

eS-WiFi Evaluation Board Setup Documentation



Release: January 22, 2016

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1. Introduction

This document will go over the steps for setting up and modifying your evaluation board out of the box.

What Is Required

1. Computer or Smartphone
2. Method of powering Evaluation Board (Computer or Outlet USB Adaptor)
3. Wi-Fi connection

Understanding the Board

Below is an image of the evaluation board.



2. Evaluation Kit Connections

The evaluation kit (EVK) comes pre-programmed with Ayla Networks' cloud application firmware. The purpose of this EVK is to allow you to connect to the Ayla cloud and demonstrate functionality such as controlling the LEDs or viewing the status of the push buttons through the cloud. In order to exercise these features and connect to the Ayla cloud you must first register using a PC or smartphone.

The initial setup requires that you connect to the USB port located next to the black DC power jack. Upon power up, the Inventek board (ISM43362-M3G-I44-E) will automatically start an access point that will be used to connect and register the device.

There are two ways to communicate to the Inventek ISM43362 module using the Ayla firmware.

1. **Ayla commands are sent to the module over UART1 (pins 21/22) on the module. This UART is connected to the USB port that you use to power the board.**
2. **A debug port is accessible through UART 3 (pins 28/29) which is labeled CFG0/CFG1 on the Inventek module. This port is also accessible through the J12 header as pins 22 and 24 (RX and TX).**

The following interfaces are made available on the ISM43362 module.

LED - 6

The LED is where you should be looking to see if your LED's have lit up after setting up the Developer's Dashboard.

LED - 7

The LED is where you should be looking to see if your LED's have lit up after setting up the Developer's Dashboard.

Blue Button - SW2

This blue button (is located in the top is used in the demo applications and can also be used to factory reset your device.)

Blue Button - SW1

This blue button (is located in the top is used in the demo applications and can also be used to factory reset your device).

Reset Button - SW3

This reset button, notably on the STM32FDiscovery board, will reset the STM board when pressed. Additionally, it can be used to factory

reset your device. Whenever this document says to reset the device, use this button or remove power from your device.

USB ST-Link

This Mini-USB female connector is used to program your board. Make sure you are plugged in here when downloading a new flash onto the board.

LINK LED

This blue LED will notify you that the board has a connection to the network and, in turn, the cloud.

3. Technical Support

Ayla technical support can be contacted at support@aylanetworks.com or by submitting a ticket through the [Ayla Support Portal](#).

Factory Reset

If your device is connected to the wrong network, or for any other reason, you can factory reset your device. To do this, go to the STM32F board and simply hold the blue button then quickly tap the black reset button without letting go of the blue button. The blue LED should start blinking when you tap the black button. When it finishes blinking, your device should restart and you have successfully completed the factory reset. You may need to setup your device's network link after completing a factory reset, so check the LINK LED.

4. Getting Started Roadmap

To get started on the Ayla Platform with an evaluation board, please follow the steps below. Please note that these steps are the shortened version of what you need to do, for more details, please read further.

Registering for an Ayla Support Account

You will need to register a support account at

<https://www.aylanetworks.com/registration>

to gain access to the support documents below. To access the support page, visit

<https://support.aylanetworks.com/forums>.

Registering for an Ayla Developer Account

Quick Setup (iOS/Android phone required)

Install the Android or iOS app called Ayla Control and follow the step by step instructions. Once done, your device will be setup and you can skip down to Modifying your Design Kit (PC will be required).

Normal Setup (PC)

To begin development, you will need to create an account on the Ayla Developer Website. Visit <https://developer.aylanetworks.com/registrations/new> to start. Support documentation on setting up your developer account is available in the Getting Started section.

Wi-Fi Setup

When you first receive the Ayla Design Kit, it is configured in "Soft-AP" mode and will need to be connected to the Ayla Service. This connection is indicated by an Orange Link LED that has been conveniently mounted to the Ayla Adapter. For step by step instructions on how to connect your Design Kit to the Ayla Service, please visit the Getting Started Video or view the Design Kit Set Up via Web Guide.

