Managing Access Points

Mobility Express supports a maximum of 25 Access points in a Mobility Express deployment.

Managing Access Points

To view the list or modify Access Points associated with the Mobility Express controller, follow the steps below.

Procedure

Step 1   Navigate to **Wireless Settings** > **Access Points**.
The Access Point Administration page displays the count of access points and Access Point table with the associated APs.
Note   The AP table will display 10 access points on the first page. If there are more than 10 access points, user has to go to the next page.

The first Access Point with the icon is the Master AP and the rest of them are Subordinate APs. Please see figure below Master AP and Subordinate AP.

The Master AP and Subordinate AP icons are as shown:

Figure 1: Master AP Icon


Figure 2: Subordinate AP Icon

Step 2 To modify the parameters on an access point, click on the Edit button. The AP window will come up displaying the General parameters about the Access Point.

- **Operating Mode**(Read only field)—For a master AP, this field displays *AP & Controller*. For other associated APs, this field displays *AP only*.

- **AP Mac**(Read only field)—Displays the MAC address of the Access Point.

- **AP Model**(Read only field)—Displays the model details of the Access Point.

- **IP Configuration**—Choose **Obtain from DHCP** to allow the IP address of the AP be assigned by a DHCP server on the network, or choose **Static IP** address. If you choose Static IP address, then you can edit the *IP Address, Subnet Mask*, and *Gateway* fields.

- **AP Name**—Edit the name of access point. This is a free text field.

- **Location**—Edit the location for the access point. This is a free text field.
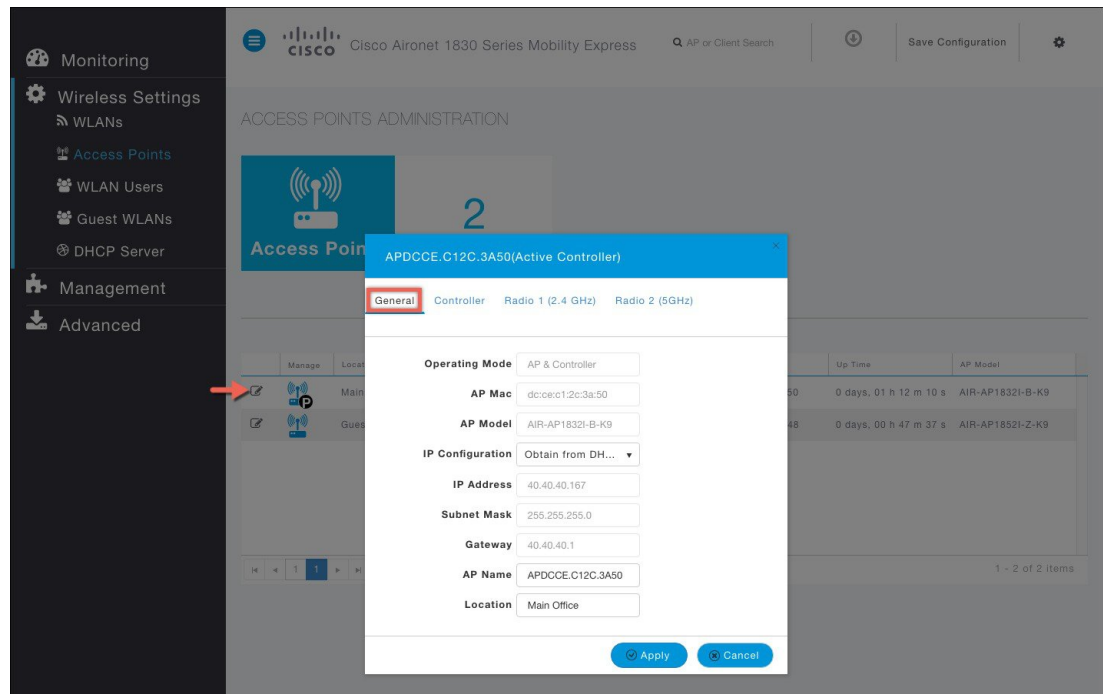
Step 3 Under the Controller (Available only for Master AP) tab, one can modify the following parameters:

   • **IP Address—**IP address decides the login URL to the controller's web interface. The URL is in *https://<ip address>* format. If you change this IP address, the login URL also changes.

