

# User Guide

## Command Line Interface

*Version 3.0*

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## REVISION HISTORY

Version	Date	Notes	Approver
1.0		Initial Version	Steve Braneky
1.1	10/25/2011	Changed order of some CLI commands	Steve Braneky
1.2	10/27/2011	Updated CLI commands	Steve Braneky
1.3	01/12/2012	Updated Profile Subcommands	Steve Braneky
1.4	03/20/2012	Updated and added CLI commands	Steve Braneky
1.5	10/22/2012	Changed for new syntax order and missing listed parameters	Steve Braneky
2.0	05 Mar 2013	Converted to Laird formatting	Steve Braneky
2.1	10 Mar 2014	<p>Removed Summit/SDC/Summit Data Communications references</p> <p>Added the following options/properties:</p> <ul style="list-style-type: none"> <li>▪ a-channel-set</li> <li>▪ ttls-inner-method</li> <li>▪ date-check</li> <li>▪ fips</li> <li>▪ probe-delay</li> <li>▪ ignore-null-ssid</li> <li>▪ auto-profile</li> <li>▪ usercert_password</li> <li>▪ auto-profile</li> <li>▪ auto</li> <li>▪ dhcp</li> <li>▪ address</li> <li>▪ netmask</li> <li>▪ gateway</li> <li>▪ broadcast</li> <li>▪ scan</li> <li>▪ state</li> <li>▪ bridge-ports</li> <li>▪ show</li> <li>▪ add</li> <li>▪ remove</li> </ul> <p>Removed the following options:</p> <ul style="list-style-type: none"> <li>▪ nmode</li> <li>▪ auto-completion</li> <li>▪ activate_current</li> <li>▪ activate_global_settings</li> </ul>	Steve Braneky
2.2	29 July 2014	Added init command. Merged section on <b>Error! Reference source not found.</b> . Added anonymous (outer) user identity configuration information.	Steve Braneky
2.3	14 Jan 2015	Added roam-period-ms to global commands.	Steve Braneky
2.4	13 May 2015	<p>Added / modified commands for certificate store support on Windows platforms.</p> <ul style="list-style-type: none"> <li>▪ cacerts</li> <li>▪ cacert</li> <li>▪ usercerts</li> <li>▪ usercert</li> </ul> <p>Made corrections and improvements to documentation.</p>	Steve Braneky
2.5	30 Sept 2015	General edits. Merged separate versions of this document.	Sue White
2.6	19 Oct 2015	Added Approved By column	Sue White
3.0	06 April 2016	Added 50 Series information	

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## ABOUT THE COMMAND LINE INTERFACE FOR LAIRD WIRELESS DEVICES

The Laird Command Line Interface (also referred to in this document as CLI and `sdcli`) is a console application that can be used to manage configurations for Laird's wireless cards and embedded systems (WB4xn devices). This utility can be used to script profile creation and deletion for the purposes of automated testing and easier deployment. The utility uses a simple chained argument string, allowing for intuitive navigation of available options.

The interface to the utility allows for interactive commands as well as the ability to send scripted commands to the utility through file redirection, such as, `sdcli < list_of_commands.txt`.

In interactive mode, where a single instance of `sdcli` is running and the user is interacting with that instance, the prompt is `sdcli#`. From this point on, all commands can be input without the leading `sdcli`.

In interactive mode, under Linux, there is support for the bang (!) command which can be used to issue shell commands, such as `!ls`, while still in interactive mode with `sdcli`.

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**Note:** Not all commands are supported on all hardware or operating systems.

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## AVAILABLE CLI COMMANDS

### *help or ?*

Both **help** and **?** serve the same function: they either list the available commands or list current usage notes.

These commands can be used after every command or subcommand to show a list of available options.

For example:

```
sdcli profile <profile name> set eaptype ?
```

can be used to see what eaptype values are accepted, by profile set, when wanting to set a profile's EAP type.

## Top Level Commands

The following commands are usable at the top level of the Command Line Interface.

- auto-profile
- disable
- enable
- exit/quit
- global
- profile
- scan
- status
- stop using
- using
- version

### auto-profile

Manages the auto-profile mode.

#### Values

- on
- off
- list
  - enable <profile name>
  - disable <profile name>
  - clear
  - show

## disable

Disables the wireless radio.

## enable

Enables the wireless radio.

