

Getting Started with BLE Shield 2

Objective

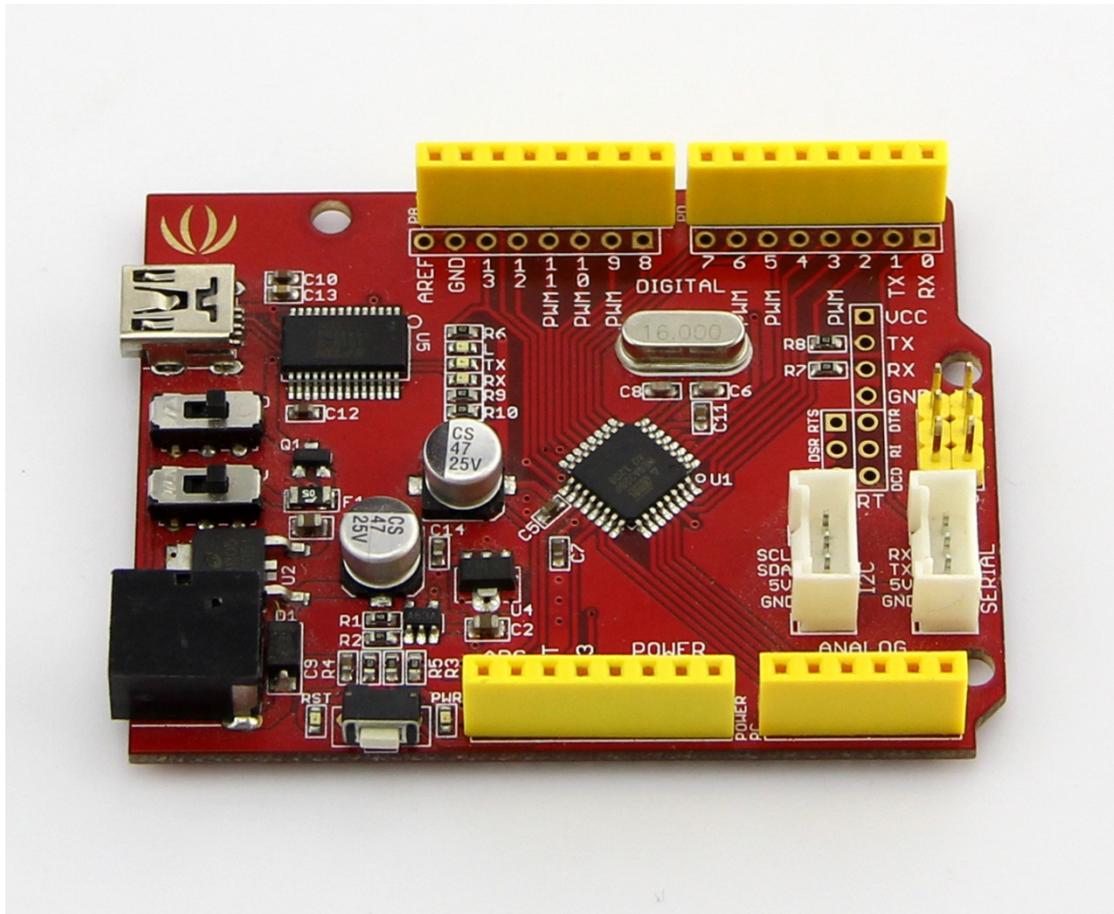
Getting BLE Shield 2 to work with iOS BLE Arduino App on iTunes App Store

