

AP6511 First Time Configuration Procedure

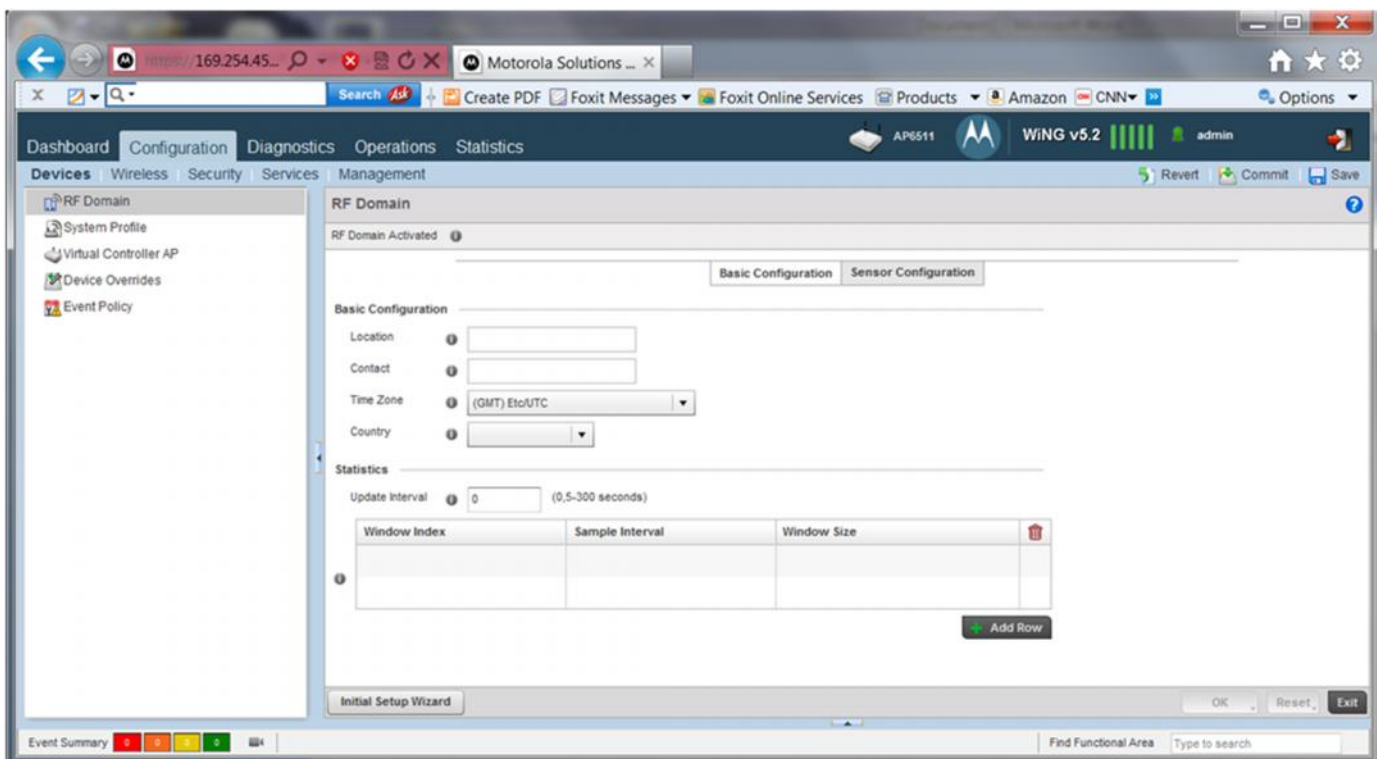
Recommended Minimum Configuration Steps

From the factory, all of the 6511 AP's should be configured with a "shadow IP" that starts with 169.254.xxx.xxx with the last two octets determined by the decimal translation of the last two groups of HEX characters from the device's MAC address. If you have not upgraded the firmware from the base (v5.0.1) then the web interface will respond on http, otherwise it will only be on https. [NOTE! For the 6511's to work correctly in Virtual Controller mode, they MUST all be on the same firmware revision.]

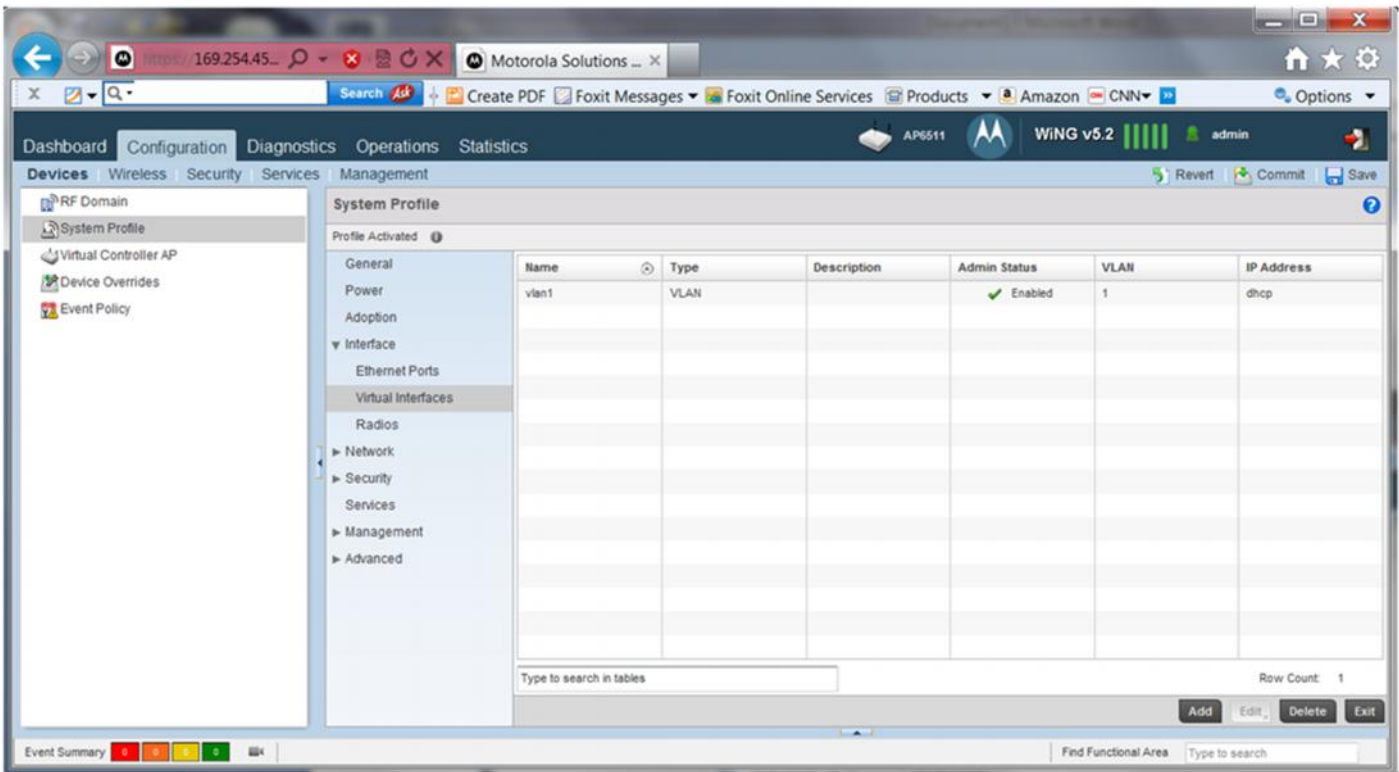
The default username is "admin" and default password is "motorola" and you can access the web interface by setting your computer IP to be on the same subnet using a 255.255.0.0 mask.