Registering your Design Kit to your Ayla Developer Account

After you've connected the Design Kit to the Ayla Service, it needs to be registered to your developer account. Please visit the Registering Ayla Design Kit via Web Guide or view the Getting Started Video.

5. Getting Started

To continue, you will need to have registered for a support account and been granted access. If you have not yet been granted access and have a mobile device, it is possible to attempt the Quick Setup process.

6. Registering for an Ayla Developer Account

Mobile

To get started, locate the app called Ayla Control on your respective app provider (Google Play or iTunes) and install it.

Registering on Mobile

Simply select the Sign Up button and input in the required fields. Passwords must be at least 6 characters long. You will need to go to your email to confirm your account.

PC Setup

To begin development, you will need to create an account on the Ayla Developer Website. Visit <https://developer.aylanetworks.com/registrations/new> to start.

Normal Setup

Tap Sign Up at the top right and input in the required fields. Passwords must be at least 6 characters long. When you go to your email to confirm your account, select the link. If the link does not work, login on the developer website and put in the code provided in the email.

Online Authentication

Oauth is enabled, meaning you can sign in using a Facebook or Google account. To do this, simply select the appropriate icon, login (if not already), and then allow permissions when asked.

7. Wi-Fi Set up and Registration

When you first receive the Ayla Design Kit, it is configured in "Soft-AP" mode and will need to be connected to the Ayla Service. This connection is indicated by a blue Link LED that has been conveniently mounted to the EVB.

Before you start:

Have you powered up your board? Make sure to power up the board from the Inventek board's Power USB Port (J9).

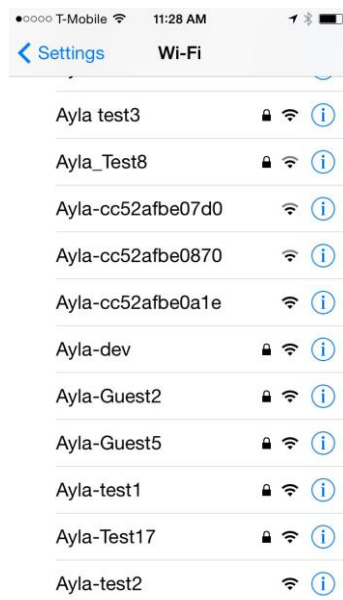
8. Quick Setup (iOS)

iOS Setup

Sign in using your account information you just created. You should see a page that looks like this:



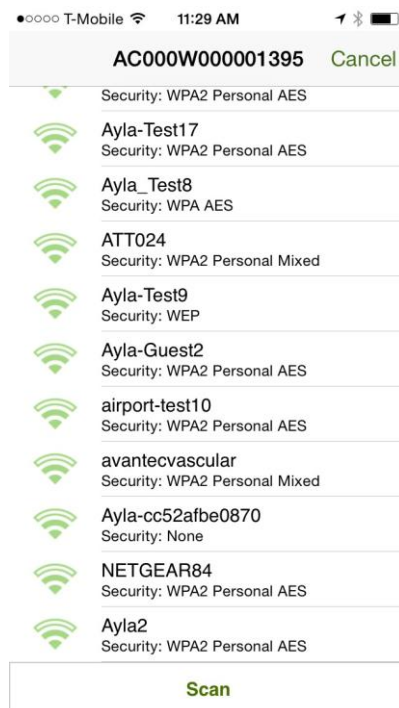
From here, you're going to need to take a step back and change your Wi-Fi Network. Select the one starting with "Ayla-XXXXXXXXXXXX" where the X's are numbers. If you have multiple boards not registered, this may get confusing, so be sure to watch the LINK LED's carefully.