Requirements

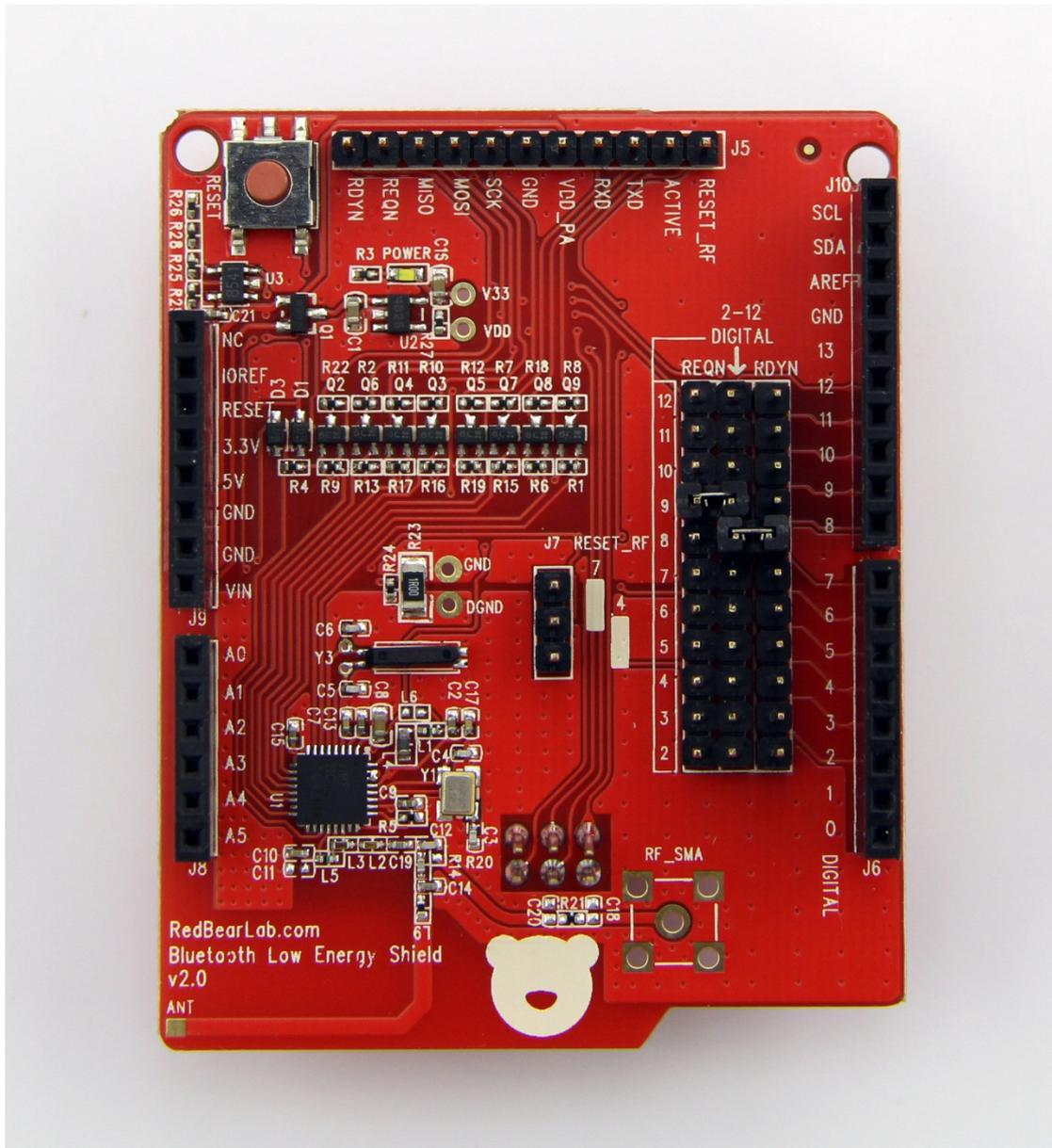
- iOS Devices supporting Bluetooth 4.0 Low Energy:
iPhone 5s/5c/5, iPhone 4S, iPad mini, iPad (4G, 3G), iPod Touch (5G)
- Compatible devices running iOS Version 6.1.3 or above.
- Arduino or Arduino compatible boards running ATmega328, with operating voltage at 3.3V or 5V, such as: Uno, Mega, Leonardo (This tutorials use Seeeduino)
- Arduino IDE installed. Able to upload basic sample sketches to Arduino or Arduino compatible Board (This tutorials use Seeeduino).