*Note – there is no power supply available for this AP, you will need a Power Over Ethernet (POE) source to provide power such as the 1-port injector from Motorola (Part Number: AP-PSBIAS-2P2-AFR)

The first thing you will want to configure is the Time Zone and Country Code in the RF Domain:



Next, navigate to the System Profile option from the menu at the left of the screen underneath the Configuration tab. You will want to configure a static IP address so that you know where to access the AP in the future. This is done from the Interface > Virtual Interfaces menu as seen below:

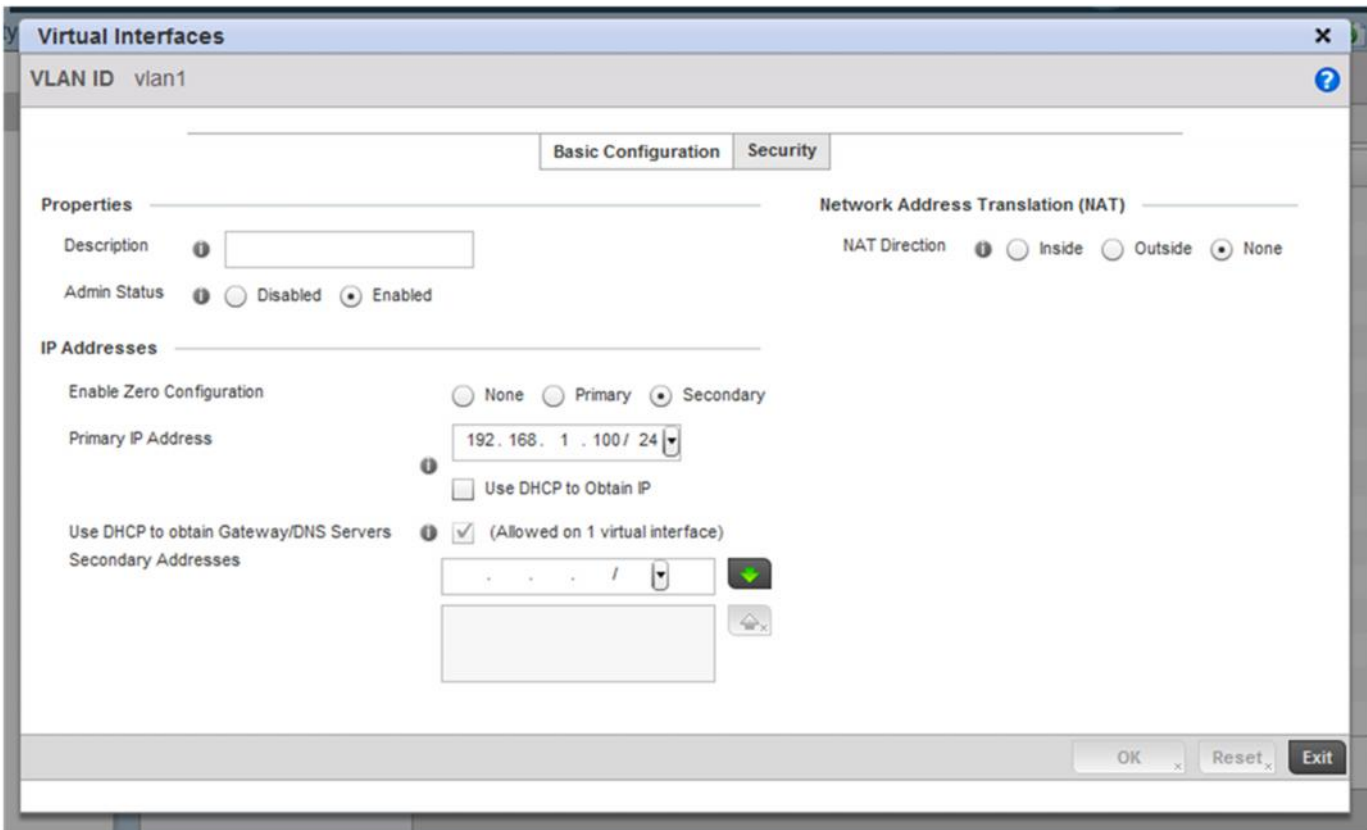


The screenshot shows the Motorola Solutions WING v5.2 configuration interface. The left sidebar contains a tree view with 'System Profile' selected. The main area displays a table of virtual interfaces. The table has the following data:

| Name | Type | Description | Admin Status | VLAN | IP Address |
|-------|------|-------------|--------------|------|------------|
| vlan1 | VLAN | | Enabled | 1 | dhcp |

At the bottom of the table, there is a search bar and a 'Row Count: 1' indicator. Buttons for 'Add', 'Edit', 'Delete', and 'Exit' are visible at the bottom right of the table area.

