

# RAK DashButton Development environment setup

## Hardware Requirement

- 1) RAK Dash button
- 2) Computer
- 3) CREATOR pro

## Software Requirement

- 1) Standard ARM MBED CMSIS DAP driver (USB driver for CREATOR pro.)
- 2) Arduino IDE (From version 1.6.5)

## Development environment

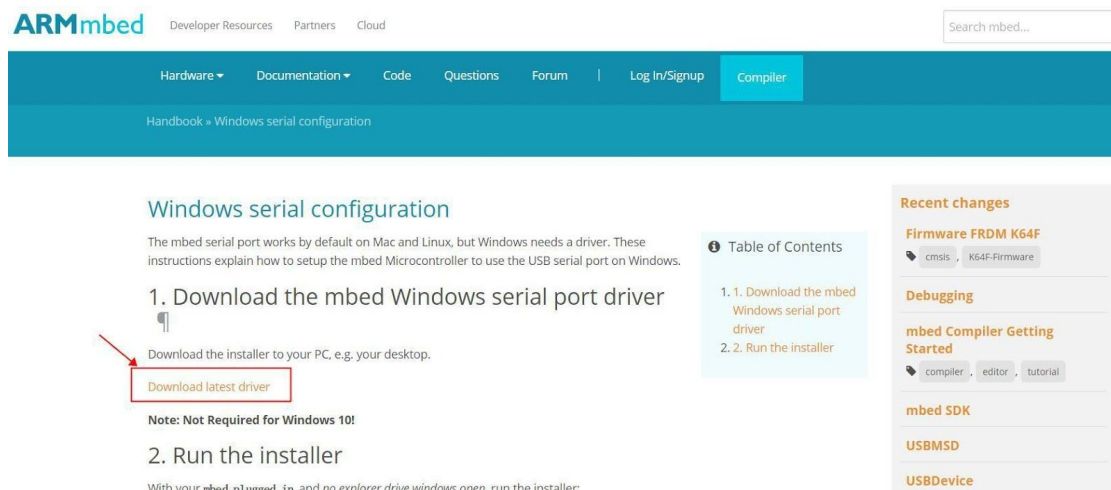
The DashButton use the CREATOR pro to download the program, so the development environment is same as the CREATOR pro.

### 1. Installing Driver

Step 1 : First , Connect CREATOR pro to the computer via Micro USB.

Step 2 : If this is the first time you connect CREATOR pro to your computer, you have to install the USB driver for CREATOR pro. CREATOR pro uses the standard ARM MBED CMSIS DAP driver, you can get the installation file and related information in the following website:

<https://developer.mbed.org/handbook/Windows-serial-configuration>



Step 3: In "Download latest driver" download and install MbedWinSerial\_16466.exe.

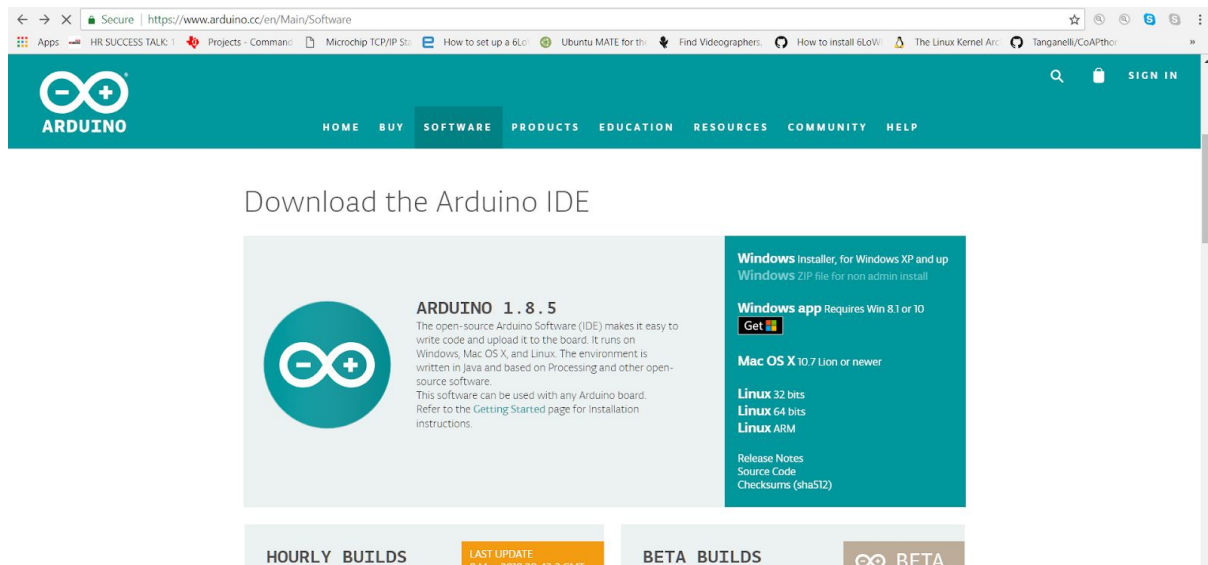
Step 4: If you are using the WIN10 system, when installing the mbed Serial Port driver, the installation fails. Please re-power the module and install the mbed Serial Port driver again. If