## exit | quit

If in interactive mode, this allows you to exit the utility, terminating the application.

## global

Show or set global variables for the radio.

```
global <show|set>
```

The following are global subcommands.

**Table 1: Global subcommands**

Subcommand	Description	Usage Example
show	Shows a specific global property or, if property name is not specified, all global properties.	global show [property name]
set	Sets a specific global property to a specified value.	global set <property name> <value>

### Global Show/Set – Properties

Table 2 displays properties which can be shown or set.

**Table 2: Configurable properties**

Property	Description	Value
a-channel-set	Indicates a specific set of channels to operate on in the 5 GHz band. Valid operating channels are constrained by the configured regulatory domain.	Valid channels vary depending on selected regulatory domain. For FCC: 36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140,149,153,157,161,165, or Full, or 0 (disables all channels) <b>Note:</b> Enter channels as a comma-delimited list with no spaces.
aggressive-scan-timer	Scans for available access points when set to <b>on</b> and current access point connection is tenuous.	<off   on> or <0   1>
auth-server-type	Indicates the type of authentication server being used for EAP.	acs or 1 – Sets a value of zero (0) sbr or 2 – Sets a value of one (1)
auto-profile	Turns auto-profile functionality on or off.	<off   on> or <0   1>

Property	Description	Value
bg-channel-set	Indicates a specific set of channels to operate on in the 2.4 GHz band. Valid operating channels are constrained by the configured regulatory domain.	1,2,3,4,5,6,7,8,9,10,11,12,13,14, or Full, or 0 (disables all channels) <b>Note:</b> Enter channels as a comma-delimited list with no spaces.
bt-coexist	Enables or disables Bluetooth coexistence.	<off on> or <0 1>
ccx-features	CCX Features.	<off on optimized> or <0 1 2>
certpath	Specifies the file system path of where the certificates are stored. If <file system path to certificates> left blank, current certpath is reset to default.	string <file system path to certificates>
date-check	Validates certificates against the system date and time.	<off on> or <0 1>
def-adhoc-channel	Indicates the channel to be used for an ad hoc connection if the active profile has a Radio Mode value of Ad Hoc.	integer <valid Ad Hoc channel>
dfs-channels	Indicates support (or lack of support) for 5 GHz (802.11a) channels where DFS is required.	<off on optimized> or <0 1 2>
fips	Turns FIPS compatibility on or off. (Linux only.)	<off on> or <0 1>
frag	Frag Threshold – If packet size (in bytes) exceeds this threshold, then the packet is fragmented.	integer (bytes) 256 <= x <= 2346
ignore-null-ssid	If enabled, the radio won't connect to the first available open AP if the SSID is blank.	<disable enable> or <0 1>
pmk-caching	Indicates the type of PMK caching to use with a WPA2 encryption type.	<standard opmk> or <0 1>
probe-delay	The number of seconds before the next scan.	integer (s) 2 <= x <= 120
roam-delta	Roam delta – The signal strength (RSSI) of the new AP has to be <roam-delta> (in dBm) better than the current AP before the client attempts to move to the new AP.	integer (dBm) 0,5,10,15,20,25,30,35,40,45,50,55
roam-period	Roam period – The amount of time a radio collects RSSI scan data (after association or a roam scan) before it considers roaming to a different access point.	integer (s) 5,10,15,20,25,30,35,40,45,50,55,60
roam-period-ms	Roam period in milliseconds – The amount of time between roam scans.	integer (ms) 10 <= x <= 60000

Property	Description	Value
	Roam scans occur after the radio has fallen below the roam trigger.	
roam-trigger	Roam trigger – The signal strength (RSSI) (in dBm) at which the radio scans for an access point with a better signal strength.	integer (dBm) 50,55,60,65,70,75,80,85,90
rts	The packet size above which RST/CTS is required on link.	integer (bytes) 0 <= x <= 2347
rx-diversity	Method of handling antenna diversity when receiving data from the access point.	main – Use main antenna only aux – Use auxiliary antenna only start_main – Use diversity, start @ main start_aux – Use diversity, start @ aux
scan-dfs-time	Indicates the dwell (listen) time when passively scanning on a DFS channel.	integer (ms) 20 <= x <= 500
ttls-inner-method	Indicates the authentication method that is used within the secure tunnel created by EAP-TTLS.	auto mschapv2 mschap pap chap eap_mschapv2
tx-diversity	Method of handling antenna diversity when transmitting data to the AP.	main – Use main antenna only aux – Use auxiliary antenna only on – Use diversity (Default)
tx-max	Maximum transmission power	integer (%) 0 < x <= 100
uapsd	Enables U-APSD power-save. WMM must also be enabled.	<off   on> or <0   1>
wmm	Enables WMM.	<off   on> or <0   1>

## profile

Manage profiles for the radio.