Double click on the line for vlan1 to bring up the configuration window:



The screenshot shows the 'Virtual Interfaces' configuration window for 'vlan1'. The window has two tabs: 'Basic Configuration' and 'Security'. The 'Basic Configuration' tab is active. The configuration is organized into several sections:

- Properties:**
 - Description: [Empty text box]
 - Admin Status: Disabled Enabled
- Network Address Translation (NAT):**
 - NAT Direction: Inside Outside None
- IP Addresses:**
 - Enable Zero Configuration: None Primary Secondary
 - Primary IP Address: 192.168.1.100 / 24
 - Use DHCP to Obtain IP:
 - Use DHCP to obtain Gateway/DNS Servers: (Allowed on 1 virtual interface)
 - Secondary Addresses: [Empty text box]

Buttons for 'OK', 'Reset', and 'Exit' are located at the bottom right of the window.

By default, the check box for “Use DHCP to Obtain IP” is checked. In order to assign your own static IP address, first uncheck this box and then enter your desired address in the box. This interface utilizes the shorthand notation for the subnet after the / in the IP address box. For reference:

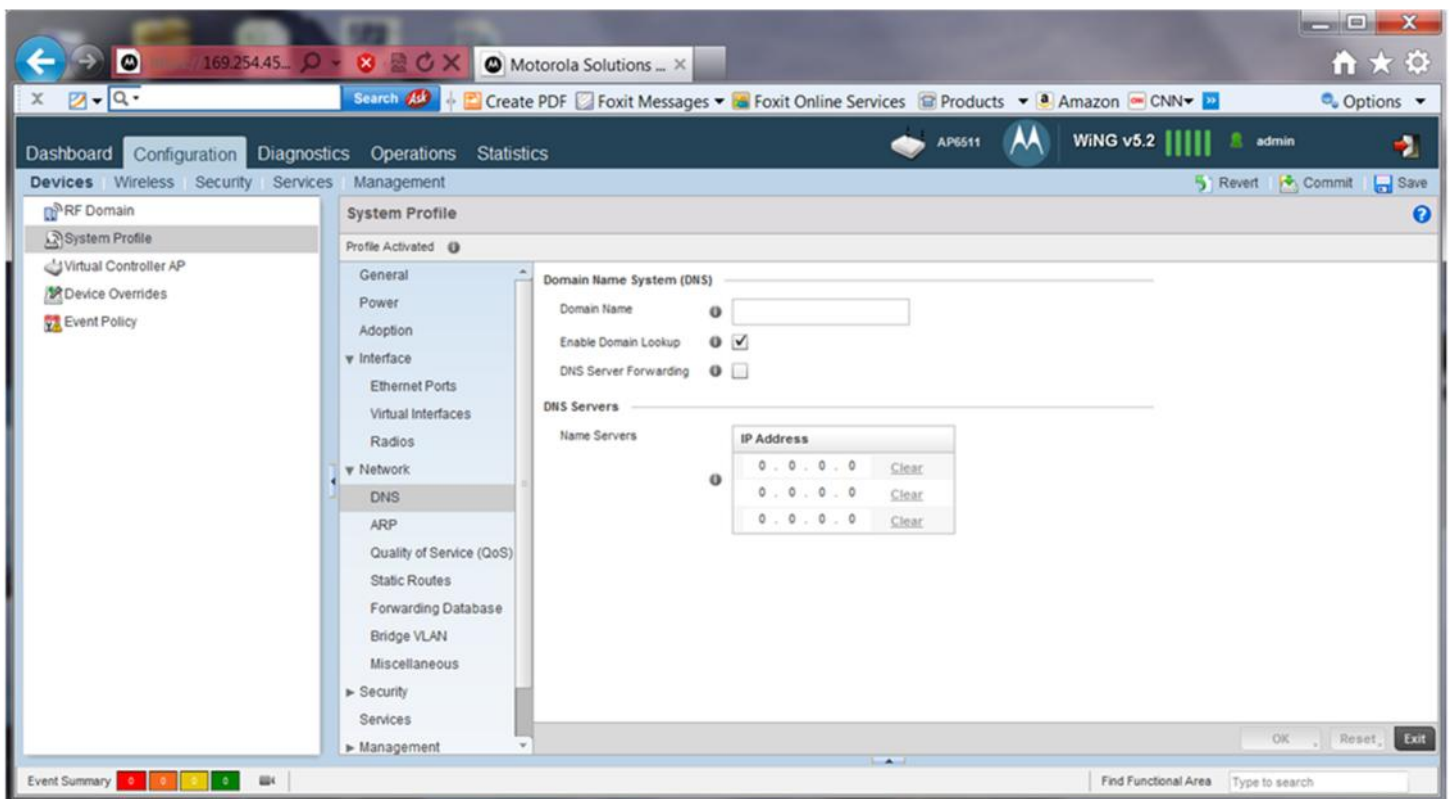
255.255.255.0 = 24

