <NUMBER>	Disable the Auth Info of the EAP method
show	Displays NAI Realm settings.

Configure Mesh Commands

Use the `mesh` commands to configure the controller's mesh networking settings. To run these commands, you must first enter the `config-mesh` context.

mesh

Use the `mesh` command to enter the config-mesh context and configure the mesh-related settings.

```
mesh
```

Syntax Description

`mesh`	Configure mesh settings

Defaults

none

Example

```
ruckus(config)# mesh
ruckus(config-mesh)#
```

abort

To exit the `config-mesh` context without saving changes, use the `abort` command.

end

To save changes, and then exit the `config-mesh` context, use the end command.

exit

To save changes, and then exit the `config-mesh` context, use the exit command.

quit

To exit the `config-mesh` context without saving changes, use the `quit` command.

show

To display the current mesh settings, use the following command:

```
show
```

Syntax Description

show	Display the current mesh settings

Defaults

None.

Example

```
ruckus(config-mesh)# show
Mesh Settings:
Mesh Status= Enabled
Mesh Name(ESSID)= Mesh-000000000311
Mesh Passphrase= GdxW5CUgNn_SEHOPyCSxv_chHSca MH-OpnRGfX sRvwXBJL-
wUsD64eK8CMEZfm
Mesh Hop Detection:
Status= Disabled
Mesh Downlinks Detection:
Status= Disabled
Tx. Rate of Management Frame=2Mbps
Beacon Interval= 200ms
ruckus(config-mesh)#
```

ssid

To set the SSID of the mesh network, use the following command:

```
ssid <WORD/SSID>
```

Syntax Description

ssid	Set the SSID of the mesh network
<WORD/SSID>	Set to this SSID

Defaults

None.

Example

```
ruckus(config-mesh)# ssid rks_mesh
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

passphrase

To set the passphrase that allows access to the mesh network, use the following command:

```
passphrase <WORD>
```

Syntax Description

passphrase	Set the passphrase that allows access to the mesh network
<WORD>	Set to this passphrase

Defaults

None.

Example

```
ruckus(config-mesh)# passphrase test123456
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

hops-warn-threshold

To enable and configure the mesh hop threshold, use the following command:

```
hops-warn-threshold <NUMBER>
```

Syntax Description

hops-warn-threshold	Set the mesh hop threshold (max hops)
<NUMBER>	Set to this threshold value

Defaults

5

Example

```
ruckus(config-mesh)# hops-warn-threshold 6
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no detect-hops

To disable the mesh hop threshold, use the following command:

```
no detect-hops
```

Syntax Description

no detect-hops	Disable the mesh hop threshold

Defaults

None.

Example

```
ruckus(config-mesh)# no detect-hops
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

fan-out-threshold

To enable and configure the mesh downlink threshold, use the following command:

```
fan-out-threshold <NUMBER>
```

Syntax Description

fan-out-threshold	Set the mesh downlink threshold (max downlinks)
<NUMBER>	Set to this threshold value

Defaults

5

Example

```
ruckus(config-mesh)# fan-out-threshold 8
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no detect-fanout

To disable the mesh downlink threshold, use the following command:

```
no detect-fanout
```

Syntax Description

no detect-fanout	Disable the mesh downlink threshold

Example

```
ruckus(config-mesh)# no detect-fanout
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

beacon-interval

To set the beacon interval for mesh links, use the following command:

```
beacon-interval <NUMBER>
```

Syntax Description

beacon-interval	Set the beacon interval for mesh links
<NUMBER>	Enter the beacon interval (100~1000 TUs)

Defaults

200

Example

```
ruckus(config-mesh)# beacon-interval 200
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-mesh)#
```

mgmt-tx-rate

To set the transmit rate for management frames, use the following command:

```
mgmt-tx-rate <RATE>
```

Syntax Description

mgmt-tx-rate	Set the max transmit rate for management frames
<RATE>	Set the transmit rate (in Mbps).

Defaults

2

Example

```
ruckus(config-mesh)# mgmt-tx-rate 2
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-mesh)#
```

mesh-uplink-selection static

Sets static on mesh uplinks, the default is static.

```
mesh-uplink selection static
```

Syntax Description

mesh-uplink-selection	Set the mesh uplink selection method.
static	Set mesh uplink selection to static.

Defaults

Static

Example

```
ruckus(config-mesh)# mesh-uplink-selection static
Nothing changed
ruckus(config-mesh)#
```

mesh-uplink-selection dynamic

Sets dynamic on mesh uplinks.

```
mesh-uplink selection dynamic
```

Syntax Description

mesh-uplink-selection	Set the mesh uplink selection method.
dynamic	Set mesh uplink selection to dynamic.

Defaults

Static

Example

```
ruckus(config-mesh)# mesh-uplink-selection dynamic
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

```
ruckus(config-mesh)#
```

Configure Alarm Commands

Use the `alarm` commands to configure the controller's alarm notification settings. To run these commands, you must first enter the `config-alarm` context.

alarm

To enter the `config-alarm` context, use the following command.

```
alarm
```

Example

```
ruckus(config)# alarm
ruckus(config-alarm)#
```

no alarm

To disable alarm settings, use the following command:

```
no alarm
```

Example

```
ruckus(config)# no alarm
The Alarm settings have been updated.
ruckus(config)#
```

abort

To exit the `config-alarm` context without saving changes, use the `abort` command.

```
abort
```

Syntax Description

abort	Exit the alarm settings without saving changes

Defaults

None.

Example

```
ruckus(config-alarm)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the `config-alarm` context, use the following command:

```
end
```

Syntax Description

end	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-alarm)# end
The Alarm settings have been updated.
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-alarm` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Defaults

None.

Example

```
ruckus(config-alarm)# exit
The Alarm settings have been updated.
Your changes have been saved.
```

quit

To exit the `config-alarm` context without saving changes, use the `quit` command.

```
quit
```

Syntax Description

quit	Exit the alarm settings without saving changes

Defaults

None.

Example

```
ruckus(config-alarm)# quit
No changes have been saved.
ruckus(config)#
```

show

To display the current alarm settings, use the following command:

```
show
```

Syntax Description

show	Display the current alarm settings

Defaults

None.

Example

```
ruckus(config)# alarm
ruckus(config-alarm)# show
Alarm:
  Status= Enabled
  Email Address= johndoe@gmail.com
  E-mail From = zonedirector@ruckuswireless.com
  SMTP Server Name= smtp.gmail.com
  SMTP Server Port= 587
  SMTP Authentication Username= johndoe@gmail.com
  SMTP Authentication Password= ***********
  wait time=
  SMTP Encryption Options:
    TLS= Enabled
    STARTTLS= Enabled

ruckus(config-alarm)#
```

e-mail

To set the email address to which alarm notifications will be sent, use the following command:

```
e-mail <WORD>
```

Syntax Description

e-mail	Set the email address to which alarm notifications will be sent
<WORD>	Send alarm notifications to this email address

Defaults

None.

Example

```
ruckus(config-alarm)# e-mail joe@163.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

from

To set the sender from address for email alarms, use the following command:

```
from <WORD>
```

Syntax Description

from	Set the email address from which alarm notifications will be sent
<WORD>	Send alarm notifications from this email address

Defaults

None.

Example

```
ruckus(config-alarm)# from zonedirector@zonedirector.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-alarm)#
```

smtp-server-name

To set the SMTP server that ZoneDirector uses to send alarm notifications, use the following command:

```
smtp-server-name <WORD>
```

Syntax Description

smtp-server-name	Set the SMTP server that ZoneDirector uses to send alarm notifications
<WORD>	Set to this SMTP server name

Defaults

None.

Example

```
ruckus(config-alarm)# smtp-server-name smtp.163.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

smtp-server-port

To set the SMTP server port that ZoneDirector uses to send alarm notifications, use the following command:

```
smtp-server-port <NUMBER>
```

Syntax Description

smtp-server-port	Set the SMTP server port that ZoneDirector uses to send alarm notifications
<NUMBER>	Set to this SMTP server port

Defaults

587

Example

```
ruckus(config-alarm)# smtp-server-port 25
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

smtp-auth-name

To set the user name that ZoneDirector uses to authenticate with the SMTP server,use the following command:

```
smtp_auth_name <WORD>
```

Syntax Description

smtp_auth_name	Set the user name that ZoneDirector uses to authenticate with the SMTP server
<WORD>	Set to this user name

Defaults

None.

Example

```
ruckus(config-alarm)# smtp-auth-name joe
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

smtp-auth-password

To set the password that ZoneDirector uses to authenticate with the SMTP server,use the following command:

```
smtp-auth-password <WORD>
```

Syntax Description

smtp-auth-password	Set the password that ZoneDirector uses to authenticate with the SMTP server
<WORD>	Set to this password

Defaults

None.