The following are profile subcommands.

**Table 3: Profile subcommands**

Subcommand	Description	Usage Example
list	Lists available profiles.	profile list
list cacerts	Lists available CA Certificates from MS root and middle/intermediate certificate stores. (Windows platforms only.)	profile list cacerts
list usercerts	Lists available User Certificates from MS personal certificate store.	profile list usercerts

Subcommand	Description	Usage Example
	(Windows platforms only.)	
dumpall	Dumps all profiles, and their properties.	profile dumpall
activate	Sets the active profile.	profile <profile name> activate
add delete	Add a new profile or Delete existing profile.	profile <profile name> <add delete>
delete	You cannot delete the current profile, you must activate a different profile first. There must always be at least one profile, you cannot delete the last remaining profile. <b>Warning:</b> There is no prompt for confirmation before deletion.	
rename	Renames an already-created profile.	profile <old name> rename <new name>
show	Shows a specific property of a profile or, if a property name is not specified, all of the profile's properties, for its current configuration.	profile <profile name> show [property name]
set	Sets a specific property of a profile to a specific value.	profile <profile name> set <property name> <value>

### Profile Show/Set – Properties

**Note:** Show/Set results, for some properties, depend upon the profile's EAP type. If the parameter is not included in a profile, due to the profile's EAP type, a show command returns **Not valid for this EAP type** and a set command returns **invalid configuration**.

Use **profile <profile name> show** to see the profile's properties that are currently available to show or set, based on the profile's current configuration.

Properties which can be shown or set are:

#### authtype

Authentication type

**<open | shared | eap>**

#### auto-profile

Turns auto-profile on or off, for the specified profile, in the auto-profile list.

**profile <profile name> set auto-profile <on|off>**



---

## bitrate

Maximum bitrate, value in Mbit per second

```
<0=Auto|1|2|5.5|6|9|11|12|18|24|36|48|54>
```

---

## cacert

### CA certificate

Available when eaptype: `<peap-mschapv2|peap-gtc|eap-tls|eap-ttls|peap-tls>`

### CA Cert – None

```
profile <profile name> set cacert
```

Clears the CA certificate property when no <value> is specified.

### CA Cert – File Name/<certificate file name>

```
profile <profile name> set cacert <certificate file name>
```

Sets the CA certificate property to the specified certificate file name, if the certificate file is found at certpath (global).

### CA Cert – Select Cert/[Installed cert] – (Windows Only)

```
profile <profile name> set cacert <certificate index value from list>
```

Selects the CA certificate using the Index value from a previously executed *profile list cacerts* command.

The *profile list cacerts* results are a listing of all available CA certificates currently stored in the MS root and middle/intermediate certificate stores. The Index value in those results are used here.

```
profile <profile name> set cacert <certificate thumbprint from list>
```

Selects the CA certificate using the Thumbprint from a previously executed *profile list cacerts* command.

The *profile list cacerts* results are a listing of all available CA certificates currently stored in the MS root and middle/intermediate certificate stores. The "CA Cert:" value in those results are used here, that is the CA certificate's thumbprint.

The thumbprint is a computed field, i.e. not a part of the certificate data itself.

The thumbprint we use is a SHA1 hash of the whole certificate.

The thumbprint is specified in this command by the ASCII representation of the 20 byte SHA1 hash of the certificate, as a string, in the format, "%02x:"; which is zero-padded two-digit lowercase hexadecimal values, colon-delimited, no spaces.

```
d5:59:a5:86:66:9b:08:f4:6a:30:a1:33:f8:a9:ed:3d:03:8e:2e:a8
```

### CA Cert – Use Full MS Store / Use Full MS Store – (Windows Only)

```
profile <profile name> set cacert full-store
```

Sets the CA certificate property for searching the entire MS root and middle/intermediate certificate stores.

---

## clientname

Name to report to Cisco APs.

```
profile <profile name> set clientname [client name]
```

Clears the client name property when no <value> is specified.