255.255.0.0 = 16

<http://www.subnet-calculator.com/>

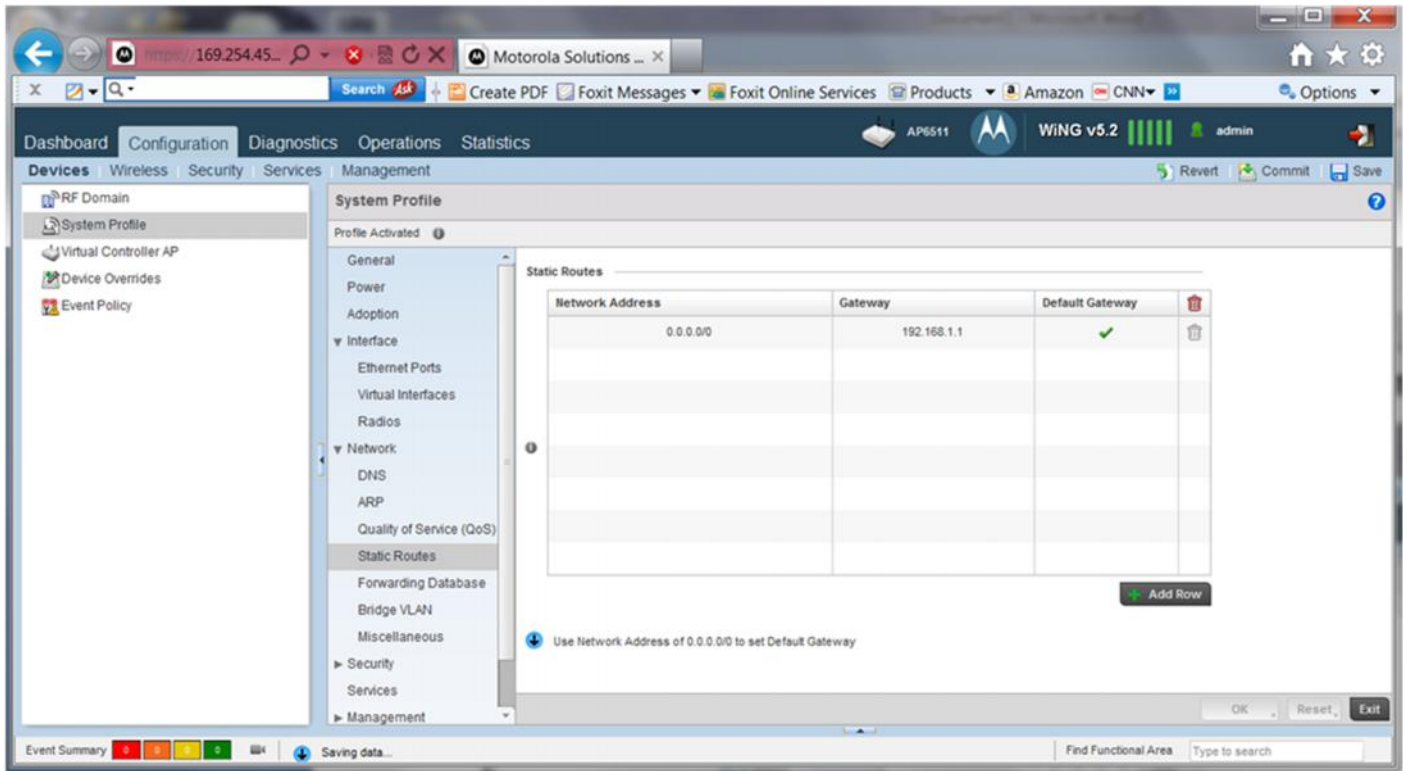
It is recommended that you leave the “Enable Zero Configuration” set to Secondary. This way if you ever forget what IP address you set on the AP, you can still access it on 169.254.xxx.xxx as discussed above.

After setting the IP address, it is recommended that you set the DNS server:



You can enter up to 3 servers. Entering your local Domain Name is optional.

Next set the default gateway:

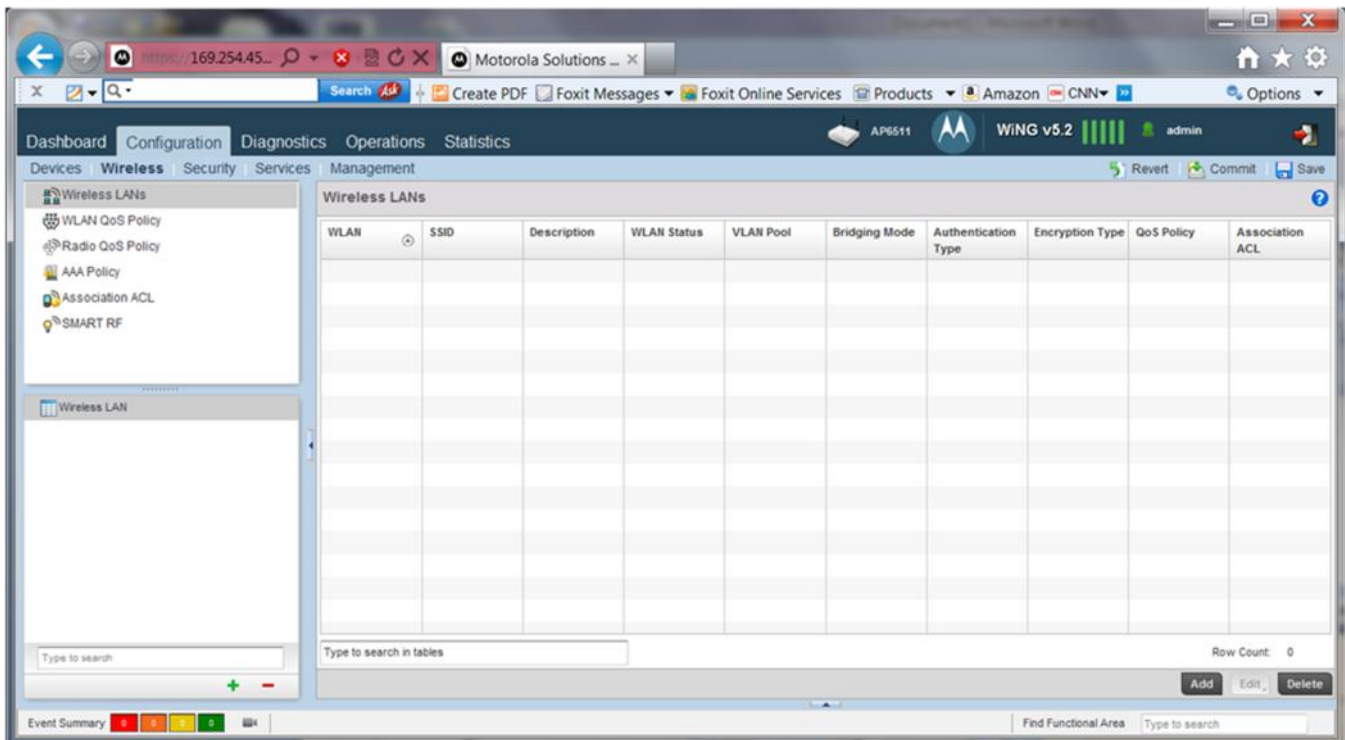


The screenshot shows the Motorola Solutions WiNG v5.2 configuration interface. The left sidebar is expanded to 'System Profile' > 'Network' > 'Static Routes'. The main area displays a table with the following data:

| Network Address | Gateway | Default Gateway | |
|-----------------|-------------|-----------------|---|
| 0.0.0.0/0 | 192.168.1.1 | ✓ | ✖ |

Below the table, there is an 'Add Row' button and a note: 'Use Network Address of 0.0.0.0/0 to set Default Gateway'. The interface also shows navigation tabs for Dashboard, Configuration, Diagnostics, Operations, and Statistics, and a top bar with 'AP6511' and 'WiNG v5.2'.