Example

```
ruckus(config-alarm)# smtp-auth-password 123456
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

smtp-wait-time

To set the SMTP server wait time (in seconds), use following command:

```
smtp-wait-time <NUMBER>
```

Example

```
ruckus(config-alarm)# smtp-wait-time 10
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-alarm)#
```

tls-smtp-encryption

To enable TLS for SMTP encryption of alarm notifications, use the following command:

```
tls-smtp-encryption [tls|starttls]
```

Syntax Description

tls-smtp-encryption	Enable SMTP encryption of alarm notifications
tls	Enable TLS encryption for alarm notifications
starttls	Enable STARTTLS encryption for alarm notifications

Defaults

None.

Example

```
ruckus(config-alarm)# tls-smtp-encryption tls
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

no tls-smtp-encryption

To disable TLS for SMTP encryption of alarm notifications, use the following command:

```
no tls-smtp-encryption [tls | starttls]
```

Syntax Description

no tls-smtp-encryption	Disable SMTP encryption of alarm notifications
tls	Disable TLS encryption
starttls	Disable STARTTLS encryption

Defaults

None.

Example

```
ruckus(config-alarm)# no tls-smtp-encryption tls
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

Configure Alarm-Event Settings

Use the alarm-event commands to configure which events will trigger ZoneDirector email alerts. Entering this command enters the `config-alarm-event` context.

alarm-event

To enter the config-alarm-event context and configure email alarm notifications for specific event types, use the following command:

```
alarm-event
```

event

To enable email alarm notifications for a specific alarm event, use the following command:

```
event <WORD>
```

Syntax Description

event all	Enable email alarms for all event types
rogue-ap-detected	Enable email notification when Rogue AP detected

rogue-device-detected	Enable email notification when Ad hoc network detected
ap-lost-contacted	AP lost contact
ssid-spoofing-ap-detected	SSID spoofing AP detected
mac-spoofing-ap-detected	MAC spoofing AP detected
user-blocked-ap-detected	User blocked AP detected
rogue-dhcp-server-detected	Rogue DHCP server detected
temporary-license-expired	Temporary license has expired
temporary-license-will-expire	Temporary license will expire
lan-rogue-ap-detected	LAN Rogue AP detected
aaa-server-unreachable	AAA server unreachable
ap-has-hardware-problem	AP hardware problem detected
uplink-ap-lost	Mesh AP uplink connection lost
incomplete-primary/secondary-ip-settings	AP fails to maintain primary/secondary ZD IP address settings
smart-redundancy-state-changed	Smart Redundancy device status change detected
smart-redundancy-active-connected	Smart Redundancy device active device connected
smart-redundancy-standby-connected	Smart Redundancy standby device connected
smart-redundancy-active-disconnected	Smart Redundancy active device disconnected
smart-redundancy-standby-disconnected	Smart Redundancy standby device disconnected
entitlement-download-fail	Failure to download the Support Entitlement file from the Ruckus Entitlement server
test-alarm ap-lose-connection	Test AP connection lost alarm event
show	Show alarm settings

Defaults

All enabled

Example

```
ruckus(config)# alarm-event
ruckus(config-alarm-event)# event all
ruckus(config-alarm-event)# show
Alarm Events Notify By Email:
  MSG_rogue_AP_detected=                          enabled
  MSG_ad_hoc_network_detected=                    enabled
  MSG_AP_lost=                                    enabled
  MSG_SSID_spoofing_AP_detected=                  enabled
  MSG_MAC_spoofing_AP_detected=                   enabled
  MSG_admin_rogue_dhcp_server=                    enabled
  MSG_admin_templic_expired=                      enabled
  MSG_admin_templic_oneday=                       enabled
  MSG_same_network_spoofing_AP_detected=          enabled
  MSG_RADIUS_service_outage=                      enabled
  MSG_AP_hardware_problem=                        enabled
  MSG_AP_no_mesh_uplink=                          enabled
  MSG_AP_keep_no_AC_cfg=                          enabled
  MSG_cltr_change_to_active=                      enabled
  MSG_cltr_active_connected=                      enabled
  MSG_cltr_standby_connected=                     enabled
  MSG_cltr_active_disconnected=                   enabled
  MSG_cltr_standby_disconnected=                  enabled
  MSG_user_blocked_AP_detected=                   enabled
  MSG_Entitlement_file_download_fail=             enabled

ruckus(config-alarm-event)#
```

no event

To disable email alarm notifications for specific event types, use the following command:

```
no event <event_name>
```

Syntax Description

no event	Disable email alarms for this event type

all	Disable email alarms for all event types
rogue-ap-detected	Rogue AP detected
rogue-device-detectedq	Ad hoc network detected
ap-lost-contacted	AP lost contact
ssid-spoofing-ap-detected	SSID spoofing AP detected
mac-spoofing-ap-detected	MAC spoofing AP detected
user-blocked-ap-detected	User blocked AP detected
rogue-dhcp-server-detected	Rogue DHCP server detected
temporary-license-expired	Temporary license has expired
temporary-license-will-expire	Temporary license will expire
lan-rogue-ap-detected	LAN Rogue AP detected
aaa-server-unreachable	AAA server unreachable
ap-has-hardware-problem	AP hardware problem detected
uplink-ap-lost	Mesh AP uplink connection lost
incomplete-primary/secondary-ip-settings	AP fails to maintain primary/secondary ZD IP address settings
smart-redundancy-state-changed	Smart Redundancy device status change detected
smart-redundancy-active-connected	Smart Redundancy device active device connected
smart-redundancy-standby-connected	Smart Redundancy standby device connected
smart-redundancy-active-disconnected	Smart Redundancy active device disconnected
smart-redundancy-standby-disconnected	Smart Redundancy standby device disconnected
entitlement-download-fail	Failure to download the Support Entitlement file from the Ruckus Entitlement server

Example

```
ruckus(config-alarm-event)# no event aaa-server-unreachable
ruckus(config-alarm-event)# show
Alarm Events Notify By Email:
```

```
  MSG_rogue_AP_detected=                          enabled
  MSG_ad_hoc_network_detected=                    enabled
  MSG_AP_lost=                                    enabled
  MSG_SSID_spoofing_AP_detected=                  enabled
  MSG_MAC_spoofing_AP_detected=                   enabled
  MSG_admin_rogue_dhcp_server=                    enabled
  MSG_admin_templic_expired=                      enabled
  MSG_admin_templic_oneday=                       enabled
  MSG_same_network_spoofing_AP_detected=          enabled
  MSG_RADIUS_service_outage=                      disabled
  MSG_AP_hardware_problem=                        enabled
  MSG_AP_no_mesh_uplink=                          enabled
  MSG_AP_keep_no_AC_cfg=                          enabled
  MSG_cltr_change_to_active=                      enabled
  MSG_cltr_active_connected=                      enabled
  MSG_cltr_standby_connected=                     enabled
  MSG_cltr_active_disconnected=                   enabled
  MSG_cltr_standby_disconnected=                  enabled
  MSG_user_blocked_AP_detected=                   enabled
  MSG_Entitlement_file_download_fail=             enabled

ruckus(config-alarm-event)#
```

Configure Services Commands

Use the `services` commands to configure miscellaneous service settings, such as automatic power and channel selection settings, ChannelFly, background scanning, rogue AP and rogue DHCP server detection, etc. To run these commands, you must first enter the `config-services` context.

abort

To exit the `config-services` context without saving changes, use the `abort` command.

```
abort
```

Syntax Description

abort	Exit the service settings without saving changes

Example

```
ruckus(config-services)# abort
No changes have been saved.
ruckus(config)#
```

end

To save changes, and then exit the `config-services` context, use the following command:

```
end
```

Syntax Description

end	Save changes, and then exit the context

Example

```
ruckus(config-services)# end
Your changes have been saved.
ruckus(config)#
```

exit

To save changes, and then exit the `config-services` context, use the following command:

```
exit
```

Syntax Description

exit	Save changes, and then exit the context

Example

```
ruckus(config-services)# exit
Your changes have been saved.
ruckus(config)#
```

quit

To exit the `config-services` context without saving changes, use the `quit` command.