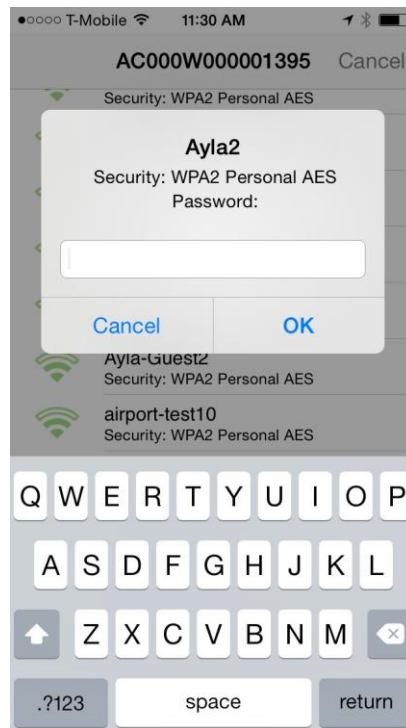
Once connected, you should automatically get redirected to the page below. If not, open Ayla Control and login.



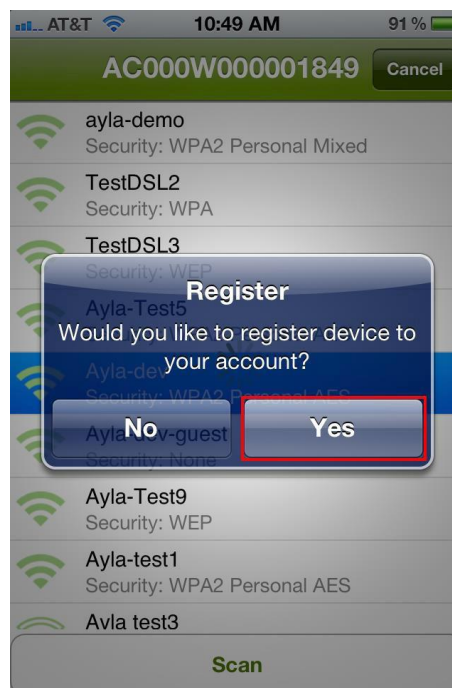
Tap Start Setup. You should now see a list of Networks again. This time, select the network you want to be on



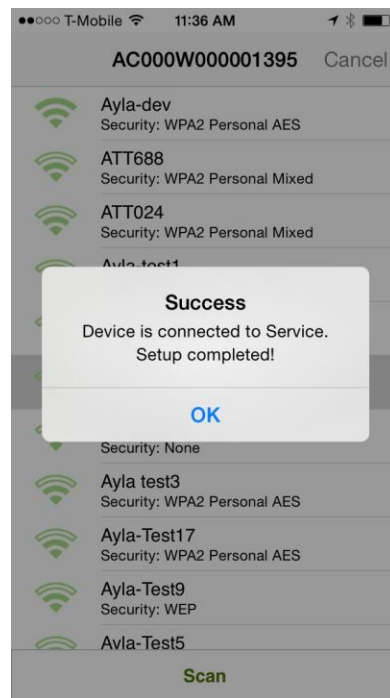
and input your password.



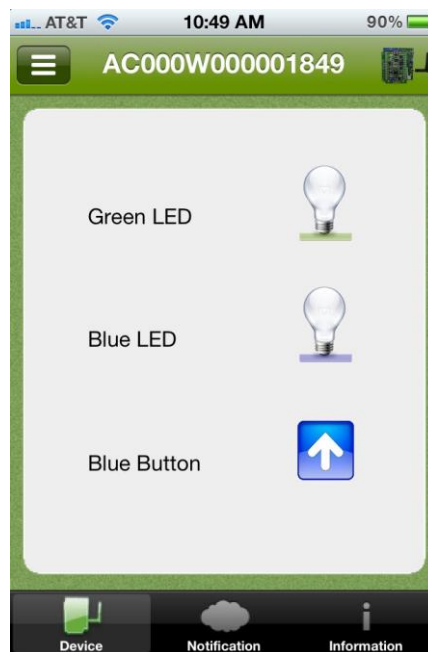
After waiting for a little bit, you should notice a toast stating that you have successfully connected the device. The Orange LINK LED should also turn on at this point. Select Ok and you asked if you would like to register the device. Select Yes.