---

---

## eaptype

EAP type.

**<none | leap | eap-fast | peap-mschapv2 | peap-gtc | eap-tls | eap-ttls | peap-tls>**

---

## mode

Radio's mode.

**<B | BG | G | A | ABG | BGA | BGN | GN | AN | ABGN | BGAN | adhoc>**

---

## pacfilename

PAC file name.

Available when eaptype: **<eap-fast>**

**profile <profile name> set pacfilename [PAC file name]**

Clears the PAC file name property when no <value> is specified.

---

## pacpassword

Password used to decrypt the PAC file.

Available when eaptype: **<eap-fast>**

**profile <profile name> set pacpassword [PAC file password]**

Clears the PAC file password property when no <value> is specified.

---

## password

Password for authentication.

Available when eaptype: **<leap | eap-fast | peap-mschapv2 | peap-gtc | eap-ttls>**

**profile <profile name> set password [password]**

Clears the password property when no <value> is specified.

---

## powersave

Power save mode.

**<off | max | fast>**

---

## psk

Pre-shared key.

**profile <profile name> set psk <PSK>**

Clears the PSK property when no <value> is specified.

---

---

## pspdelay

Set the power save delay.

```
profile <profile name> set pspdelay <delay>  
<10-500> Default is 200
```

---

## ssid

Service Set Identifier.

```
profile <profile name> set ssid [SSID]
```

Clears the SSID property when no <value> is specified.

---

## txpower

Transmission power, value in mW.

```
<0=Max|1|2|5|10|20|30|50>
```

---

## user

User name for authentication.

Available when eaptype: <leap|eap-fast|peap-mschapv2|peap-gtc|eap-tls|eap-ttls|peap-tls> (all but none)

```
profile <profile name> set user [user name]
```

Clears the user name property when no <value> is specified.

---

**Note:** For information on configuring an outer (anonymous) user identity, see [Configuring an Anonymous Identity](#).

---

## usercert

User certificate.

Available when eaptype: <eap-tls|peap-tls>

### User Cert – None

```
profile <profile name> set usercert
```

Clears the user certificate property when no <value> is specified.

### User Cert – File Name / <certificate file name> – (Linux and WB Only)

```
profile <profile name> set usercert <certificate file name>
```

Sets the user certificate property to the specified certificate file name, if certificate is found at certpath (global).

### User Cert – Select Cert / [Installed cert.] – (Windows Only)

```
profile <profile name> set usercert <certificate index value from list>
```

Selects the user certificate using the Index value from a previously executed *profile list usercerts* command.

---

The **profile list usercerts** results are a listing of all available user certificates currently stored in the MS personal certificate store. The Index value in those results are used here.

```
profile <profile name> set usercert <certificate thumbprint from list>
```

Selects the user certificate using the Thumbprint from a previously executed **profile list usercerts** command.

The **profile list usercerts** results are a listing of all available user certificates currently stored in the MS personal certificate store. The **User Cert:** value in those results are used here, that is the user certificate's thumbprint.

The thumbprint is a computed field (not a part of the certificate data itself).

The thumbprint we use is a SHA1 hash of the whole certificate.

The thumbprint is specified by the ASCII representation of the 20 byte SHA1 hash of the certificate, as a string, in the format, **%02x;** which is zero-padded two-digit lowercase hexadecimal values, colon-delimited, no spaces.

```
46:41:36:c7:49:2f:43:4d:8f:3a:db:1f:f0:d6:de:3b:02:04:15:81
```

---

### usercert\_password

Sets the password for the user certificate file (Linux and WB only).

```
profile <profile name> set usercert_password [certificate file password]
```

Clears the user certificate file password property when no <value> is specified.

---

### wep

Sets the WEP key for the profile.

```
profile <profile name> set wep <index> <1|2|3|4>  
profile <profile name> set wep tx <index> <1|2|3|4>  
profile <profile name> set wep rm <all|1|2|3|4>
```

---

### wep type

Sets the WEP type.

```
<none|wep|wep-eap|psk|tkip|wpa2-psk|cckm-tkip|cckm-aes|wpa-psk-aes|wpa-aes>
```

---

## Configuring an Anonymous Identity

An anonymous identity is configured via the user field in the network profile but it is also connected with the Auth Server type configuration (since the Auth Server type impacts the type of outer identity – anonymous or real – that is used by default for different EAP types). Table xx provides the applicable default outer identities.