```
quit
```

Syntax Description

quit	Exit the service settings without saving changes

Example

```
ruckus(config-services)# quit
No changes have been saved.
ruckus(config)#
```

auto-adjust-ap-power

To enable the auto adjustment of theAP radio power, which helps optimize radio coverage when radio interference is present, use the following command:

```
auto-adjust-ap-power
```

Syntax Description

auto-adjust-ap-power	Enable the auto adjustment of theAP radio power

Defaults

Disabled.

Example

```
ruckus(config-services)# auto-adjust-ap-power
The command was executed successfully.
```

no auto-adjust-ap-power

To disable the auto adjustment of theAP radio power, which helps optimize radio coverage when radio interference is present, use the following command:

```
no auto-adjust-ap-power
```

Syntax Description

no auto-adjust-ap-power	Disable the auto adjustment of the AP radio power

Defaults

Disabled.

Example

```
ruckus(config-services)# no auto-adjust-ap-power
The command was executed successfully.
```

auto-adjust-ap-channel

To enable the auto adjustment of theAP radio channel when radio interference is present, use the following command:

```
auto-adjust-ap-channel
```

Syntax Description

auto-adjust-ap-channel	Enable the auto adjustment of theAP radio channel

Defaults

None.

Example

```
ruckus(config-services)# auto-adjust-ap-channel
The command was executed successfully.
```

no auto-adjust-ap-channel

To disable the auto adjustment of theAP radio channel when radio interference is present, use the following command:

```
no auto-adjust-ap-channel
```

Syntax Description

no auto-adjust-ap-channel	Disable the auto adjustment of theAP radio channel

Defaults

None.

Example

```
ruckus(config-services)# no auto-adjust-ap-channel
The command was executed successfully.
```

raps

To enable the Radar Avoidance Pre-Scanning (RAPS) feature on supported access points (SC-8800-S, 7782, 7781, etc.), use the following command:

```
raps
```

no raps

To disable the Radar Avoidance Pre-Scanning (RAPS) feature on supported access points (SC-8800-S, 7782, 7781, etc.), use the following command:

```
no raps
```

channelfly

To enable ChannelFly channel management, use the following command:

```
channelfly [radio-2.4-mtbc | radio-5-mtbc] <NUMBER>
```

Syntax Description

channelfly	Enable ChannelFly automatic adjustment of theAP radio channel

radio-2.4	Enable ChannelFly on the 2.4 GHz radio
radio-5	Enable ChannelFly on the 5 GHz radio
mtbc	Set the mean time between channel changes
<NUMBER>	Number in minutes (1~1440) to set as mean time between channel change

Defaults

Enabled for both 2.4 and 5 GHz radios

MTBC: 100

Example

```
ruckus(config-services)# channelfly radio-2.4 100
The command was executed successfully.
ruckus(config-services)#
```

Example

```
ruckus(config-services)# channelfly radio-2.4-mtbc 100
The command was executed successfully.
ruckus(config-services)#
```

no channelfly

To disable ChannelFly channel management, use the following command:

```
no channelfly [radio-2.4 | radio-5]
```

Syntax Description

no channelfly	Disable ChannelFly automatic adjustment of theAP radio channel
radio-2.4	Disable ChannelFly on the 2.4 GHz radio
radio-5	Disable ChannelFly on the 5 GHz radio

Defaults

None.

Example

```
ruckus(config-services)# no channelfly radio-2.4
The command was executed successfully.
ruckus(config-services)# no channelfly radio-5
The command was executed successfully.
ruckus(config-services)#
```

background-scan

To enable background scanning and configure the scan interval, use the following command:

```
background-scan [radio-2.4-interval | radio-5-interval]
<NUMBER>
```

Syntax Description

background-scan	Enable background scanning and configure the scan interval
radio-2.4-interval	Configure background scanning interval for the 2.4 GHz radio
radio-5-interval	Configure background scanning interval for theGHz radio
<NUMBER>	Perform background scan at this interval (in seconds)

Defaults

20 seconds

Example

```
ruckus(config-services)# background-scan radio-2.4-interval 6
The command was executed successfully.
```

no background-scan

To disable background scanning on the 2.4GHz radio, use the following command:

```
no background-scan [radio-2.4|radio-5]
```

Syntax Description

no background-scan	Disable background scanning
radio-2.4	Disable background scanning on the 2.4GHz radio
radio-5	Disable background scanning on the 5GHz radio

Defaults

None

Example

```
ruckus(config-services)# no background-scan radio-2.4
The command was executed successfully.
ruckus(config-services)# no background-scan radio-5
The command was executed successfully.
```

aeroscout-detection

To enable detection of AeroScout RFID Tags by APs that are managed by Zone-Direrton, use the following command:

```
aeroscout-detection
```

Syntax Description

aeroscout-detection	Enable detection of AeroScout RFID Tags by APs

Defaults

Disabled

Example

```
ruckus(config-services)# aeroscout-detection
The command was executed successfully.
```

no aeroscout-detection

To disable detection of AeroScout RFID Tags by APs that are managed by ZoneDirertor, use the following command:

```
no aeroscout-detection
```

Syntax Description

no aeroscout-detection	Disable detection of AeroScout RFID Tags by APs

Defaults

Disabled

Example

```
ruckus(config-services)# no aeroscout-detection
The command was executed successfully.
```

ekahau

To enable and set Ekahau Blink support with ERC IP and port, use the following command:

```
ekahau <ERC IP> <ERC Port>
```

Defaults

Disabled

Example

```
ruckus(config-services)# ekahau 10.10.10.1 500
The command was executed successfully.
ruckus(config-services)# show
Services:
  Automatically adjust ap radio power= Disabled
  Automatically adjust ap channel= Enabled
  Channelfly works on 2.4GHz radio:
    Status= Disabled
```

```
  Channelfly works on 5GHz radio:
    Status= Disabled
  Run a background scan on 2.4GHz radio:
    Status= Enabled
    Time= 2000 seconds
  Run a background scan on 5GHz radio:
    Status= Enabled
    Time= 2000 seconds
  AeroScout RFID tag detection= Disabled
  Tunnel encryption for tunneled traffic= Disabled
  Block multicast traffic from network to tunnel= Block non well-
known
  Block broadcast traffic from network to tunnel except ARP and
DHCP= Disabled
  Tunnel Proxy ARP of tunnel WLAN:
    status= Disabled
    ageing time= 0
  Packet Inspection Filter(PIF) uplink process= Disabled
  Packet Inspection Filter(PIF) rate limit:
    status= Disabled
  RAPS= Enabled
  EKHAU settings:
    status= Enabled
    ERC IP= 10.10.10.1
    ERC port= 500
ruckus(config-services)#
```

no ekahau

To disable Ekahau Blink support, use the following command:

```
no ekahau
```

Defaults

Disabled

Example

```
ruckus(config-services)# no ekahau
```

```
The command was executed successfully.
ruckus(config-services)#
```

tun-encrypt

To enable tunnel encryption for tunneled traffic, use the following command:

```
tun-encrypt
```

Defaults

Disabled

Example

```
ruckus(config-services)# tun-encrypt
The command was executed successfully.
```

no tun-encrypt

To disable tunnel encryption for tunneled traffic, use the following command:

```
no tun-encrypt
```

Defaults

Disabled

Example

```
ruckus(config-services)# no tun-encrypt
The command was executed successfully.
```

tun-block-mcast all

To enable multicast blocking for tunneled traffic, use the following command:

```
tun-block-mcast all
```

Defaults

Disabled

Example

```
ruckus(config-services)# tun-block-mcast all
The command was executed successfully.
ruckus(config-services)#
```

tun-block-mcast non-well-known

To enable multicast blocking for non-well-known tunneled traffic, use the following command:

```
tun-block-mcast non-well-known
```

Defaults

Disabled

Example

```
ruckus(config-services)# tun-block-mcast non-well-known
The command was executed successfully.
ruckus(config-services)#
```

no tun-block-mcast

To disable blocking multicast traffic from network to tunnel, use the following command:

```
no tun-block-mcast
```

tun-block-bcast

To enable broadcast blocking for tunneled traffic, use the following command:

```
tun-block-bcast
```

Defaults

Disabled

Example

```
ruckus(config-services)# tun-block-bcast
The command was executed successfully.
ruckus(config-services)#
```

no tun-block-bcast

To disables blocking broadcast traffic from network to tunnel except ARP and DHCP, use the following command:

```
no tun-block-bcast
```

tun-proxy-arp

To enable proxy ARP service for tunneled traffic, use the following command:

```
tun-proxy-arp <NUMBER>
```

Defaults

Disabled

Example

```
ruckus(config-services)# tun-proxy-arp 1000
The command was executed successfully.
ruckus(config-services)#
```

no tun-proxy-arp

To disable Proxy ARP for the tunneled WLAN, use the following command:

```
no tun-proxy-arp
```

tun-ip-ageing

To set ageing time for IP/IPv6 table, use the following command:

```
tun-ip-ageing <NUMBER>
```

pif

To enable Packet Inspection Filter and set rate limiting threshold, use the following command:

```
pif [uplink-proc | rate-limit <NUMBER>]
```

Syntax Description

pif	Enable Packet Inspection Filter
uplink-proc	Enable uplink process of Packet Inspection Filter

rate-limit	Enable and set Broadcast Neighbor Discovery Packets (ARP and ICMPv6 Neighbor Solicit) rate limit threshold.
<NUMBER>	Rate limiting threshold for PIF feature.

Example

```
ruckus(config-services)# pif uplink-proc
The command was executed successfully.
ruckus(config-services)# pif rate-limit 1000
The command was executed successfully.
ruckus(config-services)# show
Services:
  Automatically adjust ap radio power= Disabled
  Automatically adjust ap channel= Enabled
  Channelfly works on 2.4GHz radio:
    Status= Disabled
  Channelfly works on 5GHz radio:
    Status= Disabled
  Run a background scan on 2.4GHz radio:
    Status= Enabled
    Time= 20 seconds
  Run a background scan on 5GHz radio:
    Status= Enabled
    Time= 20 seconds
  AeroScout RFID tag detection= Disabled
  Tunnel encryption for tunneled traffic= Enabled
  Block multicast traffic from network to tunnel= Disabled
  Block broadcast traffic from network to tunnel except ARP and
DHCP= Disabled
  Tunnel Proxy ARP of tunnel WLAN:
    status= Disabled
  Packet Inspection Filter(PIF) uplink process= Enabled
  Packet Inspection Filter(PIF) rate limit:
    status= Enabled
    rate limit= 1000
ruckus(config-services)#
```

no pif

To disable uplink process of packet inspection filter or disables Broadcast Neighbor Discovery Packets (ARP and ICMPv6 Neighbor Solicit), use the following command:

```
no pif [uplink-proc | rate-limit]
```

Example

```
ruckus(config-services)# no pif uplink-proc
The command was executed successfully.
ruckus(config-services)# no pif rate-limit
The command was executed successfully.
ruckus(config-services)#
```

show

To display the current service settings, use the following command:

```
show
```

Syntax Description

show	Display the current service settings

Defaults

None.

Example

```
ruckus(config-services)# show
Services:
  Automatically adjust ap radio power= Disabled
  Automatically adjust ap channel= Enabled
  Channelfly works on 2.4GHz radio:
    Status= Disabled
  Channelfly works on 5GHz radio:
    Status= Disabled
  Run a background scan on 2.4GHz radio:
    Status= Enabled
    Time= 2000 seconds
  Run a background scan on 5GHz radio:
```

```
    Status= Enabled
    Time= 2000 seconds
  AeroScout RFID tag detection= Disabled
  Tunnel encryption for tunneled traffic= Disabled
  Block multicast traffic from network to tunnel= Block non well-
known
  Block broadcast traffic from network to tunnel except ARP and
DHCP= Disabled
  Tunnel Proxy ARP of tunnel WLAN:
    status= Disabled
    ageing time= 0
  Packet Inspection Filter(PIF) uplink process= Disabled
  Packet Inspection Filter(PIF) rate limit:
    status= Disabled
ruckus(config-services)#
```

Configure WIPS Commands

Use the `wips` commands to configure Wireless Intrusion Prevention settings. To run these commands, you must first enter the `config-wips` context.

wips

Use the following command to enter the config-wips context and configure WIPS settings:

```
wips
```

Syntax Description

help	Shows available commands
history	Shows a list of previously run commands
end	Saves changes, and the exits the config-wips context
exit	Saves changes, and the exits the config-wips context
no <WORD>	Disable WIPS services

protect-excessive-wireless-request	Enables protecting the wireless network against excessive wireless requests
temp-block-auth-failed-client time <NUMBER>	Temporarily block wireless clients with repeated authentication failures for the specified time (in seconds)
rogue-report <[all] | [malicious <ssid-spoofing | same-network | user-blocked | mac-spoofing]>	Enables report rogue devices in ZD event log. all: Report all rogue devices. malicious [ssid-spoofing] [same-network] [user-blocked] [mac-spoofing]: Report particular malicious type.
malicious-report	Enables protecting the network from malicious rogue access points
rogue-dhcp-detection	Enables rogue DHCP server detection
show	Displays the WIPS settings

Example

```
ruckus(config)# wips
ruckus(config-wips)# show
  Protect my wireless network against excessive wireless requests=
Disabled
  Temporarily block wireless clients with repeated authentication
failures:
    Status= Enabled
    Time= 30 seconds
  Report rogue devices in ZD event log= Enabled
  Protect the network from malicious rogue access points= Disabled
  Rogue DHCP server detection= Enabled
ruckus(config-wips)# temp-block-auth-failed-client time 30
The command was executed successfully.
ruckus(config-wips)# rogue-report all
The command was executed successfully.
ruckus(config-wips)# rogue-report malicious same-network
The command was executed successfully.
ruckus(config-wips)# rogue-dhcp-detection
The command was executed successfully.
ruckus(config-wips)# no rogue-dhcp-detection
The command was executed successfully.
```

```
ruckus(config-wips)# no rogue-report
The command was executed successfully.
ruckus(config-wips)# show
  Protect my wireless network against excessive wireless requests=
Disabled
  Temporarily block wireless clients with repeated authentication
failures:
    Status= Enabled
    Time= 30 seconds
  Report rogue devices in ZD event log= Disabled
  Protect the network from malicious rogue access points= Disabled
  Rogue DHCP server detection= Disabled
ruckus(config-wips)#
```

Configure Email Server Commands

Use the `email-server` commands to configure email server settings. To run these commands, you must first enter the `config-email-server` context.

email-server

Use the following command to enter the config-email-server context and configure email server settings:

```
email-server
```

Syntax Description

help	Shows available commands.
history	Shows a list of previously run commands.
abort	Exits the config-sms-server context without saving changes.
end	Saves changes, and the exits the config-sms-server context.
exit	Saves changes, and the exits the config-sms-server context.
quit	Exits the config-sms-server context without saving changes.

enable	Enables the E-Mail server.
from <WORD>	Sets the E-Mail from for email server.
smtp-server-name <WORD>	Sets the smtp server name for email server.
smtp-server-port <NUMBER>	Sets the smtp server port for email server.
smtp-auth-name <WORD>	Sets the smtp authentication user name for email server.
smtp-auth-password <WORD>	Sets the smtp authentication password for email server.
smtp-wait-time	Sets the smtp server wait time (in seconds).
tls-smtp-encryption tls	Enables TLS of smtp encryption for email server.
tls-smtp-encryption starttls	Enables starttls in the TLS of smtp encryption for email server.
no enable	Disables the email server setting.
no tls-smtp-encryption tls	Disables TLS of smtp encryption for email server.
no tls-smtp-encryption starttls	Disables starttls in the TLS of smtp encryption for email server.
show	Shows email server settings.

Example

```
ruckus(config)# email-server
ruckus(config-email-server)# enable
ruckus(config-email-server)# from example@example.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-email-server)# smtp-server-name smtp.example.com
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-email-server)# smtp-server-port 587
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-email-server)# smtp-auth-name johndoe
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-email-server)# smtp-auth-password password
The command was executed successfully. To save the changes, type
'end' or 'exit'.
```

```
ruckus(config-email-server)# tls-smtp-encryption tls
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-email-server)# tls-smtp-encryption starttls
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-email-server)# show
Email Server:
  Status= Enabled
  E-mail From = example@example.com
  SMTP Server Name= smtp.example.com
  SMTP Server Port= 587
  SMTP Authentication Username= johndoe
  SMTP Authentication Password= ********
  SMTP Encryption Options:
    TLS= Enabled
    STARTTLS= Enabled

ruckus(config-email-server)# end
The Email server settings have been updated.
Your changes have been saved.
ruckus(config)#
```

Configure SMS Server Commands

Use the `sms-server` commands to configure SMS server settings. To run these commands, you must first enter the `config-sms-server` context.

sms-server

Use the following command to enter the config-sms-server context and configure SMS server settings:

```
sms-server
```

Syntax Description

help	Shows available commands.
history	Shows a list of previously run commands.

abort	Exits the config-sms-server context without saving changes.
end	Saves changes, and the exits the config-sms-server context.
exit	Saves changes, and the exits the config-sms-server context.
quit	Exits the config-sms-server context without saving changes.
twilio	Configures SMS server settings for twilio. Enters ruckus(config-sms-server-twilio)#
clickatell	Configures SMS server settings for clickatell. Enters ruckus(config-sms-server-clickatell)#
account-sid <WORD>	Sets the account sid for twilio of sms server
auth-token <WORD>	Sets the auth token for twilio of sms server
from-phonenumber <WORD>	Sets the from phonenumber for twilio of sms server
user-name <WORD>	Sets the user name for clickatell of sms server
password <WORD>	Sets the password for clickatell of sms server
api-id <WORD>	Sets the api id for clickatell of sms server
show	Displays the SMS server settings.

Example

```
ruckus(config)# sms-server
ruckus(config-sms-server)# twilio
ruckus(config-sms-server-twilio)# account-sid example1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-sms-server-twilio)# auth-token token1
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-sms-server-twilio)# from-phonenumber
111222333444555
The command was executed successfully. To save the changes, type
'end' or 'exit'.
ruckus(config-sms-server-twilio)# end
The SMS server settings have been updated.
```

```
Your changes have been saved.
ruckus(config-sms-server)# show
SMS Server:
  Server Type= twilio
    Account SID= example1
    Auth Token= token1
    From PhoneNumber= 111222333444555

ruckus(config-sms-server)# end
The SMS server settings have been updated.
Your changes have been saved.
ruckus(config)#
```

no sms-server

To disable SMS server settings, use the following command:

```
no sms-server
```

Example

```
ruckus(config)# no sms-server
The SMS server settings have been updated.
ruckus(config)#
```

Configure mDNS (Bonjour) Commands

Use the following commands to configure mDNS (Bonjour Gateway) service.

mdnsproxy

Use the following command to enable mDNS proxy (Bonjour Gateway) service:

```
mdnsproxy [zd|ap]
```

no mdnsproxy

Use the following command to disable mDNS proxy (Bonjour Gateway) service:

```
no mdnsproxy [zd|ap]
```

mdnsproxyrule

Use the following command to create a new Bonjour Gateway rule or modify an existing rule, and enter the `config-mdnsproxyrule` context:

```
mdnsproxyrule <ID>
```

no mdnsproxyrule

Use the following command to delete a Bonjour Gateway rule:

```
no mdnsproxyrule <ID>
```

Configuring a Bonjour Policy

The following commands can be used from within the `config-bonjourpolicy` context to configure the Bonjour policy.

bonjour-policy

To create or edit a Bonjour policy, use the following command:

```
bonjour-policy <WORD>
```

Syntax Description

help	Shows available commands
history	Shows a list of previously run commands
no mdnsproxyrule	Delete mDNSproxy rule
mdnsproxyrule <ID>	Add/update mDNSproxy rules
note <NOTE>	Rule comments
end	Save the current rule and quit
exit	Save the current rule and quit
abort	Discard the current rule and quit
quit	Discard the current rule and quit

Example

```
ruckus(config)# bonjour-policy bonjour1
ruckus(config-bonjourpolicy)# note bonjourpolicy1
ruckus(config-bonjourpolicy)# end
```

```
Your changes have been saved.
ruckus(config)# show bonjour-policy
bonjour-policy:
  ID: 1
  Name: bonjour1
  Description: bonjourpolicy1
  rule:
ruckus(config)#
```

no bonjour-policy

To delete a Bonjour policy, use the following command:

```
no bonjour-policy <WORD>
```

Configuring mDNS Proxy Rules

The following commands can be used from within the `config-mdnsproxyrule` context to configure the Bonjour Gateway bridge service rule.

Syntax Description

help	Shows available commands
history	Shows a list of previously run commands
service <Service-Name>	Service name in ? list, or new bonjour rule
from-vlan <VLAN-From>	VLAN from
to-vlan <VLAN-to>	VLAN to
note <NOTE>	Rule comments
show	Show the current edited rule
end	Save the current rule and quit
abort	Discard the current rule and quit
quit	Discard the current rule and quit

Example

```
ruckus(config-bonjourpolicy)# mdnsproxyrule 1
```

```
ruckus(config-policyrule)# service AirDisk
ruckus(config-policyrule)# from-vlan 220
ruckus(config-policyrule)# to-vlan 1
ruckus(config-policyrule)# note "share printer to vlan1"
ruckus(config-policyrule)# end
ruckus(config-bonjourpolicy)# end
ruckus(config)# show bonjour-policy
bonjour-policy:
  ID: 1
  Name: bonjour1
  Description: bonjourpolicy1
  rule:
   1:
    mdnsservice: AirDisk
    from_vlan:  br0.220
    to_vlan:        br0
    Notes:       share printer to vlan1
ruckus(config)#
```

Using Debug Commands

4

In this chapter:

Debug Commands Overview

This section describes the commands that you can use to debug ZoneDirector and connected APs, and to configure debug log settings. From the privileged commands context, type **debug** to enter the debug context. To show a list of commands available from within the debug context, type help or ?.

General Debug Commands

The following section describes general debug commands can be executed from within the debug context.

help

Shows available commands.

list-all

List all available commands.

history

Shows a list of previously run commands.

quit

Exits the debug context.

fw_upgrade

To upgrade the controller's firmware, use the following command:

```
fw_upgrade <protocol>://<server ip|server name>/<path/
image name> [-f]
fw_upgrade OPTIONS
```

Syntax Description

`fw_upgrade`	Upgrade the controller's firmware
<protocol>	Protocol for image transfer (FTP, TFTP, HTTP, KERMIT)

<OPTIONS>	-p: protocol -s: server IP address or name -n: image name with path on the server -f: non-verbose mode -h: fw_upgrade help message

Defaults

None.

Example

```
ruckus# debug
ruckus(debug)# fw_upgrade ftp://<user>:<password>@<server ip>/
<image file>
```

restore

To restore the controller's configuration, use the following command:

```
restore [all|failover|policy]
```

restore all

To reestore everything, use the following command:

```
restore all <IP-ADDR> <FILE-NAME>
```

restore failover

To restore everything, except system name and IP address settings, use the following command:

```
restore failover <IP-ADDR> <FILE-NAME>
```

restore policy

To restore only WLAN settings, access control list, roles, and users, use the following command:

```
restore policy <IP-ADDR> <FILE-NAME>
```

delete-station

To deauthorize the station with the specified MAC address, use the following command.

```
delete-station <MAC>
```

Syntax Description

`delete-station`	Delete the station with the specified MAC address
<MAC>	The MAC address of the station that will be deleted

Defaults

None.

Example

```
ruckus# debug
ruckus(debug)# delete-station 00:10:77:01:00:01
The command was executed successfully.
```

restart-ap

To restart the device with the specified MAC address, use the `restart ap` command.

```
restart-ap <MAC>
```

Syntax Description

`restart-ap`	Restart the device with the specified MAC address
<MAC>	The MAC address of the device to be restarted

Defaults

None.

Example

```
ruckus# debug
```

```
ruckus(debug)# restart-ap 00:13:92:EA:43:01
The command was executed successfully.
```

wlaninfo

Configures and enables debugging of WLAN service settings. Enter wlaninfo without arguments to see all options.