If registration is successful, you will be notified. Select Ok and you will get redirected to a page that shows you the properties.

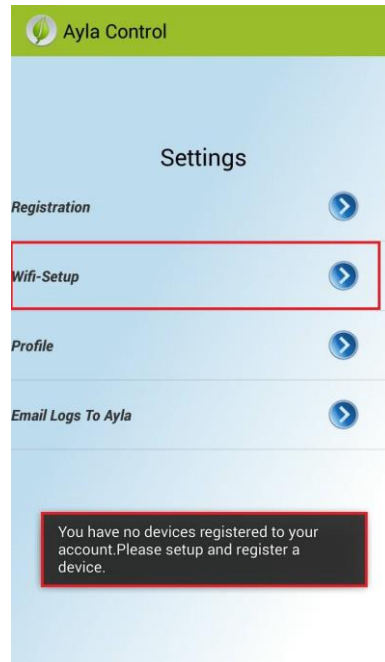


Tap one of the LED icons and if the LED lights up on your board, you are done.

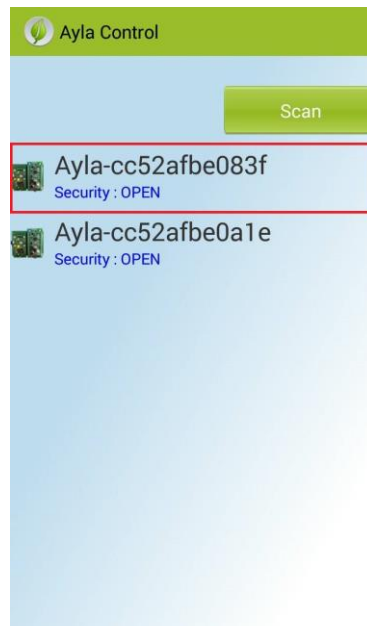


Android Setup

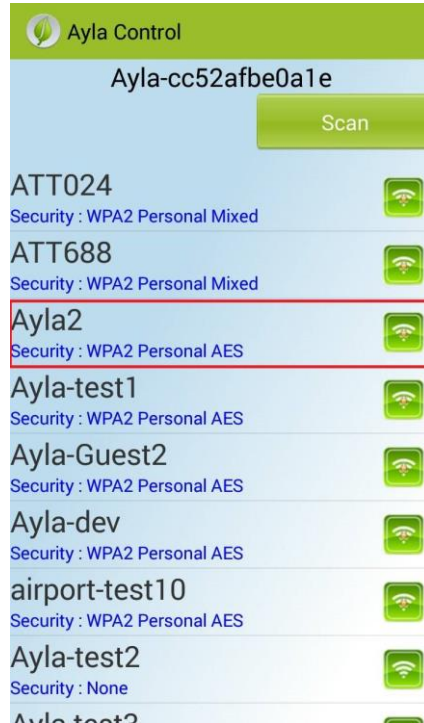
Sign in using your account information you just created. You should see a page that looks like this:



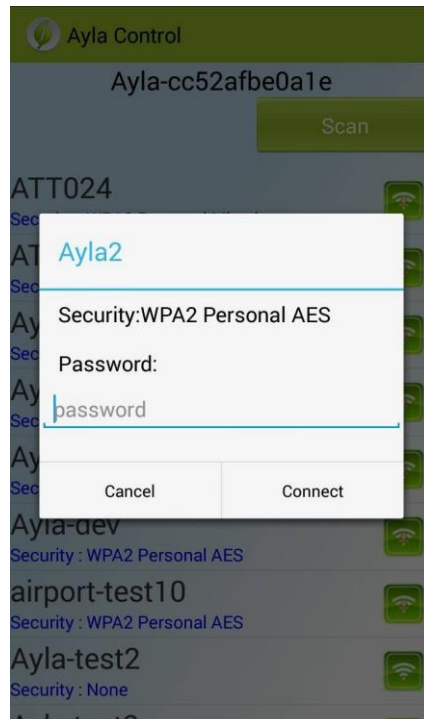
Select the board you see. If you have multiple boards not registered, this may get confusing, so be you may want to turn off some of your unregistered boards.



