AP Commands

Overview

APs can be configured either before or after deployment, via direct or indirect connectivity.

- Direct attachment—The AP is physically plugged into the Aruba controller. As such, power and Serial over Ethernet (SOE) are provided. SOE technology uses spare cable pairs in a standard CAT5 cable to carry RS-232 serial communication.

- Indirect attachment—The AP physically plugs into some other network device (such as a controller or router) with Layer2 or Layer 3 connectivity back to the Aruba controller. In this case, power over Ethernet is available if the network device attached to the AP supports it. SOE, however, is not provided in this scenario.

The commands in this chapter require SOE connectivity between the Aruba controller and the AP. Use guidelines in this chapter to determine the AP models eligible for this connectivity, and to access and use the AP commands, as described in the following topics:

- "APs and SoE Connectivity" on page 2
- "Accessing AP Commands" on page 3
- "AP Advanced Commands" on page 5
- "Resetting AP Factory Defaults" on page 13
- "AP Command Help" on page 15

WARNING: AP Commands are 'advanced' commands intended only for use by qualified service personnel. For any function listed in this chapter, you are advised to use the ArubaOS web UI as your method of deployment.

APs and SoE Connectivity

Use commands in this chapter when setting Aruba AP configurations with SOE connectivity. The Aruba APs compatible with SOE connectivity are listed in Table 1.

TABLE 1   Aruba AP SOE Compatibility

SOE Capable	Not SOE Capable
■ AP 52	■ AP 40
■ AP 70	■ AP 41
■ AP 65	■ AP 80
■ AP 60	
■ AP 61	

NOTE: To modify AP configurations for the AP models that do not enable SOE connectivity, it is necessary to physically reset the AP, then set configurations via the controller. Refer to the Installation Guide associated with a specific Aruba AP to obtain more information.

NOTE: Aruba Networks advises that you restrict use of the AP commands to those described in this chapter, and identified in Table 2.

TABLE 2   AP Command Sets

Advanced AP Commands		Factory Reset AP Commands	AP Command Help
■ boot	■ printenv	■ purgeenv	■ help
■ dhcp	■ setenv	■ reset	
■ flash	■ version		
■ ping	■ saveenv		

Accessing AP Commands

Use the procedure in Table 3 to connect to an access point over SOE.

TABLE 3   Connecting to an Access Point Over SOE

Task	Example
1. Start an SSH session to the controller.	**ssh serial@<controller_IP>** Using username "serial". serial@al5k's password:
2. At the password prompt, use admin password, then wait for the controller prompt for your login information.	serial@al5k's password: **admin** Entering character mode Escape character is '^]' .
3. At the controller prompt, enter your user name (admin) and password (admin).	User: **admin** Password: ***** **exit** soe>
4. At the SOE command prompt, connect to the previously specified slot/port.	soe> **connect 2/12** Connecting to 2/12 at 9600 bad 8N1 Type "~." to disconnect
5. Reboot the AP.	Use either of the following methods: ■ POE (Power-over-Ethernet) attachment: Unplug the AP Ethernet cable, then plug it back into the AP. ■ Indirect attachment: Unplug the AP power cord from the power source, then plug it back into the power source.

TABLE 3   Connecting to an Access Point Over SOE (Continued)

Task	Example

6. Wait for the reboot instruction that allows you to halt the reboot now in progress:

> Hit <Enter> to stop autoboot:

then immediately press the Enter key to access APboot mode. Three seconds are (by default) allocated as wait-time for stopping the reboot script and entering APboot command mode. To change this setting, see setenv bootdelay.

```
APBoot 1.3.12 (build 9066)
Built: 2004-11-22 19:28:13 (with gcc 3.3.1)

CPU:   RC32434 MIPS-32 at 266 MHz: 8 kB I-Cache 8 kB D-Cache
Board: Muscat Local Bus at 133 MHz
DRAM:  32 MB
POST:  passed
FLASH: 4 MB
PCI:   scanning bus0 ...
       dev fn venID devID class  rev MBAR0    MBAR1    MBAR2    MBAR3
       0a  00 100b  0020  000002 00  000fff01 07fff000 00000000 00000000
       0b  00 1106  3038  00000c 61  00000000 00000000 00000000 00000000 000ffe
       0b  01 1106  3038  00000c 61  00000000 00000000 00000000 00000000 000ffe
       0b  02 1106  3104  00000c 63  07ffef00 00000000 00000000 00000000
       0c  00 168c  0013  000002 01  07fe0000 00000000 00000000 00000000
       0d  00 168c  0013  000002 01  07fd0000 00000000 00000000 00000000
Net:   en0 en1 br0 lo0
Bridg: en0 en1

Hit <Enter> to stop autoboot:  0
apboot>
```

7. You can now use the APboot commands described in this chapter.

You can now use the commands described in this chapter. This mode is also necessary if you need to access APboot command mode to reset default values for an AP. (see also Table 4 on page 13).