the device driver does not display the mbed Serial Port driver after installing the driver, update the module DAP firmware.

## 2) Set up Arduino IDE

Step 1) From version 1.6.5, Arduino IDE supports third-party hardware. Therefore, we can use Arduino IDE to develop applications on CREATOR pro, and the examples of Arduino can run on CREATOR pro too. Arduino IDE can be downloaded in the Arduino website:

<https://www.arduino.cc/en/Main/Software>

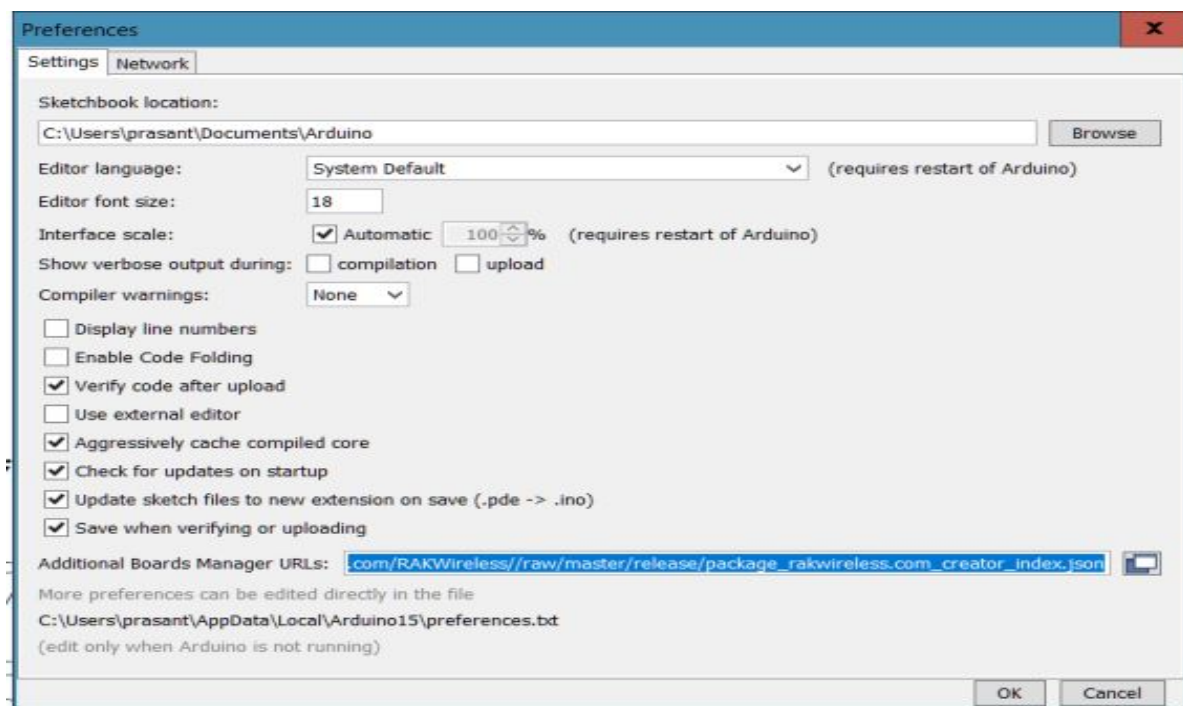


Step 2) When the installation is finished, open up Arduino IDE. To set up **Realtek Ameba** correctly in Arduino IDE, go to "File" -> "Preferences".