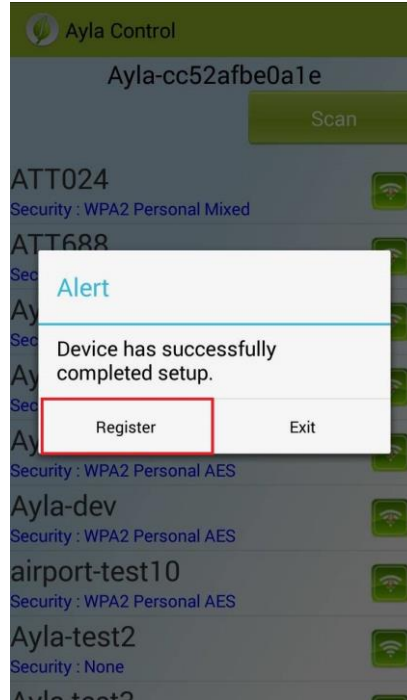
Once connected, you should now see a list of Networks again. This time, select the network you want to be on



and input the password.



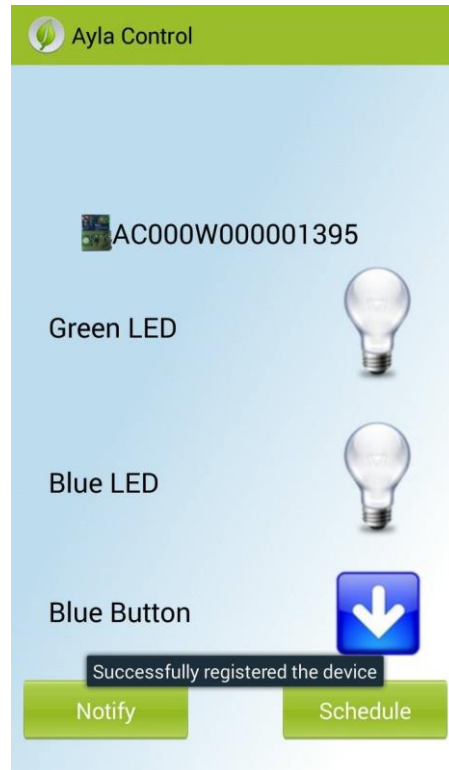
After waiting for a little bit, you should receive an alert stating that the device has been setup. At this point the Orange LINK LED should turn on and an alert message will indicate that setup has completed. Tap Register



and then tap Register again.

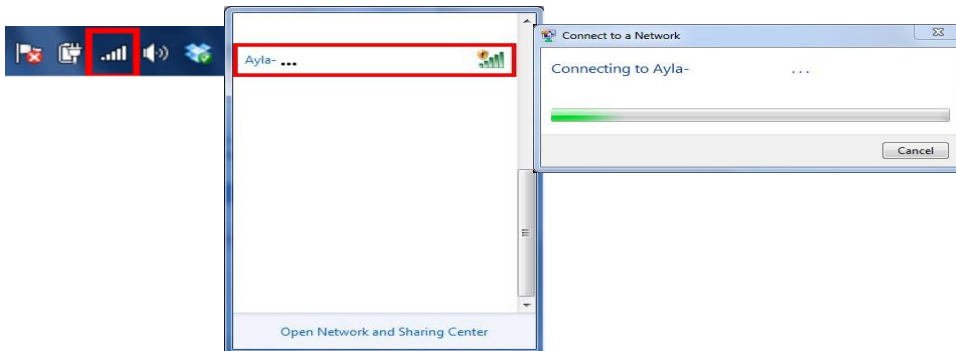


If registration is successful, you will be notified with a toast. Tap one of the LED icons and if the corresponding LED lights up on your board, you are done.