Hardware Check-List

Seeeduino



BLE Shield 2



Seeeduino USB Cable



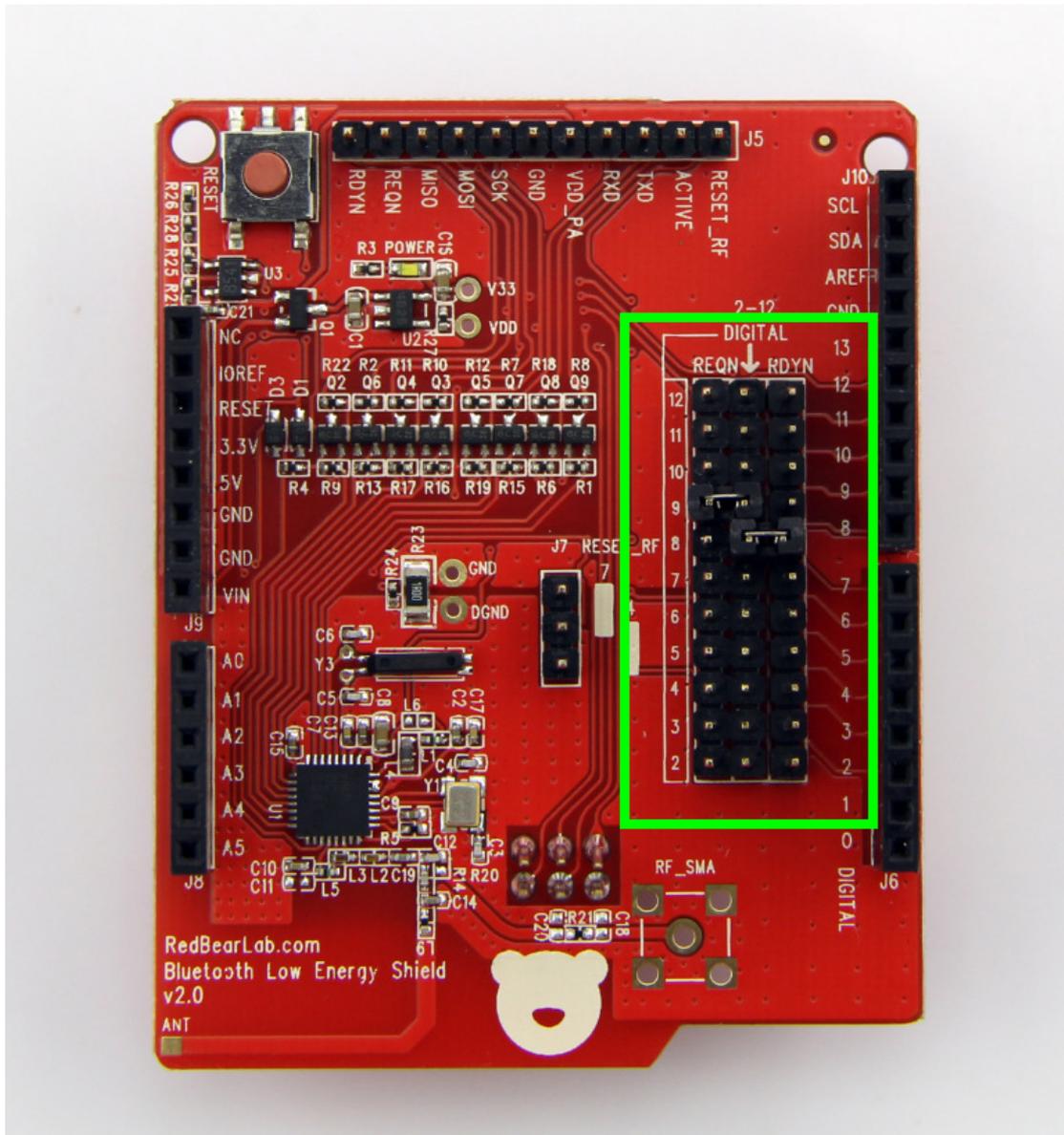
Host PC running Windows / Mac
Compatible iOS Device

Software Check-List

- Arduino IDE ver 1.0.5 / [Download](#)
- BLE Shield Library v2.0 for Arduino / [Hyperlink TBD](#) [Download](#)
BLE Shield Library v2.0 is backward compatible with BLE Shield 1
- iOS BLE Arduino App / [Download](#)
(Same as the one used in BLE Mini Example)

BLE Shield Set-up (with Windows)

1. Disconnect the Seeeduino from Host PC and any other Power Sources
2. Mount BLE Shield 2 onto Seeeduino



Default settings (unmodified sketch from BLE Shield Library 2.0)