In order to start serving wireless clients, you need to create a WLAN configuration. Go to Configuration > Wireless > Wireless LANs as seen below:

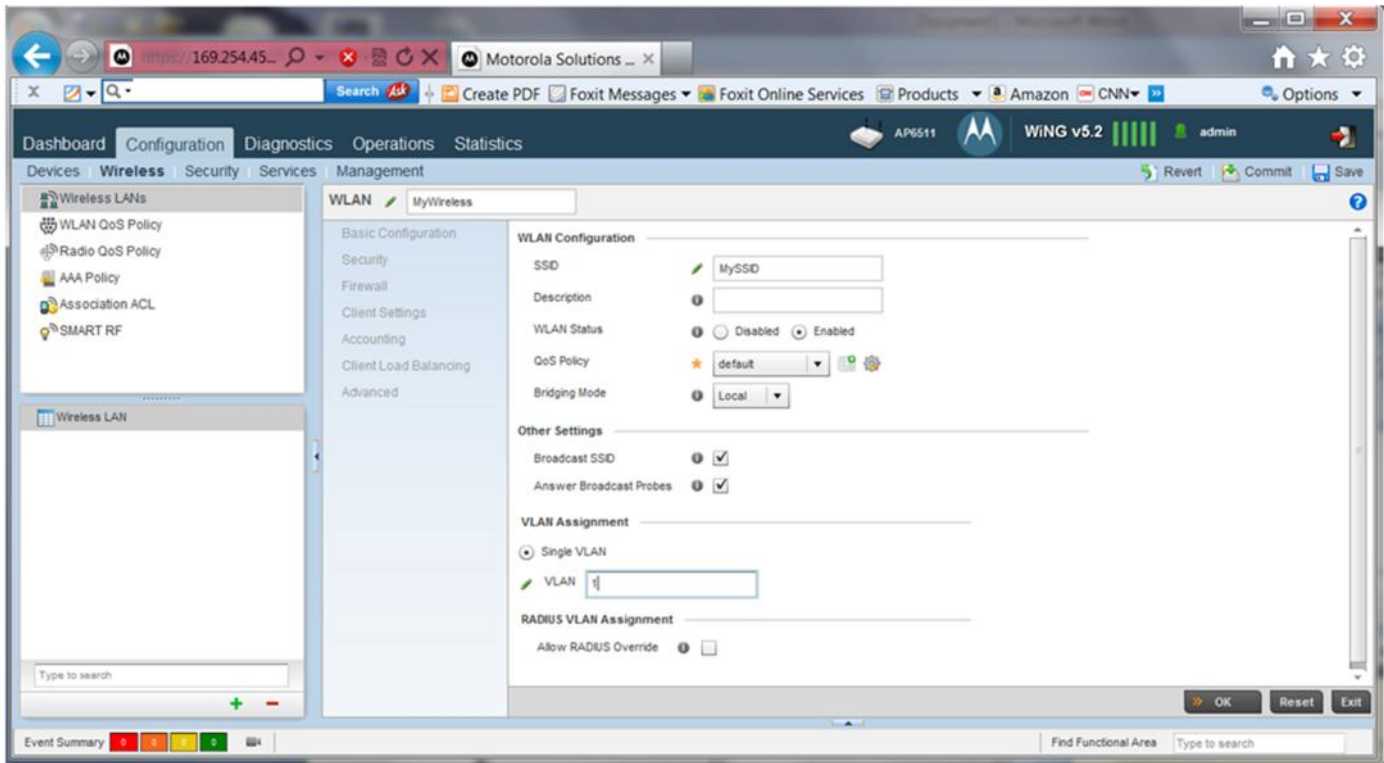


The screenshot shows the Motorola Solutions WiNG v5.2 configuration interface. The left sidebar is expanded to 'Wireless' > 'Wireless LANs'. The main area displays a table with the following columns:

| WLAN | SSID | Description | WLAN Status | VLAN Pool | Bridging Mode | Authentication Type | Encryption Type | QoS Policy | Association ACL |
|------|------|-------------|-------------|-----------|---------------|---------------------|-----------------|------------|-----------------|
| | | | | | | | | | |

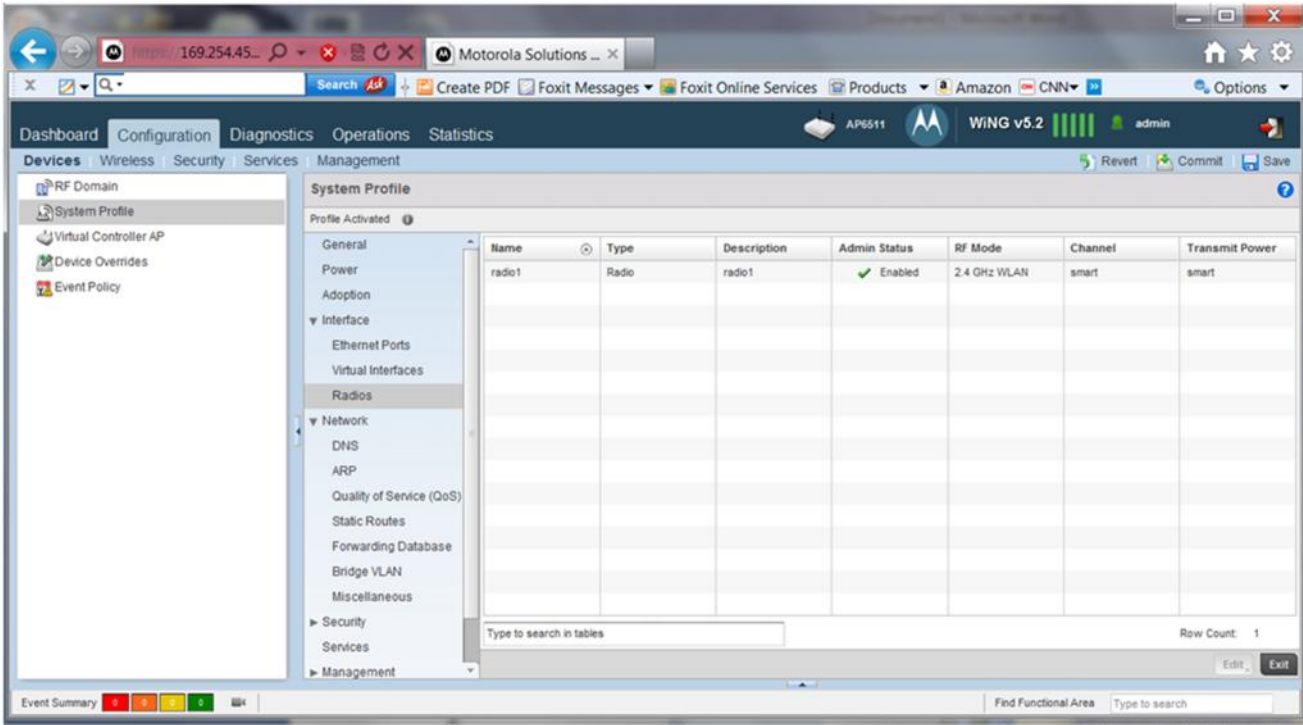
The table is currently empty. At the bottom right, there is a 'Row Count: 0' and buttons for 'Add', 'Edit', and 'Delete'. The interface also shows navigation tabs for Dashboard, Configuration, Diagnostics, Operations, and Statistics, and a top bar with 'AP6511' and 'WiNG v5.2'.