```
wlaninfo <OPTIONS>
```

Syntax Description

wlaninfo	Enable logging of WLAN info
<OPTIONS>	Configure WLAN debug information options

Defaults

None.

Example

```
ruckus(debug)# wlaninfo -W -x
WLAN svc "Rhastah1" (id=1):
  WLAN ID = 0, ref_cnt = 7
  SSID = "Rhastah1" enabled
  Apply to 11a and 11g/b radios
 Closed system = No, Privacy = Enabled, ACL enabled Guest-WLAN = No
  WISPr-WLAN = No
  Access Policy = 0/0, Web Auth = No, grace period = 0 (0 means
disable), max clients = 100
  WMM = enabled priority = 0 uplink = DISABLE downlink = DISABLE
 Cipher = Clear Text Local bridging = Enabled, DHCP relay = Disabled,
vlan = 1, dvlan = Disabled, bgscan = Enabled
  Proxy ARP = Disabled (IE:Disabled)
  wep key index = 0, wep key len = 0
  PAP message authenticator = Enabled, EAP-Failure = Disabled
  Device Policy = 0, Precedence = 1
  Smart Roam = Disabled Roam-factor = 1
  Hotspot2.0--WLAN = No (id=0)
  Num of VAP deployed: 6
```

```
  VAP: 04:4f:aa:0c:b1:0c, number of stations = 0
  VAP: 04:4f:aa:0c:b1:08, number of stations = 0
  VAP: c0:c5:20:3b:91:fc, number of stations = 1
  VAP: c0:c5:20:3b:91:f8, number of stations = 0
  VAP: c4:10:8a:1f:d1:fc, number of stations = 1
  VAP: c4:10:8a:1f:d1:f8, number of stations = 0
ACL 1 (System): default=Allowed system-wide=yes
Auth Policy:
  Auth Algorithms:RSN/PSK  RSN/Dynamic PSK
  Auth Server Type: None
  WPA Verson: WPA2
  WPA Auth and Key Managment: WPA PSK
  WPA PSK Pass Phrase:password
  WPA PSK Prev Pass Phrase:
  WPA PSK Pass Phrase (Hex):
      31306173 68613130
  WPA PSK:
      6aa94bac df5346ac ecc7d38f a14a6dbf
      7ba6f6f8 df2a4943 b23c9655 ac4f33de
  WPA Prev PSK:
      00000000 00000000 00000000 00000000
      00000000 00000000 00000000 00000000
  GTK life time = 28800 seconds, GTK Life size = 2000 Kpkts
  GMK life time = 86400 seconds, Strict Rekey = No
  WPA Group Cipher Suites:0x00000010
    CCMP
  WPA Pairwise Cipher Suites:0x00000010
    CCMP
NASID Type:  = wlan-bssid
PMK Cache Time:  = 43200
PMK Cache for Reconnect:  = enabled
Roaming Acct-Inerim-Update:  = disabled
Called-Station-Id-type: 0
Classification: enabled
UDP Heuristic Classification: enabled
Directed Multicast: enabled
IGMP Snooping: enabled
MLD Snooping: disabled
ToS Classification: enabled
```

```
  Dot1p Classification: disabled
  Multicast Filter: disabled
  Directed Threshold: 5
  Priority: Voice:0   Video:2   Data:4   Background:6
  Force DHCP: disabled   Timeout:10

*** Total WLAN Entries: 1 ***
ruckus(debug)#
```

save_debug_info

Saves debug information.

```
save_debug_info <IP-ADDR> <FILE-NAME>
```

Syntax Description

save_debug_info	Save debug log file
<IP-ADDR>	The destination IP address
<FILE-NAME>	The destination file name

Defaults

None.

Example

```
ruckus(debug)# save_debug_info 192.168.11.26 log.log
Creating debug info file ...
Done
Sending debug info file to "log.log@192.168.11.26" ...
...
ruckus(debug)#
```

save-config

Upload the configuration file to the designated TFTP site.

```
save-config <IP-ADDR> <FILE-NAME>
```

Syntax Description

`save-config`	Upload the configuration file
`<IP-ADDR>`	The destination IP address
<FILE-NAME>	The destination file name

Defaults

None.

Example

```
ruckus(debug)# save-config 192.168.11.26 config.log
Creating backup config file
Done
Uploading backup config file
...
ruckus(debug)#
```

emfd-malloc-stats

Show uclibc malloc statistics.

Example

```
ruckus(debug)# emfd-malloc-stats
===== [pid=350] Sat Feb 15 15:58:42 2014
total bytes allocated             =    2691072
total bytes in use                =    2471920
total bytes freed                 =     219152
total allocated mmap space        =     311296
number of free chunks             =         18
number of fastbin blocks          =          0
space in freed fastbin blocks     =          0
bin[ 1]: chunk_num=     1, list_len=     1, alloc_bytes=     4152,
min_chunk[1]=      4152, max_chunk[1]=      4152
bin[ 3]: chunk_num=     3, list_len=     3, alloc_bytes=       72,
min_chunk[1]=        24, max_chunk[1]=        24
```

```
bin[ 4]: chunk_num=    1, list_len=    1, alloc_bytes=       32,
min_chunk[1]=        32, max_chunk[1]=        32
bin[ 5]: chunk_num=    4, list_len=    4, alloc_bytes=      160,
min_chunk[1]=        40, max_chunk[1]=        40
bin[ 6]: chunk_num=    1, list_len=    1, alloc_bytes=       48,
min_chunk[1]=        48, max_chunk[1]=        48
bin[10]: chunk_num=    1, list_len=    1, alloc_bytes=       80,
min_chunk[1]=        80, max_chunk[1]=        80
bin[14]: chunk_num=    1, list_len=    1, alloc_bytes=      112,
min_chunk[1]=       112, max_chunk[1]=       112
bin[45]: chunk_num=    1, list_len=    1, alloc_bytes=     2928,
min_chunk[1]=      2928, max_chunk[1]=      2928
bin[49]: chunk_num=    1, list_len=    1, alloc_bytes=     5168,
min_chunk[1]=      5168, max_chunk[1]=      5168
bin[51]: chunk_num=    2, list_len=    2, alloc_bytes=    14952,
min_chunk[1]=      7248, max_chunk[2]=      7704
bin[52]: chunk_num=    1, list_len=    1, alloc_bytes=     8208,
min_chunk[1]=      8208, max_chunk[1]=      8208
ruckus(debug)#
```

Show Commands

This section describes the show commands available within the debug context.

show ap

Displays a list of all approved devices.

```
show ap
```

Syntax Description

`show ap`	Display a list of all approved APs

Defaults

None.

Example

```
ruckus(debug)# show ap
```

```
AP:
  ID:
    1:
      MAC Address= 04:4f:aa:0d:b1:00
      Model= zf7962
      Approved= Yes
      Device Name= 7962-MAP
      ...
      ...
ruckus(debug)#
```

show station

Displays a list of all connected stations (or clients).

```
show station
```

Syntax Description

`show station`	Show all connected stations

Defaults

None.

Example

```
ruckus(debug)# show station
Clients List:
  Client:
    MAC Address= 6c:62:6d:1b:e3:00
    User Name=
    IP Address= 192.168.11.11
    IPv6 Address=
    Access Point= 04:4f:aa:0c:b1:00
    WLAN= Ruckus1
    Channel= 1
    Signal (dB)= 53

  Client:
```

```
      MAC Address= 00:22:fb:ad:1b:2e
      User Name=
      IP Address= 192.168.11.7
      IPv6 Address=
      Access Point= 04:4f:aa:0c:b1:00
      WLAN= Ruckus1
      Channel= 165
      Signal (dB)= 42

  ruckus(debug)#
```

show logs

Displays a list of debug log components.

```
show logs
```

Syntax Description

`show logs`	Display debug log components

Defaults

None.

Example

```
ruckus(debug)# show logs
Debug Logs:
  All= Enabled
  Sys-mgmt= Enabled
  Mesh= Enabled
  Web-auth= Enabled
  Rf-mgmt= Enabled
  Radius= Enabled
  Hotspot-srv= Enabled
  Aps= Enabled
  Net-mgmt= Enabled
```

```
  802.1x= Enabled
  Web-svr= Enabled
  802.11= Enabled
  Dvlan= Enabled
  Smart-redundancy= Enabled
  Debug logs of specified MAC address:
    Status= Disabled
ruckus(debug)#
```

show remote-troubleshooting

Shows remote-troubleshooting status.

```
show remote-troubleshooting
```

Syntax Description

`show remote-troubleshooting`	Display remote troubleshooting status

Defaults

None.

Example

ruckus(debug)# **`show remote-troubleshooting`**
Ruckus CA troubleshooting is stopped!
The server addr is: None

ruckus(debug)#

ps

Displays information about all processes that are running (ps -aux).