   • **Subnet Mask**

   • **Country Code**
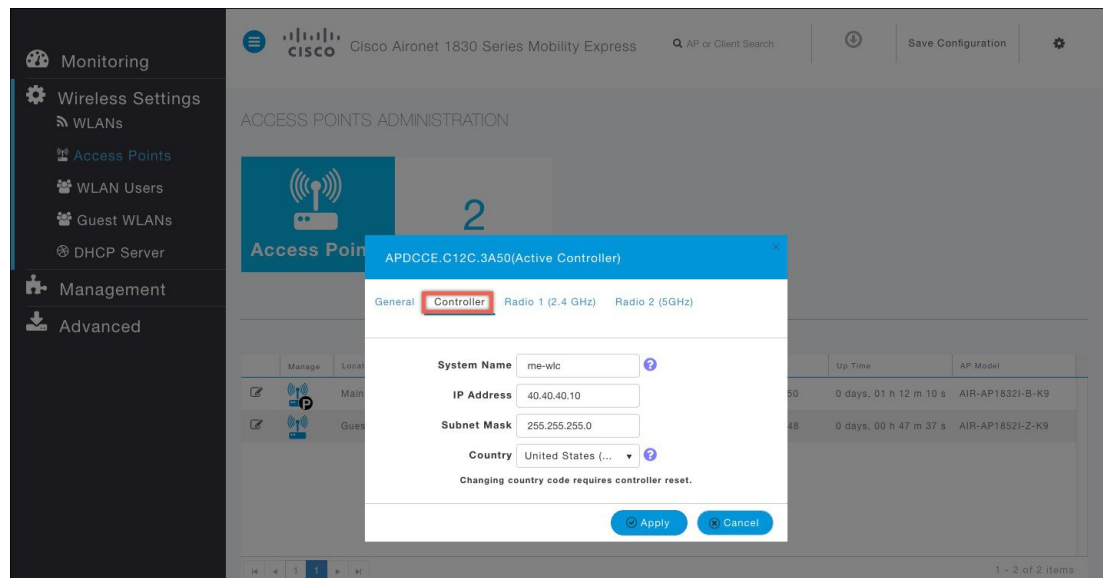
Step 4 Under Radio 1 (2.4 GHz) and Radio 2 (5 GHz), one can edit the following parameters:

- **Admin Mode—** Enabled/Disabled. This enables or disables the corresponding radio on the AP (2.4 GHz for 802.11 b/g/n or 5 Ghz for 802.11 a/n/ac).

- **Channel—** Default is Automatic. Automatic enables Dynamic Channel Assignment. This means that channels are dynamically assigned to each AP, under the control of the Mobility Express controller. This prevents neighboring APs from broadcasting over the same channel and hence prevents interference and other communication problems. For the 2.4GHz radio, 11 channels are offered in the US, up to 14 in other parts of the world, but only 1-6-11 can be considered non-overlapping if they are used by neighboring APs. For the 5GHz radio, up to 23 non-overlapping channels are offered. Assigning a specific value statically assigns a channel to that AP.

  - 802.11 b/g/n - 1 to 11

  - 802.11 a/n/ac - 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140, 149, 153, 157, 161, 165

- **Channel Width—**20 MHz for 2.4GHz and for 20, 40 and 80 for 5 GHz.

- **Transmit Power—**1 to 8. The default value is **Automatic**.