Click the Add button and then give your WLAN a name, SSID and VLAN:

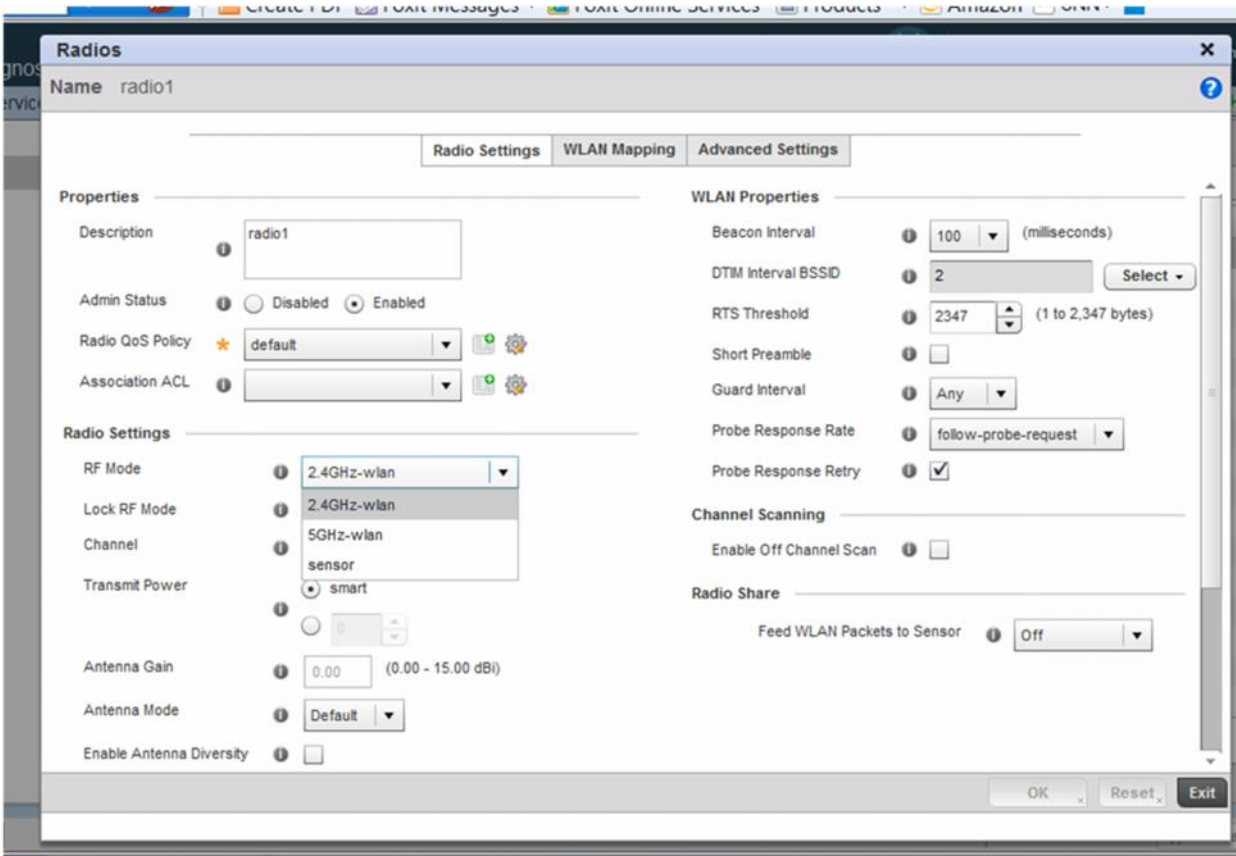


The VLAN will be 1 by default and is what you should use unless you changed it during the IP address step. You can also optionally assign security to the WLAN (which is highly recommended) by using the Security menu right under where you entered the WLAN name (“MyWireless” was used above). If you are not sure what security to use, WPA2-CCMP is recommended (especially for N based networks).