```
ps
```

Syntax Description

`ps`	Display a list of all running processes

Defaults

None.

Example

```
ruckus(debug)# ps
  PID PPID USER       VSZ STAT COMMAND
    1     0 ruckus    1200 S    init
    2     1 ruckus       0 SWN  [ksoftirqd/0]
    3     1 ruckus       0 SW   [watchdog/0]
    4     1 ruckus       0 SW<  [events/0]
    5     1 ruckus       0 SW<  [khelper]
    6     1 ruckus       0 SW<  [kthread]
    7     6 ruckus       0 SW<  [kblockd/0]
    8     6 ruckus       0 SW<  [khubd]
    9     6 ruckus       0 SW   [pdflush]
   10     6 ruckus       0 SW   [pdflush]
   12     6 ruckus       0 SW<  [aio/0]
   11     1 ruckus       0 SW   [kswapd0]
   13     1 ruckus       0 SW   [mtdblockd]
   14     6 ruckus       0 SW<  [scsi_eh_0]
   15     6 ruckus       0 SW<  [usb-storage]
   17     6 ruckus       0 SW<  [V54_bodygard/0]
   18     1 ruckus       0 SW   [pktgen/0]
   29     6 ruckus       0 SW<  [reiserfs/0]
  104     1 ruckus     956 S    /usr/sbin/in.tftpd -l -s /etc/
airespider-images
  110     1 ruckus     660 S    /bin/wd_feeder
  242     1 ruckus    2572 S    /bin/emf_repo_flashsync monitor 15
  243     1 ruckus     944 S    ttylogd
  246     1 ruckus       0 SW<  [uif-246]
  260     1 ruckus   14492 S    stamgr -d3 -t0
  266   260 ruckus   14492 S    stamgr -d3 -t0
  267   266 ruckus   14492 S <  stamgr -d3 -t0
  268   266 ruckus   14492 S    stamgr -d3 -t0
```

```
  269     1 ruckus    2268 S    apmgr
  277   269 ruckus    2268 S    apmgr
  278   277 ruckus    2268 S <  apmgr
  299     1 ruckus   19564 S    emfd
  316   299 ruckus   19564 S    emfd
  317   316 ruckus   19564 S    emfd
  318   316 ruckus   19564 S    emfd
  322     1 ruckus    1108 S    /usr/sbin/dropbear -e /bin/login.sh
-r /etc/air
  328     1 ruckus    1188 S    /bin/sh /bin/login.sh
  329     1 ruckus    1188 S    /bin/sh /bin/tacmon.sh
  331     1 ruckus     676 S    /bin/rhttpd
  332     1 ruckus    1140 S <  /bin/zapd
  333     1 ruckus    1100 S <  /bin/clusterD
  334   328 ruckus     856 S    /bin/login
  335   329 ruckus     680 S    /bin/tacmon -i 30 -r 15
  347     1 ruckus     808 S    /bin/tsyslogd -r -h -n --rotate=7
  368   277 ruckus    2268 S <  apmgr
  369   277 ruckus    2268 S <  apmgr
  572     1 ruckus    1184 S    /sbin/udhcpp -i br0 --pidfile=/var/
run/udhcpp.p
  580   316 ruckus   19564 S    emfd
  612   316 ruckus   19564 S    emfd
  616   316 ruckus   19564 S    emfd
  622   316 ruckus   19564 S    emfd
  624   299 ruckus    6132 S <  webs &
  625   316 ruckus   19564 S    emfd
  637   624 ruckus    6132 S    webs &
  638   637 ruckus    6132 S <  webs &
  639   637 ruckus    6132 S <  webs &
  640   637 ruckus    6132 S <  webs &
  641   637 ruckus    6132 S <  webs &
  642   637 ruckus    6132 S    webs &
  655   637 ruckus    6132 S <  webs &
  656   637 ruckus    6132 S <  webs &
20503   316 ruckus   19564 S    emfd
30679     1 ruckus    2672 S    /usr/sbin/vsftpd /etc/vsftpd2.conf
10220   322 ruckus    1184 S    /usr/sbin/dropbear -e /bin/login.sh
-r /etc/air
```

```
10221 10220 ruckus    1188 S    /bin/sh /bin/login.sh
10222 10221 ruckus     856 S    /bin/login
10223 10222 ruckus    7972 S    ruckus_cli2
10426 10223 ruckus    1188 S    sh -c /bin/ps -aux
10427 10426 ruckus    1188 R    /bin/ps -aux
ruckus(debug)#
```

Accessing a Remote AP CLI

The following command is used to access the command line interface of a connected AP and execute AP CLI commands from ZoneDirector. Configuration changes made through the AP CLI may be overwritten by ZoneDirector settings if the AP is restarted or reconnects to ZoneDirector.

remote_ap_cli

Use the remote_ap_cli command to access an AP remotely and execute AP CLI commands.

```
remote_ap_cli [-q] {-a ap_mac | -A } "cmd arg1 arg2 .."
```

Syntax Description

`remote_ap_cli`	Execute CLI commands in a remote AP
`-q`	Do not display results
-a	Specify AP by MAC address
ap_mac	The AP's MAC address
-A	All connected APs
cmd	AP CLI command
arg	AP CLI command argument

Example

```
ruckus(debug)# remote_ap_cli -A "get director"
---- Command 'rkscli -c "get director "' executed at
c0:c5:20:3b:91:f0
------ ZoneDirector Info ------
```

```
Primary Controller   : n/a
Secondary Controller : n/a
DHCP Opt43 Code      : 3

The information of the most recent Zone Director:
  [1] 192.168.40.100

  AP is under management of ZoneDirector: 192.168.40.100 /
c0:c5:20:18:97:c1,
  Currently AP is in state: RUN
OK
---- Command 'rkscli -c "get director "' executed at
c4:10:8a:1f:d1:f0
------ ZoneDirector Info ------
Primary Controller   : n/a
Secondary Controller : n/a
DHCP Opt43 Code      : 3

The information of the most recent Zone Director:
  [1] 192.168.40.100

  AP is under management of ZoneDirector: 192.168.40.100 /
c0:c5:20:18:97:c1,
  Currently AP is in state: RUN
OK
---- Command Execution Summary:
         success: 2
         failure: 0
           total: 2
ruckus(debug)#
```

Working with Debug Logs and Log Settings

This section describes the commands that you can use to configure and review ZoneDirector debug logs.

logs all

Enables debug logs of all debug components.

NOTE Running this command can place considerable load on the system. If your ZoneDirector is already under load, running this command could potentially cause errors resulting in a reboot. In general, only use this command when working with Ruckus support to troubleshoot an issue.

Syntax Description

`logs all`	Enable logging of all debug components

Example

```
ruckus(debug)# logs all
The command was executed successfully.
ruckus(debug)# show logs
Debug Logs:
  All= Enabled
  Sys-mgmt= Enabled
  Mesh= Enabled
  Web-auth= Enabled
  Rf-mgmt= Enabled
  Radius= Enabled
  Hotspot-srv= Enabled
  Aps= Enabled
  Net-mgmt= Enabled
  802.1x= Enabled
  Web-svr= Enabled
  802.11= Enabled
  Dvlan= Enabled
  Smart-redundancy= Enabled
  Client-association= Enabled
```

```
  Debug logs of specified MAC address:
    Status= Disabled
ruckus(debug)#
```

no logs all

Disables debug logs of all debug components.

Syntax Description

`no logs`	Disable debug logs
`all`	Disable all log components

Example

```
ruckus(debug)# no logs all
The command was executed successfully.
ruckus(debug)#
```

logs comp sys-mgmt

Enables debug logs of system management components.

Syntax Description

`logs`	Enable debug logs
`comp sys-mgmt`	Component system management

Example

```
ruckus(debug)# logs comp sys-mgmt
The command was executed successfully.
ruckus(debug)# show logs
Debug Logs:
  All= Disabled
  Sys-mgmt= Enabled
```