PC Setup

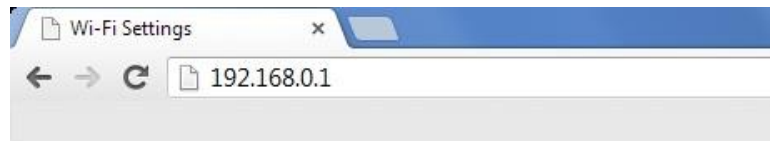
In order to register with your PC you will need to connect the access point created by the module. The SSID of this Wi-Fi network will be of the form “Ayla-XXXXXXXXXXXX” where all the X's are the MAC Address of the device. If you have multiple devices unregistered, try to keep only the one you want to register powered up.



While connected to the device, go to **192.168.0.1** on any browser.



The Ayla module will scan for available networks and the results will be displayed.



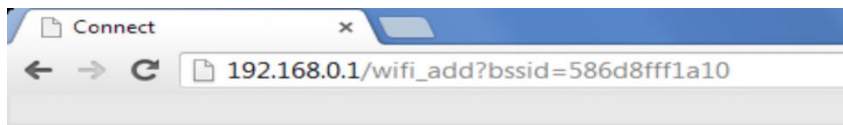
Wi-Fi Settings

Wi-Fi Scan Results	
Network	Strength
Home AP	<div><div></div><div></div><div></div><div></div><div></div></div> <div><div>Connect</div><div></div></div>

[Refresh](#)

Wi-Fi Profiles	
Network	Status

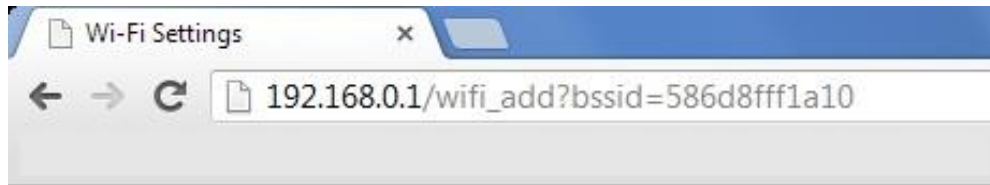
Join your network by clicking the Connect button. and typing in the network password if necessary. If necessary, you will be prompted for the network key. Enter the password and click the Submit button.



Connect

Connect	
Network	Home AP
Security	WPA2 Personal
Key	<input type="text"/>
<div>Submit</div>	

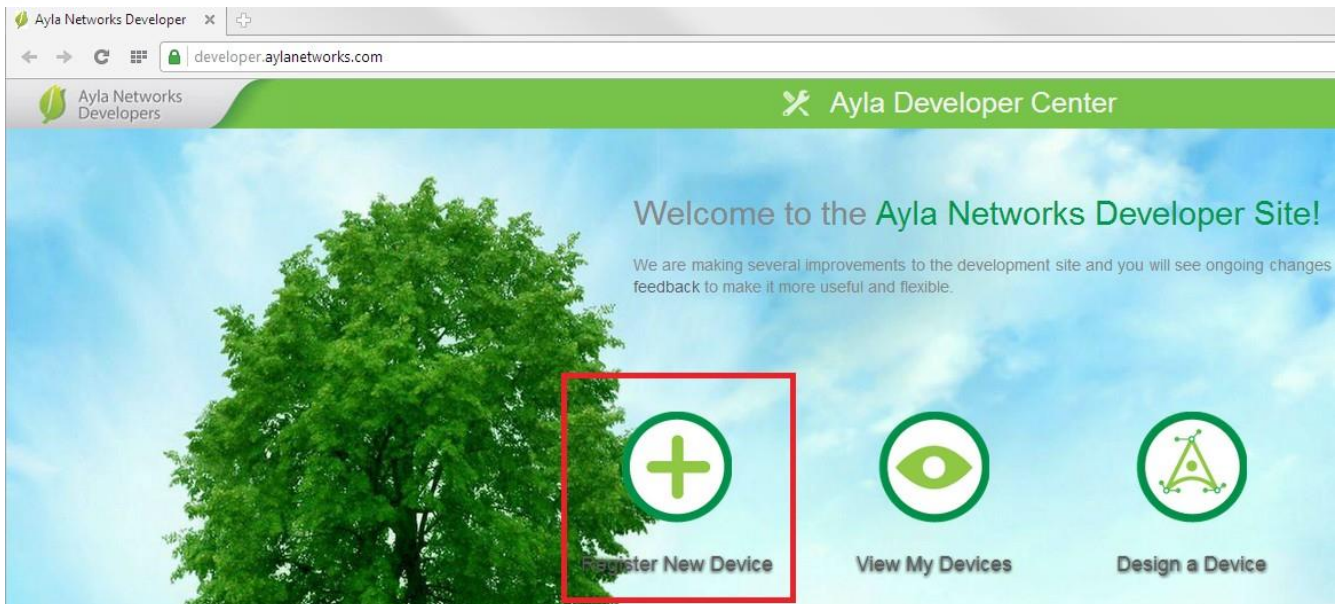
Within 10-30 seconds a message indicating that you have successfully joined the wireless network should appear.