Step 3) And paste the following URL into "Additional Boards Manager URLs" field:

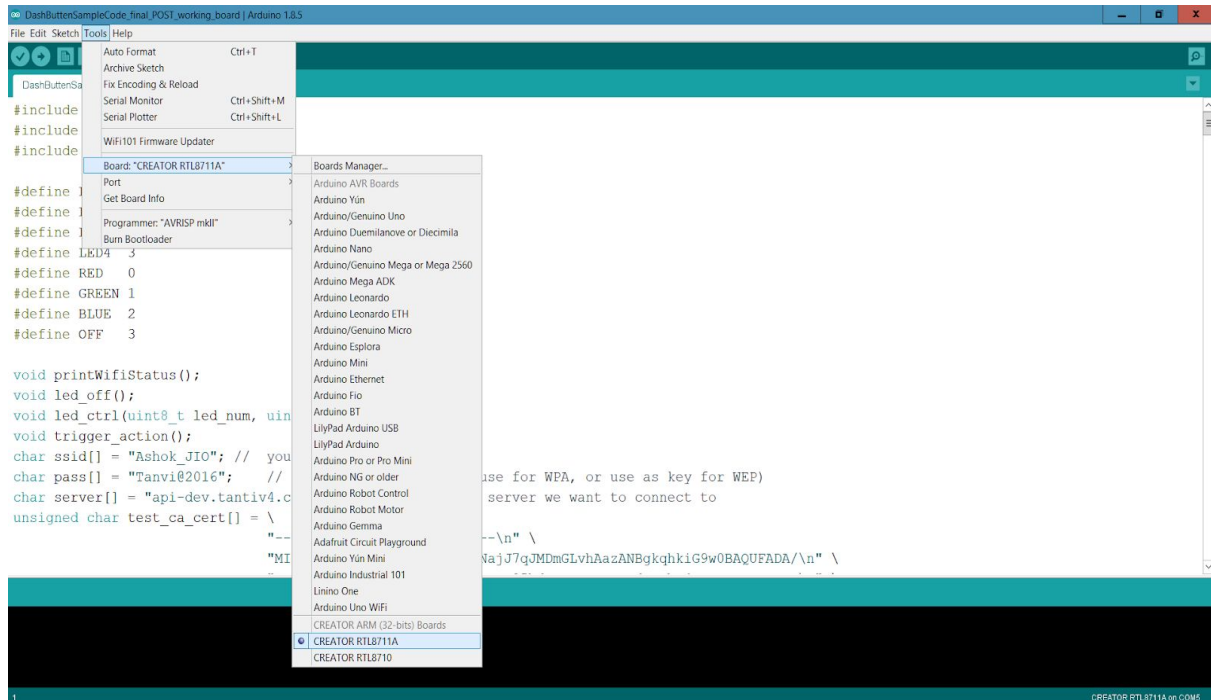
[https://github.com/RAKWireless/CREATOR-Arduino-SDK/raw/master/release/package\\_rakwireless.com\\_creator\\_index.json](https://github.com/RAKWireless/CREATOR-Arduino-SDK/raw/master/release/package_rakwireless.com_creator_index.json)



Step 4) Next, go to "Tools" -> "Board" -> "Boards Manager":