```
  Mesh= Disabled
  Web-auth= Disabled
  Rf-mgmt= Disabled
  Radius= Disabled
  Hotspot-srv= Disabled
  Aps= Disabled
  Net-mgmt= Disabled
  802.1x= Disabled
  Web-svr= Disabled
  802.11= Disabled
  Dvlan= Disabled
  Smart-redundancy= Disabled
  Client-association= Disabled
  Debug logs of specified MAC address:
    Status= Disabled
ruckus(debug)#
```

no logs comp sys-mgmt

Disables debug logs of system management components.

logs comp mesh

Enables debug logs of mesh components.

no logs comp mesh

Disables debug logs of mesh components.

logs comp web-auth

Enables debug logs of web authentication components.

no logs comp web-auth

Disables debug logs of web authentication components.

logs comp rf-mgmt

Enables debug logs of RF management components.

no logs comp rf-mgmt

Disables debug logs of RF management components.

logs comp radius

Enables debug logs of radius components.

no logs comp radius

Disables debug logs of radius components.

logs comp hotspot-srv

Enables debug logs of hotspot services components.

no logs comp hotspot-srv

Disables debug logs of hotspot services components.

logs comp aps

Enables debug logs of AP components.

no logs comp aps

Disables debug logs of access points components.

logs comp net-mgmt

Enables debug logs of network management components.

no logs comp net-mgmt

Disables debug logs of network management components.

logs comp 802.1x

Enables debug logs of 802.1x components.

no logs comp 802.1x

Disables debug logs of 802.1x components.

logs comp web-svr

Enables debug logs of web server components.

no logs comp web-svr

Disables debug logs of web server components.

logs comp 802.11

Enables debug logs of 802.11 components.

no logs comp 802.11

Disables debug logs of 802.11 components.

logs comp dvlan

Enables debug logs of dynamic VLAN components.

no logs comp dvlan

Disables debug logs of dynamic vlan components.

logs comp smart-redundancy

Enable Smart Redundancy component debug logs.

no logs comp smart-redundancy

Disable Smart Redundancy component debug logs.

logs comp bonjour-gateway

Enable Bonjour Gateway debug logs.

no logs comp bonjour-gateway

Disable Bonjour Gateway debug logs.

logs comp mdnsd

Enable bonjour mdnsd debug logs.

no logs comp mdnsd

Disable bonjour mdnsd debug logs.

logs comp client-association

Enable client association debug logs.

no logs comp client-association

Disable client association debug logs.

logs mac

Enables and sets filter running logs based on specified mac address.

```
logs mac <MAC>
```

Syntax Description

`logs`	Enable debug logs
`mac`	Filter logs by specific MAC address
<MAC>	The MAC address of the device to be filtered

Example

```
ruckus(debug)# logs mac 04:4f:aa:0c:b1:00
The command was executed successfully.
ruckus(debug)#
```

no logs mac

Disables MAC address filtering on running logs.

Syntax Description

`no logs`	Disable debug logs
`mac`	Filter by MAC address

Example

```
ruckus(debug)# no logs mac
The command was executed successfully.
ruckus(debug)#
```

logs play

Starts displaying logs on console.

CAUTION! Running this command can place considerable load on the system. If your ZoneDirector is already under load, running this command could potentially cause errors resulting in a reboot. In general, only use this command when working with Ruckus support to troubleshoot an issue.

Syntax Description

`logs`	Enable debug logs
`play`	Start log play

Example

```
ruckus(debug)# logs play
ruckus(debug)# [Feb 15 05:53:30][EMFD][debug]jobService-
Func():Executing job[user auth attempt_hash_autoexpire] at
1329285210...
[Feb 15 05:53:30][EMFD][debug]jobServiceFunc():Executing job at
1329285210...Done
[Feb 15 05:53:30][EMFD][debug]jobServiceFunc():Executing
job[station auth attempt_hash_autoexpire] at 1329285210...
[Feb 15 05:53:30][EMFD][debug]jobServiceFunc():Executing job at
1329285210...Done
[Feb 15 05:53:33][STAMgr][debug]acsrvc_thread():ACSRVC rcv AP
04:4f:aa:0c:b1:00, IP= 192.168.11.6, IPv6=fc00::1
...
...
ruckus(debug)# no logs play
ruckus(debug)#
```

no logs play

Stops displaying logs on console.

Syntax Description

`no logs`	Disable debug logs
`play`	Stop log play

Example

```
rruckus(debug)# logs play
ruckus(debug)# [Feb 15 05:53:30][EMFD][debug]jobService-
Func():Executing job[user auth attempt_hash_autoexpire] at
1329285210...
[Feb 15 05:53:30][EMFD][debug]jobServiceFunc():Executing job at
1329285210...Done
[Feb 15 05:53:30][EMFD][debug]jobServiceFunc():Executing
job[station auth attempt_hash_autoexpire] at 1329285210...
[Feb 15 05:53:30][EMFD][debug]jobServiceFunc():Executing job at
1329285210...Done
[Feb 15 05:53:33][STAMgr][debug]acsrvc_thread():ACSRVC rcv AP
04:4f:aa:0c:b1:00, IP= 192.168.11.6, IPv6=fc00::1
...
...
ruckus(debug)# no logs play
ruckus(debug)#
```

support_tls1.0

To upgrade the controller's firmware, use the following command:

```
support_tls1.0
```

no support_tls1.0

To disable AP core dump collection, use the following command:

```
no support_tls1.0
```

Remote Troubleshooting

This section describes remote troubleshooting commands.

remote-troubleshooting server

To set the remote troubleshooting server IP address, use the following command:

```
remote-troubleshooting server <IP-ADDR>
```

remote-troubleshooting start

Enables remote troubleshooting.

Syntax Description

`remote-troubleshooting`	Remote troubleshooting
`start`	Start remote troubleshooting

Defaults

None.

Example

```
ruckus(debug)# remote-troubleshooting start


ruckus(debug)#
```

remote-troubleshooting stop

Disables remote troubleshooting.

Syntax Description

`remote-troubleshooting`	Remote troubleshooting
`stop`	Stop remote troubleshooting

Defaults

None.

Example

```
ruckus(debug)# remote-troubleshooting stop


ruckus(debug)#
```

radius-stats-wlan

Show web-auth WLAN radius statistics bins.

radius-stats-authsvr

Show web-auth WLAN radius statistics bins.

AP Core Dump Collection

This section lists the AP core dump commands.

collect_ap_coredump

Enable AP core dump collection.

```
collect_ap_coredump [all|<MAC>]
```

Syntax Description

`collect_ap_core dupm`	Collect AP core dump
`all`	Collect core dump from all connected APs
<MAC>	Specific AP MAC address

Defaults

None.

Example

```
ruckus(debug)# collect_ap_coredump all
```

```
---- Command 'apmgrinfo --coredump y ' executed at 04:4f:aa:0c:b1:00
start reporting coredump to ZD!
---- Command 'apmgrinfo --coredump y ' executed at 00:24:82:3f:14:60
start reporting coredump to ZD!
---- Command Execution Summary:
         success: 2
         failure: 0
           total: 2
rm: cannot remove '/etc/airespider-images/firmwares/ap-dump/*': No
such file or directory
sh: codump_server: not found
start collecting AP's coredump !
ok
ruckus(debug)#
```

no collect_ap_coredump

Disable AP core dump collection.

Syntax Description

`no collect_ap_core dump`	Stop collecting AP core dump

Defaults

None.

Example

```
ruckus(debug)# no collect_ap_coredump all
---- Command 'apmgrinfo --coredump n ' executed at 04:4f:aa:0c:b1:00
stop reporting coredump to ZD!
---- Command 'apmgrinfo --coredump n ' executed at 00:24:82:3f:14:60
stop reporting coredump to ZD!
---- Command Execution Summary:
         success: 2
```

```
         failure: 0
           total: 2
rm: cannot remove '/etc/airespider-images/firmwares/ap-dump/*': No
such file or directory
stop collecting AP's coredump !
ok
ruckus(debug)#
```

Script Execution

This section lists the commands that can be executed from the script context. The script context must be entered from the debug context.

script

Enters the script context from the debug context. You must first enter the script context before executing a script.

```
script
```

Syntax Description

`script`	Enter the script context

Defaults

None.

Example

ruckus(debug)# **`script`**
ruckus(script)#

quit

Exit the script context.

```
quit
```

Syntax Description

`quit`	Exit the script context

Defaults

None.

Example

ruckus(script)# **`quit`**
ruckus(debug)#

list

List all available scripts.

```
list
```

Syntax Description

`list`	List all available scripts

Defaults

None.

Example

ruckus(script)# **`list -a`**

Index	Scripts
1	.version.sh

ruckus(script)#

del

Deletes a script.

info

Display script help file

```
info
```

Syntax Description

`info`	Display script information

Defaults

None.

Example

ruckus(script)# **`info`**
info <file>
ruckus(script)#

exec

Execute script.

```
exec <file> {parameter}
```

Syntax Description

`exec`	Excecute the script

Defaults

None.

Example

```
ruckus(script)# exec
exec <file> {parameter}
ruckus(script)#
```

Index

Numerics

A

E

F

G

H

I

K

L

M

N

O

P

Q

R

S

T

U

V

W

Z

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