Wi-Fi Settings

Success: Connecting

At this point the Orange LINK LED should be active. If this the LED is visible, please go to the Developer webpage and login. Once at that site you will need to select Register New Device as shown in the picture below.



If the Ayla service can find a device, it will display a link to its web server. Select the link.

Device Registration

Please make sure the Ayla Network Module you want to register is connected to a wireless network and has Internet connectivity. The LINK LED should be ON indicating that the device is connected to the Ayla Service.

In order to register the Ayla Module, the computer or device you are using to access this web site should be connected to the same wireless network as the Ayla Module.

Connect to the Ayla Module web server by following this link. Copy the Registration code and paste it in the form below.

Ayla Module Web Server Registration Page

Registration Code: *

CANCEL

REGISTER

If the service is unable to find your device, see the FAQ for this section below. An image of what that page looks like is provided here:

Ayla Networks Developers

Ayla Developer Center

Device Registration

Please make sure the Ayla Network Module you want to register is connected to a wireless network and has Internet connectivity. The LINK LED should be ON indicating that the device is connected to the Ayla Service.

In order to register the Ayla Module, the computer or device you are using to access this web site should be connected to the same wireless network as the Ayla Module.

No candidate devices were found. Please reset your device and reload this page once the LINK LED is ON.

CANCEL

Once you enter the Web Server page, copy the code provided and then input it into the box on the Registration page. You will have to go back a page unless you opened a new tab.

When working with multiple kits, it is highly recommended to do this with one kit at a time to avoid confusion.

After registering your device, a list of all your devices will appear. To access your device, select the Serial Number.

Ayla Networks Developers

Ayla Developer Center

2014-06-23 16:13:20 UTC

Devices

Rules

Groups

Templates

Register New Device

NEED HELP ?