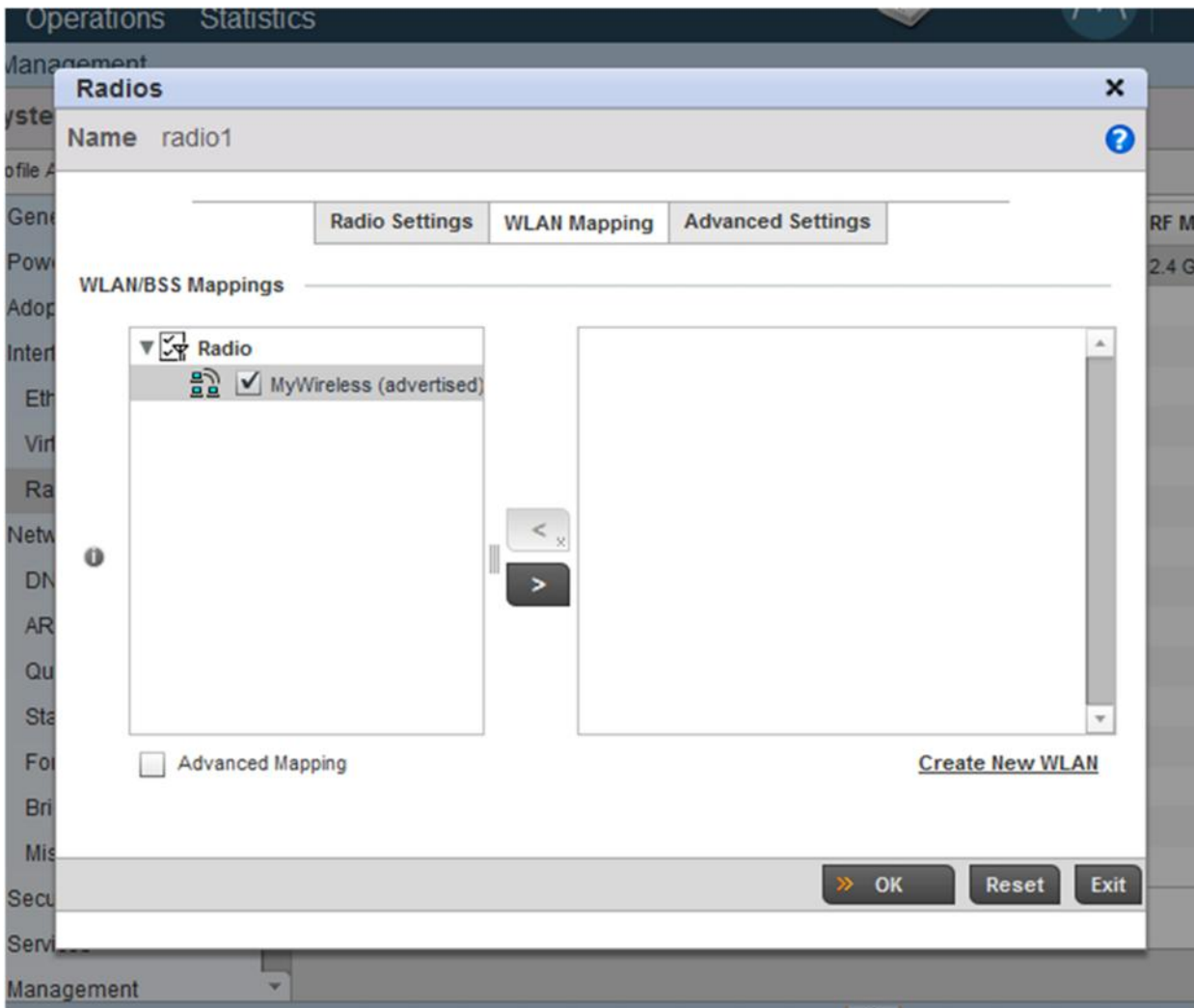
After creating the WLAN, you need to assign it to the AP’s radio. This is done from the Configuration > System Profile > Interface > Radios menu seen below:



Double click on radio1 in the list to bring up the configuration window:



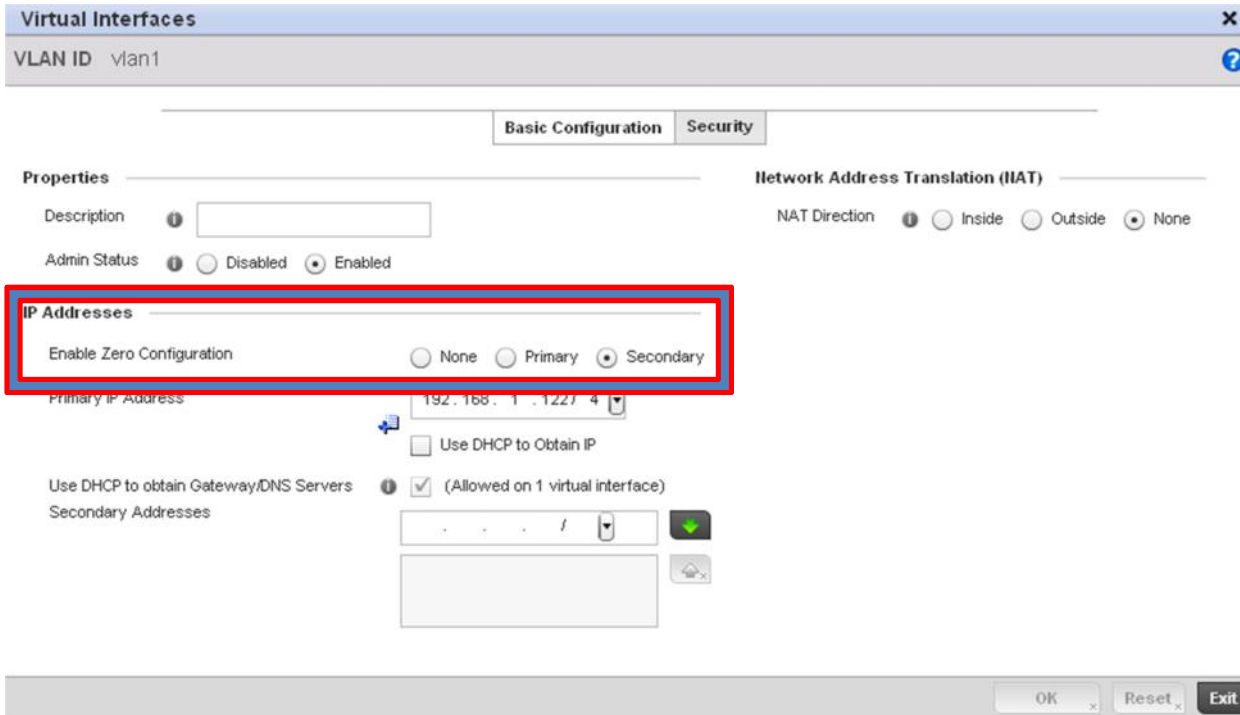
First choose what band you want to broadcast on from the RF Mode drop-down list. The a-band is 5GHz while b/g is 2.4GHz, all other settings can be left at the defaults. Then switch to the WLAN Mapping tab to assign your WLAN to the radio:



It will show on the right column at first. Click it and then click the < arrow to move it over to the left column. Then click OK and Exit. Finally click Commit and then Save to make sure your settings are safe through a reboot of the AP. That is all the configuration that is necessary to start broadcasting a wireless network, though other optional configuration may be done as well. You can now test your network with a mobile device.

Troubleshooting

If you have assigned a static IP address to a 6511 however, and disabled the “Zero Configuration” functionality this shadow IP will no longer be available. To make sure that the shadow IP is still available after setting a static IP, make sure you do **not** select the “None” radio button:



Virtual Interfaces x

VLAN ID vlan1 ?