Table 4: Default Outer Identity

	Auth Server Type 1	Auth Server Type 2
EAP-FAST	FAST-xxxxxxxxxxx <b>Note:</b> xxxxxxxxxxxx is the radio's 12-digit hexadecimal MAC address	Real identity
PEAP-MSCHAP	Real identity	Real identity

	Auth Server Type 1	Auth Server Type 2
PEAP-GTC	Real identity	Real identity
PEAP-TLS	Real identity	Real identity
EAP-TTLS	<i>anonSUMMIT</i>	<i>anonSUMMIT</i>

**Note:** For EAP-FAST the Auth Server Type setting also affects the PAC provisioning method allowed.

Auth Server Type 1 – Allows both authenticated and unauthenticated PAC provisioning  
Auth Server Type 2 – Allows authenticated PAC provisioning

**Note:** EAP-TLS and LEAP do not support anonymous identity.

To configure an outer identity that is different than the default, type it in the username field using a semicolon to separate the real identity from the outer (anonymous) identity. For example:

```
# sdc_cli profile xxxx set user user1;anonLAIRD
```

The real identity is *user1* and the outer identity is *anonLAIRD*.

If you enter the real user name followed by a semicolon but to not enter an outer identity, the real identity is used for the outer identity. This method can be used to override the outer identity when an anonymous identity is used by default. For example:

```
# sdc_cli profile xxxx set user user1;
```

The command above results in *user1* being used for both the outer and the real identity.

## scan

Performs a scan and generates a list of available wireless networks.

## status

Shows the current active profile and associated profile information.

## stop\_using

Use this command to stop using the previously set *using* for profile commands.

## using

Uses the specified profile for all the subsequent commands until the *stop\_using* command is entered.

## version

Displays the versions of the wireless components.

## LINUX SPECIFIC CLI COMMANDS

The following CLI commands only apply to the Linux version (and not the Windows version):

### iface

---

**Note:** The `iface` command only applies to the Laird WB45NBT and WB50NBT.

---

```
iface <property> <interface name> <value>
```

Properties for `iface` include Set, Show, Add, Remove, and Init.

#### Set

Sets the properties in the e/n/l file. The following are options for `set`:

---

**auto** – Interface auto-starts at boot.

```
iface <property> <interface name> <value>
```

---

**dhcp** – Set DHCP method.

```
iface set dhcp <interface name> <on|off>
```

---

**address** – Set the IP address of the interface if not using the DHCP method.

```
iface set address <interface name> <XXX.XXX.XXX.XXX>
```

---

**gateway** – Set the gateway address of an interface if not using the DHCP method.

```
iface set gateway <interface name> <XXX.XXX.XXX.XXX>
```

---

**netmask** – Set the DNS address of an interface if not using the DHCP method.

```
iface set nameserver <interface name> <XXX.XXX.XXX.XXX>
```

---

**Note:** The `<XXX.XXX.XXX.XXX>` can be either one or two address separated by a space.

---

---

**broadcast** – Set the broadcast address of an interface if not using the DHCP method.

```
iface set broadcast <interface name> <XXX.XXX.XXX.XXX>
```

---

**state** – Enable or disable the interface in the e/n/l file.

```
iface set state <interface name> <on/off>
```

---

**bridge\_ports** – Set the interfaces to use with the bridging interface.

```
iface set bridge_ports <interface name> <interface name>  
<interface name>
```

---

## Show

Show the interfaces from the e/n/l file.

```
iface show
```

## Add

Add an interface to the e/n/l file.

```
iface add <interface name>
```

## Remove

Sets properties in the e/n/l file.

```
iface remove <interface name>
```

## Init

Sets properties in the e/n/l file.

```
iface init
```

## Command History

Press the up arrow key at the command prompt to cycle through the most recent commands entered at the prompt.

## logging

---

**Note:** The logging command only applies to the Laird WB45NBT and WB50NBT. This setting is not persistent across wireless restarts.

---

```
logging <property> <interface name> <value>
```

Properties for logging include Set and Show.

## Show

Shows the current level of debug.