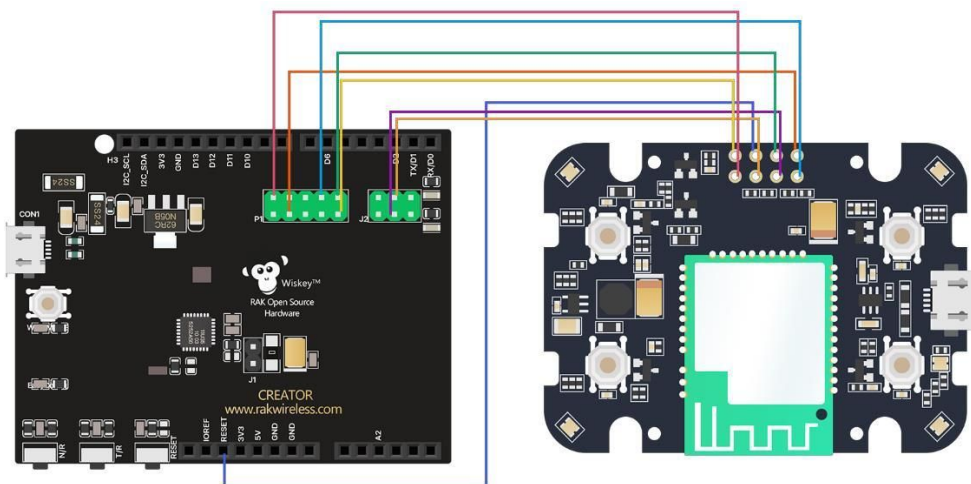


Step 6) Finally, we select CREATOR pro as current connected board in "tools" -> "Board" -> "CREATOR RTL8711A" : (NOTE:RTL8195 and RTL8711 are compatible)

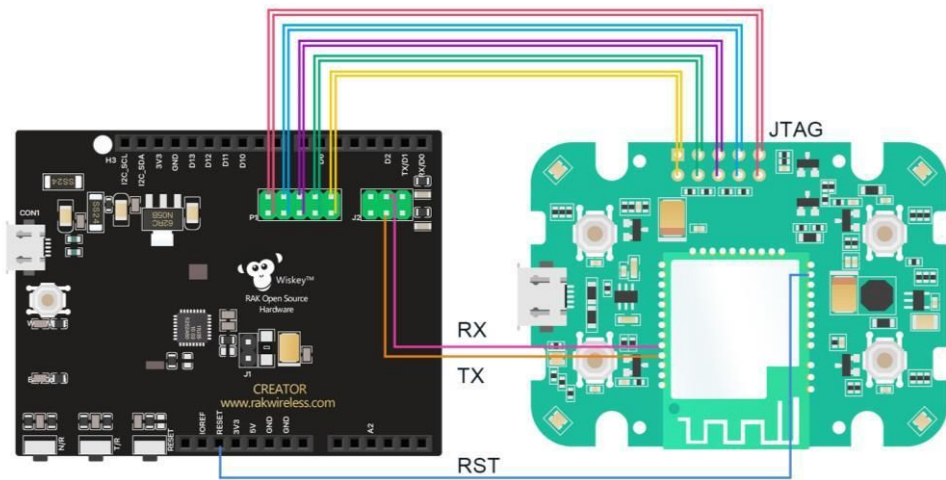


3) The Hardware JTAG connection see below :

DashButton\_V12 version:



DashButton\_V1.1 version :



#### 4)Run the Tantiv4 Dash button code example:

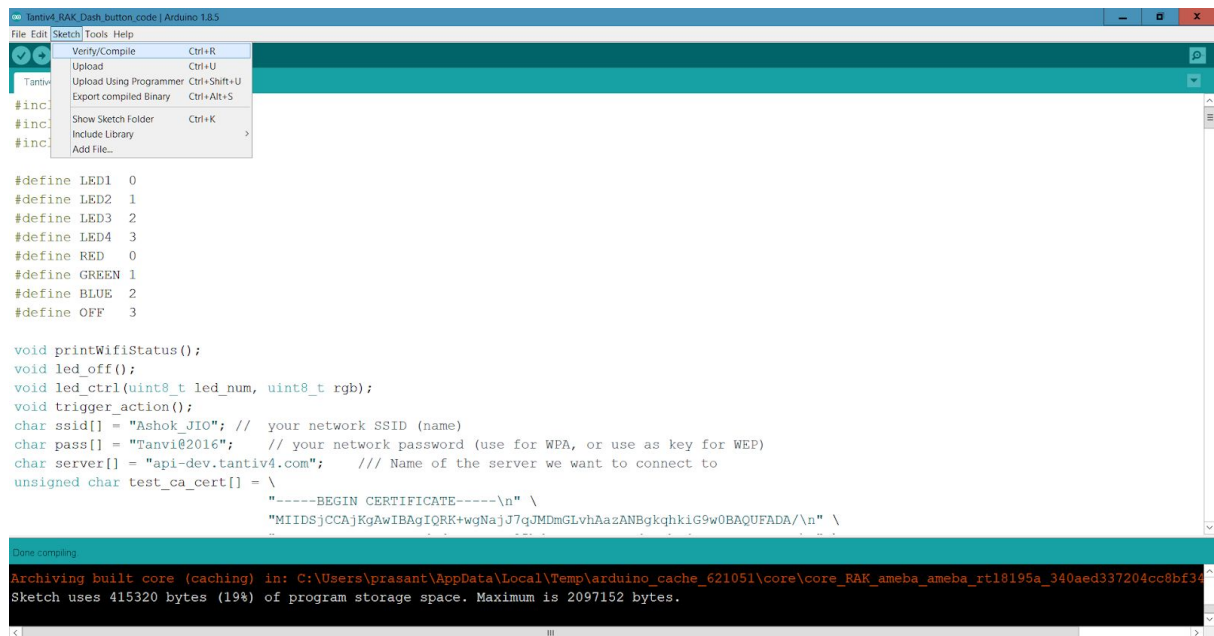
Step 1) First, make sure CREATOR pro is selected in Arduino IDE: "Tools" -> "Board" -> "CREATOR RTL8711A"(NOTE:RTL8195 and RTL8711 are compatible)



