

Setup and Configuration of WCM Development Kit 1

1 Microchip Amazon Machine Image (AMI) Setup

The WiFi Client Module (WCM) Development Kit 1 is designed to work with an Amazon Web Service (AWS) server to show how easy it is to connect an embedded product to the cloud. Amazon provides help for their AWS account holders at <https://forums.aws.amazon.com> or paid support at <http://aws.amazon.com/premiumsupport/>.

1. If you do not have an AWS account with Amazon, go to <http://aws.amazon.com> and create one.
 - (a) Please review your company IT policies when working with external services
2. Once you, or your company, has an AWS account, go to <https://aws.amazon.com/marketplace/pp/BOOFAX38R4> and launch an instance of the Microchip AMI to connect with your WCM Development Kit 1.

2 WCM Development Kit 1 Hardware Setup

This section will guide you through the setup needed to commission the WCM Development Kit 1 hardware to work with the Microchip AMI that you just configured.

1. Power on the WCM Development Kit 1. Led ‘D5’ will flash indicating the board needs to be configured.
2. The module will create an access point (AP) with SSID ‘yyyyyy_WCM’, where ‘yyyy’ is the last six bytes of the module’s MAC address. Connect to this AP with your computer or mobile device. Note: Remember your device’s MAC address as this is used for the UUID for your WCM.
3. When your computer or mobile device indicates a successful connection to the AP, open a browser and enter 192.168.1.25 as the url and open the page.
4. You should be greeted with the WCM Development Kit 1 Embedded Configuration Webpage.
5. Enter your Network SSID into the box labeled ‘Network SSID:’.
6. Select the type of security in the drop down box labeled ‘Security Type:’ - ‘None’, ‘WEP’, or ‘WPA/WPA2 Passphrase’.
7. If you selected ‘WEP’ or ‘WPA/WPA2’ a box to enter in the passphrase/key will appear labeled ‘Password:’, enter the passphrase/key.
8. Enter in the IPv4 address of the AWS server running the Microchip AMI into the AWS Server Address (IPv4) boxes. (Each box is a byte of the four byte ip address, for example if your IP address is 192.168.100.100 then it would look like 192 . 168 . 100 . 100)
9. When the information is complete, press the ‘Join’ button.
10. When the configuration is completed, a ‘Reconnection in Progress’ page will be displayed. Your WCM Development Kit 1 will now be connecting to the router or AP you entered. You can exit the browser at this time.

3 Using the Demo

Now that all of the setup is compete, the following items will allow you to use the demo.

1. Connect your computer or mobile device to the internet and open a web browser and enter the IP address you used above to connect to the Microchip AMI running on AWS.
2. The Microchip AMI will prompt you for the WCM Development Kit 1 UUID, this is the last 6 bytes of the devices MAC address that was broadcast in the SSID. Enter this UUID into the box labeled ‘WCM DK1 UUID’ and click ‘Set UUID’. Note: Cookies must be enabled in your browser!

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3. Power on the WCM Development Kit 1; the green LEDs will light up in a counter-clockwise pattern indicating that the development kit is associating with the router or AP that you entered above.
4. The development kit will indicate association by flashing the two blue LEDs.
5. Once the product is connected, you can press, and hold, any of the buttons on the demo and it will change the status of the corresponding button indicators on the Microchip AMI you created.
6. Clicking the LED buttons on the Microchip AMI you created will change the status of the LEDs on the WCM Development Kit 1 board.
7. Changing the potentiometer on the board will change the value see on the website.
8. The board will go into sleep mode after 5 minutes, to wake the board press ‘S1’.
9. To clear the configuration from the board, hold ‘S1’ while powering up the board.

To provide feedback to the user the two blue LEDs at the top of the board are used to indicate status of the demo. Please use the table below to interpret the diagnostic codes reported by the WCM Development Kit 1 when these or other LEDs are illuminated.

D7	D6	D5	D4	D3	D2	D1	Diagnostic Report
-	0	F	0	0	0	0	Configuration Mode: Need to configure
-	F	F	0	0	0	0	Connected to AP
-	1	0	C	C	C	C	Associating to AP
-	1	1	0	0	0	1	Connection Issue, no internet found
-	1	1	0	0	1	0	Association to AP failed
-	1	1	0	1	0	0	No Record for UUID
-	1	1	1	0	0	0	Database Issue
-	F	0	-	-	-	-	Normal Operation: D6 flashes each message transmission
1	-	-	-	-	-	-	Battery Voltage Low

F = Flashing, C = Rotating in a counter clockwise pattern,
- = Don't care, 0 = Off, and 1 = On

Table 1: Diagnostic Codes

Revision History

Revision	Date	Author(s)	Description
1.0.0	2014-01-17	DC, SBP	Initial Release of Document
1.0.1	2014-10-23	DC, SBP	Updated for WCM Development Kit 1 firmware 1.0.0