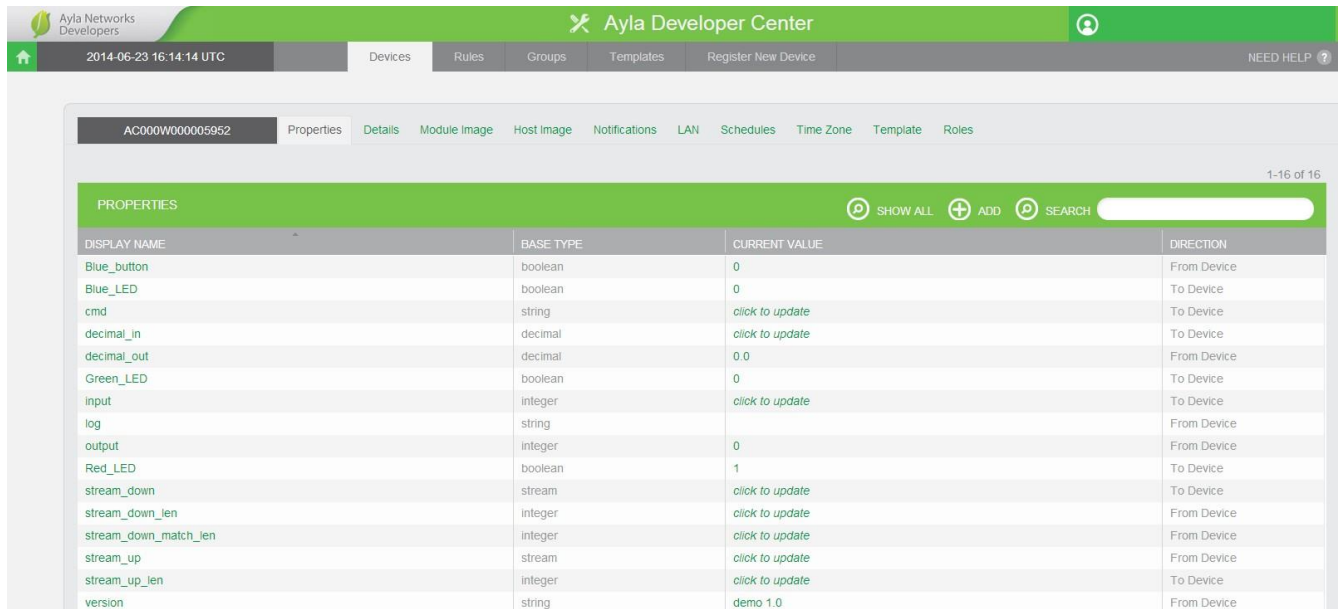
DEVICES

1-1 of 1

SEARCH

STATUS	SERIAL NUMBER	PRODUCT NAME	PRODUCT CLASS	MODEL	LAST CONNECTED
	AC000W00005952	Ayla EVB	demo	ledvrb	2014-06-23T16:12:21Z

Accessing your device should show you a page with a list of properties.



DISPLAY NAME	BASE TYPE	CURRENT VALUE	DIRECTION
Blue_button	boolean	0	From Device
Blue_LED	boolean	0	To Device
cmd	string	click to update	To Device
decimal_in	decimal	click to update	To Device
decimal_out	decimal	0.0	From Device
Green_LED	boolean	0	To Device
input	integer	click to update	To Device
log	string		From Device
output	integer	0	From Device
Red_LED	boolean	1	To Device
stream_down	stream	click to update	To Device
stream_down_len	integer	click to update	From Device
stream_down_match_len	integer	click to update	From Device
stream_up	stream	click to update	From Device
stream_up_len	integer	click to update	To Device
version	string	demo 1.0	From Device

9. Setup and Authentication FAQ

I registered my device on my mobile device, can I still access it elsewhere?

Yes, once your device is registered, it will be accessible from all devices. It is now tied to your account. Registering on different devices is just preference.

My Device's LED did not turn on when I clicked on it!

If your device's LED did not turn on, check the LINK LED. If that is off, you did not select the appropriate board during the Wi-Fi setup phase.

My LINK LED is on, but I can't do anything with it!

If the LINK LED is on and nobody has linked up to your device, do a Factory Reset and try again. Keep in mind you must be on the same network as the device during the Registration process.

Something went wrong!

A device can only be registered to one developer account at a time. You will need to unregister a device to attach it to your account if it has already been registered.

Additionally, your design kit should be powered by the Ayla board and not the STM32 board. If you do not power it from the Ayla board, it may not get enough current.

10. What do I do now?

Head over to the [Hello World](#) document to get started creating and adding properties to your device.

[Hello World! Enabling My First Property](#) (AY006GHW2)

[Ayla Product Development Overview](#) (AY006GOV1)

11. Revision Control

Document #: 70017-Ayla-PB
Ayla Networks Push Button

Date	Author	Revision	Comment
1/22/2016	KMT	1.0	Preliminary
1/24/2016	KMT	1.1	Rev. Control/ Pin update

12. Contact Information

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