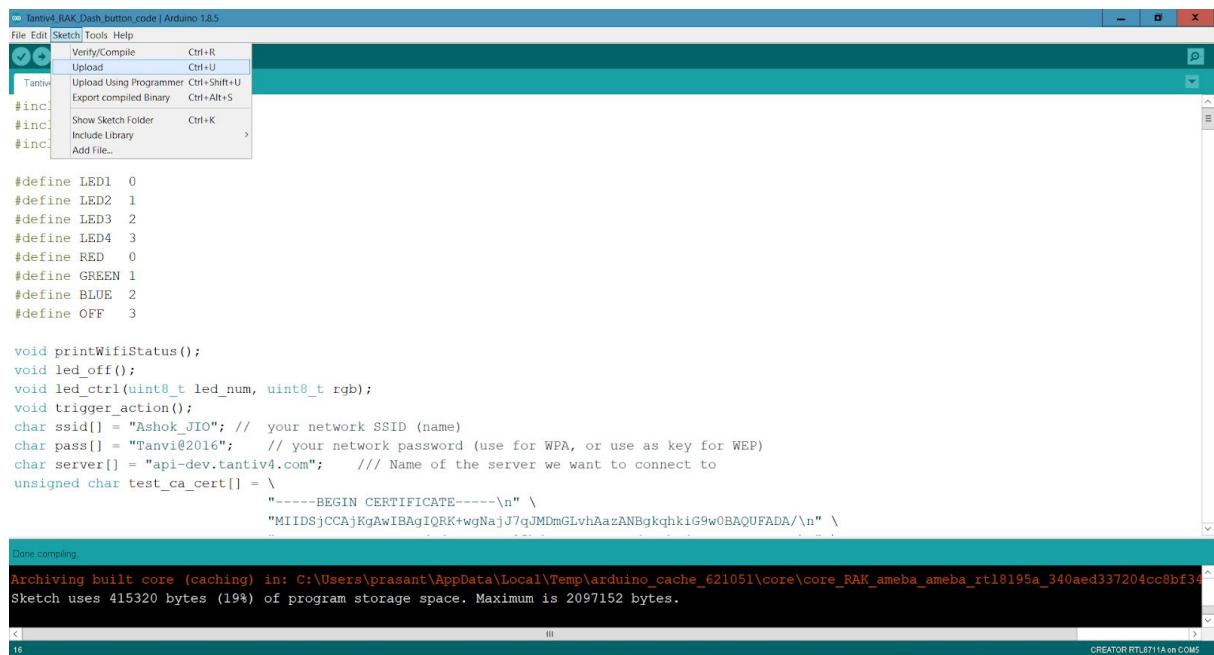




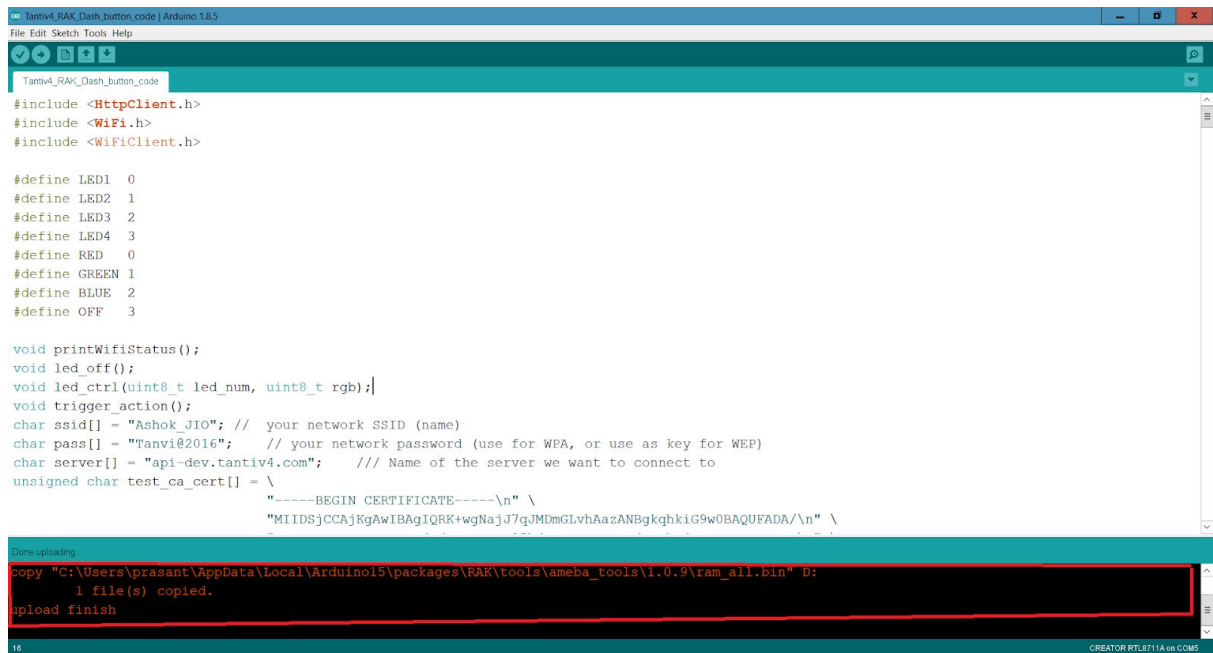




Step 5) Afterwards, we will upload the compiled code to CREATOR pro. Please make sure CREATOR pro is connected to your computer, then click "Sketch" -> "Upload". You can also click the shortcut icon.



Step6 ) Again, during the uploading procedure the IDE prints messages. Uploading procedure requires respectively longer time (about 1 minute to 2 minutes ). When upload completed, the "upload finish" message is printed.



```
#include <HttpClient.h>
#include <WiFi.h>
#include <WiFiClient.h>

#define LED1 0
#define LED2 1
#define LED3 2
#define LED4 3
#define RED 0
#define GREEN 1
#define BLUE 2
#define OFF 3

void printWifiStatus();
void led_off();
void led_ctrl(uint8_t led_num, uint8_t rgb);
void trigger_action();
char ssid[] = "Ashok_JIO"; // your network SSID (name)
char pass[] = "Tanvi@2016"; // your network password (use for WPA, or use as key for WEP)
char server[] = "api-dev.tantiv4.com"; // Name of the server we want to connect to
unsigned char test_ca_cert[] = \
    "-----BEGIN CERTIFICATE-----\n" \
    "MIIDSjCCAjKgAwIBAgIQRK+wgNajJ7qJMDmGLvhAazANBgkqhkiG9w0BAQUFADA/\n" \
    "-----"
```

Done uploading  
copy "C:\Users\prasant\AppData\Local\Arduino15\packages\RAK\tools\ameba\_tools\1.0.9\ram\_all.bin" D:  
1 file(s) copied.  
upload finish

Step 7) Finally, Repower the Dash button, and you can use the device as a remote controller to your home. If you encounter any problem, Please contact us "support@tantiv4.com"