## Set

Sets the given module's level of debug. The following are options for set:

**driver** – Set the level of driver debug.

```
logging set driver <0,1,2,3> or  
<none,low,medium,high>
```

**supplicant** – Set the level of supplicant debug.

```
logging set supplicant <0,1,2,3,4,5,6> or  
<none,error,warning,info,msgdump,excessive>
```

## template

---

**Note:** The template command only applies to the Laird WB45NBT and WB50NBT.

---

```
template <command> <property> <value>
```

Properties for logging include Set, Show, Reset.

- **reset** – Resets the template to default values
- **show** – Shows the current template
- **set** –

### Set

Sets the given template property (values are same as the Profile command). The following are options for *set*:

---

**authtype** – WEP authentication type.

---

**clientname** – Client name reported to Cisco Aps.

---

**eaptype** – EAP type.

---

**mode** – Sets the radio mode.

---

**Powersave** – Adjusts the power save setting.

---

**pspdelay** – Power save delay.

---

**ssid** – Service Set Identifier.

---

**txpower** – Transmission power.

---

**weptype** – WEP type.

---

## EXAMPLE LINUX COMMANDS AND OUTPUT

### Input Examples

The CLI allows for several different methods of input. This section shows terminal commands (prefaced by the shell prompt, #, and where relevant the cli prompt, sdc#) and an example of the returned data.



---

## Single Command from Command Line

```
# sdc_cli version
CLI: 3.5.0.3
SDK: 3.5.0.2
Hardware Chipset: 45
Driver: 3.5.0.0
Firmware: ar6003 hw 2.1.1 fw 3.4.0.0081. api 4
Supplicant: sdcsupp v3.4.7.18
Build: Laird Linux wb45n-laird_fips-3.4.1.103
#
```

---

## Interactive

```
# sdc_cli
sdc# version
CLI: 3.5.0.3
SDK: 3.5.0.2
Hardware Chipset: 45
Driver: Driver not loaded. Unable to check driver version.
Firmware: Driver not loaded. Unable to check firmware version.
Supplicant: sdcsupp v3.4.7.18
Build: Laird Linux wb45n-laird_fips-3.4.1.103
sdc#
```

---

## Using a Pipe

```
# echo version | sdc_cli
CLI: 3.5.0.3
SDK: 3.5.0.2
Hardware Chipset: 45
Driver: 3.5.0.0
Firmware: ar6003 hw 2.1.1 fw 3.4.0.0081. api 4
Supplicant: sdcsupp v3.4.7.18
Build: Laird Linux wb45n-laird_fips-3.4.1.103
```

---

---

## File Redirection

```
# cat > version.txt
version<ctrl-d>
# sdc_cli < version.txt
CLI: 3.5.0.3
SDK: 3.5.0.2
Hardware Chipset: 45
Driver: 3.5.0.0
Firmware: ar6003 hw 2.1.1 fw 3.4.0.0081. api 4
SupPLICant: sdcSUPP v3.4.7.18
Build: Laird Linux wb45n-laird_fips-3.4.1.103
```

---

## Scan Output

The scan command does not interrupt the radio from doing an internal scan. It retries the scan several times, but occasionally aborts due to duration. Retrying the scan after a few seconds usually permits the scan to succeed.

The output contains SSID, BSSID MAC, channel, RSSI, bssType, and security in descending order of priority.

```
#sdc_cli scan
BSS 0:
SSID: fipsk
BSSID: c8:f9:f9:29:15:60
Channel: 1
RSSI: -57 dBm
bssType: Infrastructure
Security: wpa2-psk-aes

BSS 1
SSID: mic_test
BSSID: 00:14:1b:58:e8:a0
Channel: 1
RSSI: -74 dBm
bssType: Infrastructure
Security: wpa2-psk-aes wpa-psk-tkip

BSS 2
SSID: dual
BSSID: 34:a8:4e:e7:e0:e0
Channel: 1
RSSI: -65 dBm
bssType: Infrastructure
Security: wpa2-aes cckm-aes

BSS 3
SSID: WLAN_PBN
BSSID: a0:cf:5b:cb:36:c0
Channel: 1
```

---

```
RSSI: -49 dBm  
bssType: Infrastructure  
Security: wpa2-aes
```

---

```
BSS 4  
SSID: pskhex  
BSSID: 34:a8:4e:e7:e0:e1  
Channel: 1  
RSSI: -64 dBm  
bssType: Infrastructure  
Security: wpa2-psk-aes wpa-psk-aes wpa2-psk-tkip wpa-psk-tkip
```

---

## Profile Examples

To set up an open authentication profile for an AP with SSID openap:

```
# cat > open.txt  
profile open add  
profile open set SSID openap  
profile open activate<ctrl-d>  
# cat open.txt | sdc_cli
```

---

Note: The following examples assume interactive input at the sdc# prompt.