Basic Configuration Security

Properties **Network Address Translation (NAT)**

Description ⓘ

Admin Status ⓘ Disabled Enabled

NAT Direction ⓘ Inside Outside None

IP Addresses

Enable Zero Configuration None Primary Secondary

Primary IP Address ⓘ

Use DHCP to Obtain IP

Use DHCP to obtain Gateway/DNS Servers ⓘ (Allowed on 1 virtual interface)

Secondary Addresses ⓘ

ⓘ

OK Reset Exit

If you forgot what the IP address was that you assigned and need to reset the AP, follow this process:

METHOD 1

1. First unplug the AP from the power, then using a paper clip press in the reset button on the back of the AP just above the P/N label. Hold it in until the amber light flashes rapidly (it will blink slowly at first). This should default the AP back to factory settings and enable the "shadow IP" and the default admin password once again. This process takes between 1-2 minutes. Once complete, unplug the AP again and then plug it back in to let it boot up.
2. Try ping first and then ssh, finally try https if the other two were successful and you don't want to use cli to configure username and password should be back to the defaults (admin//motorola).
3. If https is not working, the AP was probably adopted by an RFS at some point. When this happens the AP deletes the https interface out of memory to save space and will only respond to ssh. To restore https access log in first with ssh and follow this process:

```
PuTTY (inactive)
login as: admin
admin@169.254.206.251's password:
ap6511-07CEFB>en
ap6511-07CEFB#self
Enter configuration commands, one per line. End with CNTL/Z.
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#memory-profile standalone
Note: memory-profile change will take effect after device reboot
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#commit
% Warning: Commit failed for the following reason:

  This configuration change requires a reboot. Please execute "write memory" command to save configuration and to reboot

Please Commit again if the changes are OK, otherwise Revert or continue making changes
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#commit write
[OK]
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#
```

- 4.
5. ****Make sure you follow the process exactly as seen above. The first "commit" will not appear to work as seen, but by following it with a "commit write" the changes will be saved to survive a reboot and the AP will actually reboot itself as well.**

METHOD 2

1. You need the AP Discovery Tool that is included in the 5.2 firmware file for the AP 6532
 - a. Note! This will only work for AP's that are running the 5.2 firmware!
2. In the simplest scenario you can plug your computer directly into the AP through a POE injector, but you can also plug it into a LAN or POE switch if necessary
 - a. After installing and running the tool, tell it what network interface to scan on (pick the one you have the wire plugged into) and it will show you all of the Motorola devices that are plugged in:

```

GN AP Discover Tool
Enter Interface(eth0,eth1,...) from the above list to Discover APs :: eth7
Broadcasting an AP Discover message
Found the following Devices on the LAN
Found the following:
AP Num  AP MAC address      AP IP address      AP Name
=====  =====
1        00:23:68:89:c4:04    192.168.1.72      ap7131-00-23-68-89-C
2        5c:0e:8b:07:ce:fb    169.254.206.251   ap6511-07CEFB
                                     192.168.1.174
3        00:23:68:31:20:9c    192.168.1.116     SolCenter-ap650-3120
4        5c:0e:8b:1a:f7:20    192.168.1.14      Redundant-rfs4000-1A
5        00:23:68:22:b4:32    192.168.1.7       Primary-rfs4000-22B4
                                     192.168.0.1

Options ::
=====

1 -> Discover APs again (same as "enter" key)
2 -> Exit

Enter an option (1 or 2)::

```

- b.
- c. This screenshot is an example of what you would see if the Zero Configuration option was still intact on the AP6511 after it had been assigned a static IP address. Find the MAC address that matches your device and note the IP address
- d. Try to ping that IP and if successful try ssh or https to connect (http if it is on firmware 5.0.1)
- e. If it does not show up in the discovery tool, you will need to use the “reset button” process described in method 1 and then run the discovery again.

METHOD 3

1. If you have an RFS switch available just plug the 6511 in and let it adopt. If it does not show up on the switch after booting first check that you have enough AP licenses available to add another AP, and then perform the reset button procedure, and then reboot by unplugging and plugging back in.
2. You can then access it over the “mint link” using telnet or ssh depending on what is enabled on the RFS and follow this process:

```

Telnet 192.168.1.7

RFS4000 release 5.2.0.0-069R
Primary-rfs4000-22B432 login: admin
Password:
Primary-rfs4000-22B432>show mint neighbors
4 mint neighbors of 68.22.B4.32:
0B.07.CE.FB (ap6511-07CEFB) at level 1, 2 adjacencies, 2 UP adjacencies, best adjacency vlan-1
0B.1A.F7.20 (Redundant-rfs4000-1AF720) at level 1, 2 adjacencies, 1 UP adjacencies, best adjacency vlan-1
68.31.20.9C (SolCenter-ap650-31209C) at level 1, 2 adjacencies, 2 UP adjacencies, best adjacency vlan-1
68.89.C4.04 (ap7131-00-23-68-89-C4-04) at level 1, 2 adjacencies, 2 UP adjacencies, best adjacency vlan-1
Primary-rfs4000-22B432>connect mint-id 0b.07.ce.fb

Entering character mode
Escape character is '^]'.

AP6511 release 5.2.0.0-069R
ap6511-07CEFB login: admin
Password:
ap6511-07CEFB>en
ap6511-07CEFB#self
Enter configuration commands, one per line. End with CNTL/Z.
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#memory-profile standalone
Note: memory-profile change will take effect after device reboot
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#commit write
% Warning: Commit failed for the following reason:

  This configuration change requires a reboot. Please execute "write memory" command to save configuration and to reboot

Please Commit again if the changes are OK, otherwise Revert or continue making changes
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#commit
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#write mem
[OK]
ap6511-07CEFB(config-device-5C-0E-8B-07-CE-FB)#Connection closed by foreign host
Primary-rfs4000-22B432>

```

a.

3. This process will set the AP to use the standalone profile rather than a dependent or Virtual Controller, which will enable the web interface once again. The admin password for the AP in this above process should be the same as the one for the RFS it was plugged into.
4. Make sure after issuing the “reload” command above that you unplug the network connection to the RFS or it will just adopt again and you will have to repeat the process.
5. You may also need to complete the following steps using the shadow IP address to delete any configuration that was saved on the AP:

```
169.254.48.147 - PuTTY
login as: admin
admin@169.254.48.147's password:
ap6511-8A3093>en
ap6511-8A3093#delete nvram:/startup-config
Delete startup-config? y
ap6511-8A3093#reload
The system will be rebooted, do you want to continue? (y/n): y
ap6511-8A3093#
```

6.