AP Advanced Commands

boot

boot—command details

Description	Boot the AP, using currently saved environmental variables. Any unsaved changes to the variables will be lost.
Command Mode	APboot
License Req	not applicable
Syntax	**boot** [ap I elf I flash]
ap	Boot from the AP configuration.
elf	Boot from elf files.
flash	Boot from the flash drive.
Example	Booting from the AP.
	apboot> **boot ap**

dhcp

dhcp—command details

Description	Invoke DHCP client to obtain IP/boot parameters.
Command Mode	APboot
License Req	not applicable
Syntax	**dhcp**
Example	Viewing DHCP information from the AP.

```
apboot> dhcp
BOOTP broadcast 1
DHCP IP address:    10.4.21.241
DHCP subnet mask:   255.255.255.0
DHCP def gateway:   10.4.21.254
DHCP DNS server:    10.4.21.251
DHCP DNS domain:    200-1800-2.com
```

flash

flash—command details

Description	Upgrade the boot image.
	NOTE: Exercise extreme caution when using this command.
Command Mode	APboot
License Req	not applicable

flash—command details (Continued)

Syntax	**flash write start** ((end addr)	[[host:]file]) **flash erase start end**
Example	Upgrading the boot image on AP60.

```
apboot> flash write 0xbfc00000
tftp-server-ip:bootImageFileName
```

ping

ping—command details

Description		Check network connectivity.
Command Mode		APboot
License Req		not applicable
Syntax		**ping** [-Rdnqrv] [-c count] [-i wait] [-s size] host
	-Rdnqrv	?????
	-c count	Value to define number of times to repeat the ping.
	-i wait	Value to define number of milliseconds allowed between packet sends.
	-s size	Value to define data size: total size of payload allowed for outgoing packets in this ping session.
Example		NEED ENGINEERING EXAMPLE

```
this place reserved for example
```

printenv

printenv—command details

Description	List the environment variables and their current settings. AP boot environmental variables are configured with the APboot setenv command.

NOTE: As of ArubaOS Release 2.2.1, the following conventions apply to the AP images:

- After an AP loads a local image, it compares the image to the booted image.
- If the images differ, the AP attempts to download the latest image via FTP.
- If FTP fails, the AP attempts to download the latest image using TFTP.

Command Mode	APboot

printenv—command details (Continued)

License Req	not applicable
Syntax	**printenv**
Example	Viewing the current environmental variables running on the AP.

```
apboot> printenv
boardname=Muscat
autostart=yes
baudrate=9600
bootdelay=2
bootfile=mips.ari
ethaddr=00:0b:86:c4:00:ee
enet1mode=active-standby
servername=aruba-master
serverip=10.4.21.1
master=10.4.21.1
a_ant_gain=6caf067648854a44c3a5d4acfa3731752261846600002x002
g_ant_gain=6d9a7b5f9712a86ebd38c365912ac3e22261846600004x002
ap70_ext_ant=1
location=1.3.3
a_antenna=0
g_antenna=0
bootcmd=boot ap

Environment size: 378/8186 bytes
apboot>
```

setenv

I

setenv—command details

Description	Modify configuration of a specified environmental variable.

If no value is set for setenv, the AP will use the factory default for its setenv configuration.

NOTE: Certain environmental variables should remain unchanged unless otherwise advised by Aruba Technical Support. Refer to the Environmental Presets, below, for guidelines.

Environmental Presets   Aruba Networks advises that the following variables be retained at default values unless otherwise recommended by Aruba Technical Support.

- autostart: default = yes
- baudrate: default = 9600
- bootcmd: default = localflash
- bootfile: default = sap.bin
  This if the file name of the AP image.
- ethaddr: unique for each AP.
  This is the MAC address of the Ethernet interface on the AP.
- stderr: default = serial
- stdin: default = serial
- stdout: default = serial

License Req   not applicable

Command Mode   APboot

Syntax   **setenv** <environment var> <value>

environment var   Type of environment to set:

- bootdelay (See setenv bootdelay)
- location (See setenv location)
- master (See setenv master)
- servername (See setenv servername)
- serverip (See setenv serverip)
- ipaddr (See setenv ipaddr)
- netmask (See setenv netmask)
- gatewayip (See setenv gatewayip)

setenv bootdelay

setenv bootdelay—command details

Description	Length of time, in seconds, to define the autoboot timer. This sets the delay during which the currently logged in user can interrupt the boot process and access the apboot prompt.
Command Mode	APboot
License Req	not applicable
Syntax	**setenv bootdelay** <val>
val	Number of seconds to define the boot delay duration.
	Default: 3
Example	Setting a new boot delay time.
	apboot> **setenv bootdelay** 5