  This is a logarithmic scale of the transmit power, that is the transmission energy used by the AP, 1 being the highest,2 being half of it, 3 being 1/4th and so on. Selecting Automatic adjusts the radio transmitter output power based on the varying signal level at the receiver. This allows the transmitter to operate at less than maximum power for most of the time; when fading conditions occur, transmit power will be increased as needed until the maximum is reached
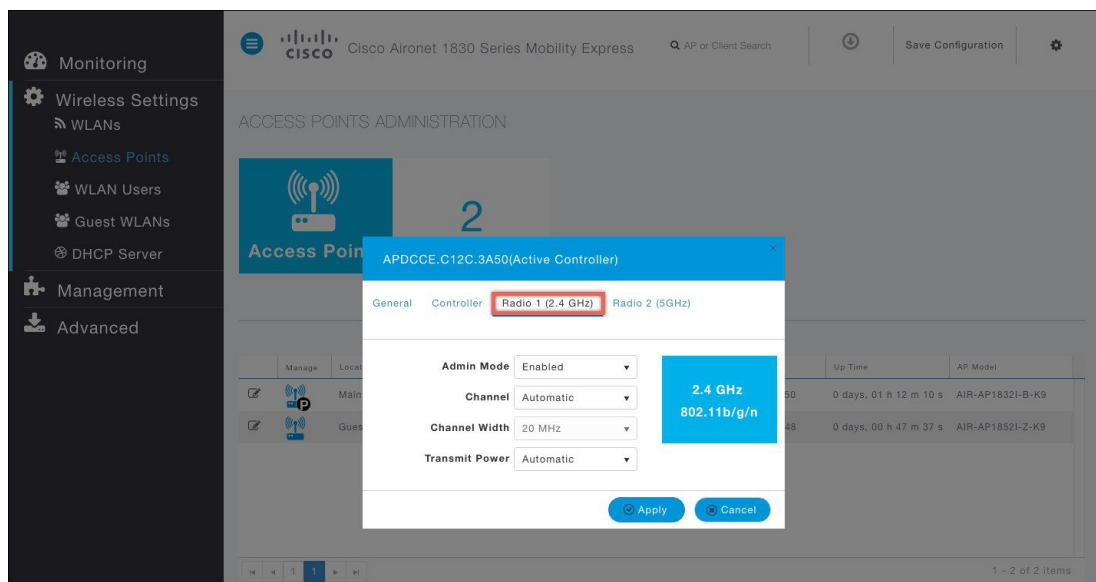
Step 5 Click **Apply** to save the changes.

Adding an Access Point to Mobility Express Network

When adding an access point to the Mobility Express network, the following have to be considered:

1   Software Version on the Access Point - If the software version of the access point, which is being added, is different than what is on the Master AP, a software download of the code running on the Master AP has to happen on the Access Point being added. For the new AP to download the code that is running on the Master AP, one of the following has to be configured:

   • TFTP server and the AP file path information has to be configured on the Software Update page.

   • If the Master AP has 8.3.102.0 or later code, one can configure the Cisco.com login credentials on the Software Update page and the code on the new AP will be automatically downloaded from cisco.com when an AP joins.

Note   For Software download to take place directly from Cisco.com, the Master AP should be the one with the SMARTNet Contract.

2   Is Access Point being added an 11ac Wave 2 or not?

If the Access Point being added is an 11ac Wave 2 access point and is running Mobility Express image, it can be added to the Mobility Express network. If a software version is different, it will download the software version running on the Master AP either from a configured TFTP server or directly from cisco.com. This AP will be capable of running the controller function if the Master AP fails.

If the Access Point being added is an 11ac Wave 2 Access point and is running CAPWAP image, it can be added to the Mobility Express network. If a software version is different, it will download the software version running on the Master AP either from a configured TFTP server or directly from cisco.com. This AP will not be configured to run the controller function unless configured explicitly.

If the Access Point being added is a non-11ac Wave 2 Access point, it can be added to the Mobility Express network as long as it is one of the supported AP for Mobility Express. If the software version is different, AP will download the software version running on the Master AP either from a configured TFTP server or directly from cisco.com. This AP is not capable of running the controller function.

Note   The master AP facilitates transfer of image from TFTP or Cisco.com to the new AP which is added.

Procedure

Step 1   Configure Cisco.com Login Credentials on the Master AP, which has the SMARTNet Contract on **Software Update** (**Management > Software Update**) page.
OR

Download the **ap_bundle zip** file from cisco.com on a TFTP server. **The bundle version must be the same as the one running on the Master AP**. Unzip the file to extract the AP images. Configure TFTP Parameters on the **Software Update** (**Management > Software Update**) page.

Step 2 Connect the AP to the network. When the AP boots up, it obtains an IP address from the DHCP server. If the AP version matches the one on Master AP, it joins. However, if the version on the AP being added is different than then one on the Master AP, it starts to download the image from either the configured TFTP server or cisco.com. After the image download is complete, the AP will reboot and join the Master AP.

Note During the image download there is no service interruption. After the image download is complete, the AP automatically re-boots and join the Master AP.