---

To set up a profile with 40 bit WEP key encryption using key #2:

```
profile prof2 add  
profile prof2 set ssid AP2  
profile prof2 set weptype on  
profile prof2 set wep 01234 2
```

To set up a profile with 128 bit WEP key encryption using key #2:

```
profile prof3 add  
profile prof3 set ssid AP3  
profile prof3 set weptype on  
profile prof3 set wep 0123456789012 2
```

To set up a profile with LEAP:

```
profile prof4 add  
profile prof4 set ssid AP4  
profile prof4 set weptype auto  
profile prof4 set eatype leap  
profile prof4 set user username  
profile prof4 set password userpassword
```

To set up a profile with WPA1 pre-shared key:

```
profile prof7 add  
profile prof7 set ssid AP7  
profile prof7 set weptype wpa_psk  
profile prof7 set psk oklahoma
```

To set up a profile with WPA1, LEAP, and TKIP:

```
profile prof8 add
profile prof8 set ssid AP8
profile prof8 set weptype wpa-tkip
profile prof8 set eaptype leap
profile prof8 set user username
profile prof8 set password userpassword
```

To set up a profile with WPA2 pre-shared key:

```
profile prof9 add
profile prof9 set ssid AP9
profile prof9 set weptype wpa2-psk-aes
profile prof9 set psk Oklahoma
```

To set up a profile with WPA2, AES, and LEAP:

```
profile prof10 add
profile prof10 set ssid AP10
profile prof10 set weptype wpa2-aes
profile prof10 set eaptype leap
profile prof10 set user username
profile prof10 set password userpassword
```

To set up a profile with WPA1, pre-shared key, and AES:

```
profile prof11 add
profile prof11 set ssid AP11
profile prof11 set weptype wpa-psk-aes
profile prof11 set psk Oklahoma
```

To set up a profile with WPA1, LEAP, and AES:

```
profile prof12 add
profile prof12 set ssid AP12
profile prof12 set weptype wpa-aes
profile prof12 set eaptype leap
profile prof12 set user username
profile prof12 set password userpassword
```

To set up a profile with WPA2 and pre-shared key:

```
profile prof13 add
profile prof13 set ssid AP13
profile prof13 set weptype wpa2-psk
profile prof13 set psk Oklahoma
```

To set up a profile with WPA2 and LEAP:

```
profile prof14 add
profile prof14 set ssid wfa14
profile prof14 set weptype wpa2
profile prof14 set eaptype leap
profile prof14 set user username
profile prof14 set password userpassword
```

To set up a profile with WPA1 and TTLS:

```
profile prof15 add
profile prof15 set ssid AP15
profile prof15 set weptype wpa-aes
profile prof15 set eaptype eap-ttls
profile prof15 set user username
profile prof15 set password userpassword
profile prof15 set cacert cacertname.cer
```

To set up a profile with WPA2, EAP-TLS, and AES:

```
profile prof16 add
profile prof16 set ssid AP16
profile prof16 set weptype wpa2-aes
profile prof16 set eaptype eap-tls
profile prof16 set user username
profile prof16 set password usercert username.pfx
profile prof16 set cacert cacertname.cer
```

To set up a profile with 802.1X with EAP-TTLS:

```
profile prof17 add
profile prof17 set ssid AP17
profile prof17 set weptype auto
profile prof17 set eaptype eap-ttls
profile prof17 set user username
profile prof17 set password userpassword
profile prof17 set cacert cacertname.cer
```

To set up a profile with WPA1, TTLS, and TKIP:

```
profile prof18 add
profile prof18 set ssid AP18
profile prof18 set weptype wpa-tkip
profile prof18 set eaptype eap-ttls
profile prof18 set user username
profile prof18 set password userpassword
profile prof18 set cacert cacertname.cer
```

To set up a profile with WPA2, TTLS, and AES:

```
profile prof19 add
profile prof19 set ssid AP19
profile prof19 set weptype wpa2-aes
profile prof19 set eaptype eap-ttls
profile prof19 set user username
profile prof19 set password userpassword
profile prof19 set cacert cacertname.cer
```