setenv location

setenv location—command details

Description	Set the physical, permanent location of the AP. The location identifier contains the building number, floor number, and device number separated by dots. The location specifies which configuration profile is to be downloaded to the AP from the WLAN controller.
Command Mode	APboot
License Req	not applicable
Syntax	**setenv location** <building number>, <floor number>, <device number>
	Default: 1.1.1 (unconfigured)
building number	Building number, as a value in the range 1 to 255.
floor number	Floor number, as a value in the range 1 to 255.
device number	AP assigned number.
Example	Setting location information that specified the AP in building 3, floor 4, device number 2
	apboot> **setenv location** 3.4.2

setenv master

setenv master—command details

Description	Set IP address or hostname of the Mobility Controller that controls the AP. The AP downloads its configuration from the specified switch. If a hostname is specified, your DNS server must be configured to resolve the hostname to the master Mobility Controller. This setting overrides the value of serverip and servername
Command Mode	APboot
License Req	not applicable
Syntax	**setenv master** <ip address I hostname>
Example	Defining the master controller, using IP address 1.1.2.1
	apboot> **setenv master** 1.1.2.1

setenv servername

setenv servername—command details

Description	Set hostname of the Mobility Controller for TFTP server that holds the AP software image and/or configuration files. When using this variable, your DNS server must be configured to resolve the specified hostname to the appropriate location.
	This setting overrides the value of **serverip** (for both software and configuration) and is overridden by the **master** variable (for configuration only) if configured.
	Default: aruba-master
Command Mode	APboot
License Req	not applicable
Syntax	**setenv servername** <hostname
hostname	Name of the DNS server to bind to this configuration.
Example	Setting a new TFTP source for downloading the software and/or configuration files. This example demonstrates setup of TFTP server named *mytftp*, to enable accessed by the AP. After setting the servername, the configuration is saved using the saveenv command, then verified by using the printenv command.
	apboot> **setenv servername** mytftp
NOTE:	After setting the server name, use the **saveenv** command to save your settings, then use the **printenv** command to verify your entries.

setenv serverip

setenv serverip—command details

Description	IP address of the Mobility Controller or TFP server where the AP software and/or configuration files are stored.
	NOTE: This setting is typically only if DNS is not used.
	Setenv serverip is overridden by the servername variable (for both software and configuration) and the **master** variable (for configuration only) if configured.
Command Mode	APboot
License Req	not applicable
Syntax	**setenv serverip** <ipaddress>
Example	Defining the locator of the AP software and configuration files for the Mobility controller server
	apboot> **setenv serverip** 1.2.1.0

setenv ipaddr

setenv ipaddr—command details

Description	IPv4 address of the AP. If the IP address is defined with **setenv ipaddr**, the AP will use this address rather than obtaining an IP address via DHCP.
Command Mode	APboot
License Req	not applicable
Syntax	**setenv ipaddr** <ipaddress>
Example	Setting 10.1.2.1 as the default environment.
	apboot> **setenv ipaddr** 10.1.2.1

setenv netmask

setenv netmask—command details

Description	IP address mask of the AP. This setting is used in conjunction with the ipaddr variable to define the subnet of the AP.
Command Mode	APboot
License Req	not applicable
Syntax	**setenv netmask** <ipaddress>
Example	Setting the netmask for the AP as 255.255.255.0
	apboot> **setenv netmask** 255.255.255.0

setenv gatewayip

setenv gatewayip—command details

Description	IP address of the default gateway.This setting is used in conjunction with the configured ipaddr when using static addresses instead of DHCP.
Command Mode	APboot
License Req	not applicable
Syntax	**setenv gatewayip** <ipaddress>
Example	Setting the default gateway as 10.0.0.1
	apboot> **setenv gatewayip** 10.0.0.1

version

version—command details

Description	View current AP boot build information.
Command Mode	APboot
License Req	not applicable
Syntax	**version**
Example	Displaying version information for the AP associated with this login session.

```
apboot> version
APBoot 1.3.12 (build 9066)
Built: 2004-11-22 19:28:13 (with gcc 3.3.1)
apboot>
```

Resetting AP Factory Defaults

Use guidelines in this section to reset factory defaults for an AP, using AP Boot commands. Resetting an AP requires that you initiate a reboot of the AP but halt the reboot in progress to enable access to the APboot commands. See Table 4 on page 13 to find out how to access the apboot prompt, which enables access to APboot commands.

TABLE 4 Resetting AP Factory Defaults

Task	Description
1. Power cycle the AP.	
2. Use the procedure in Table 4 on page 13 to access the AP boot commands.	AP Boot commands are available when you see the apboot prompt on the screen.
3. Purge the existing AP configuration.	apboot> **purgeenv** Erasing... Programming... Verifying...
4. Save the AP configuration	apboot> **saveenv** Erasing... Programming... Verifying...
5. Reset the AP.	apboot> **reset**

purgeenv

purgeenv—command details

Description	Reinstate AP boot configuration factory default.
Command Mode	APboot
License Req	not applicable
Syntax	**purgeenv** <purgeenv I purge>
purgeenv	????
purge	????
Example	NEED ENGINEERING EXAMPLE
	apboot> **purgeenv**