NordicBLE	Seeduino
RDYN	8
REQN	9

4. Connect Seeduino to Host PC with USB cable.



5. Check the Power LED on both Seedeino and BLE Shield 2 are lit up.



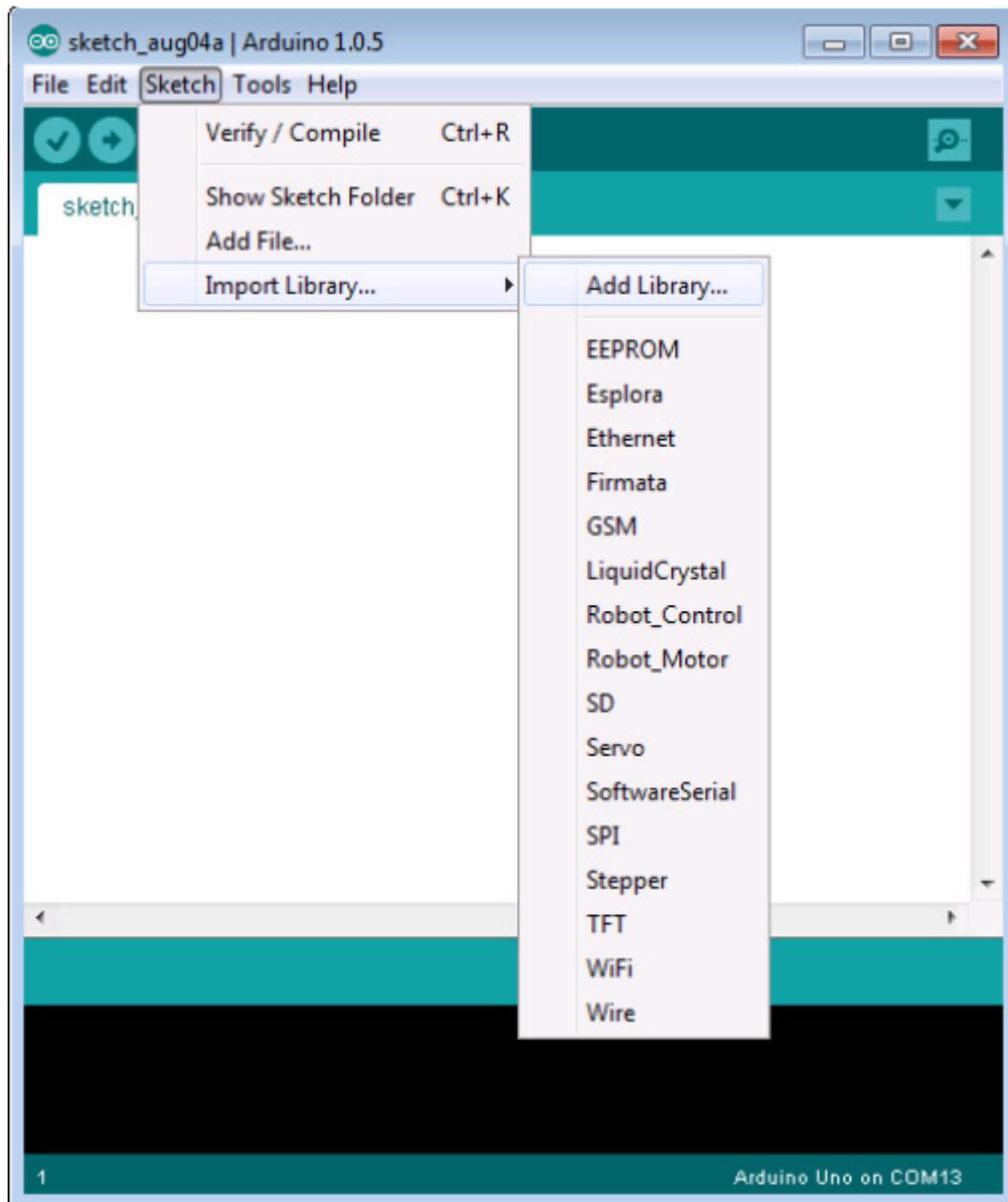
From this point onwards, there are no difference between BLE Shield 1 and 2

6. (First Time Only) Import BLE Shield Libraries to Arduino IDE v1.0.5.

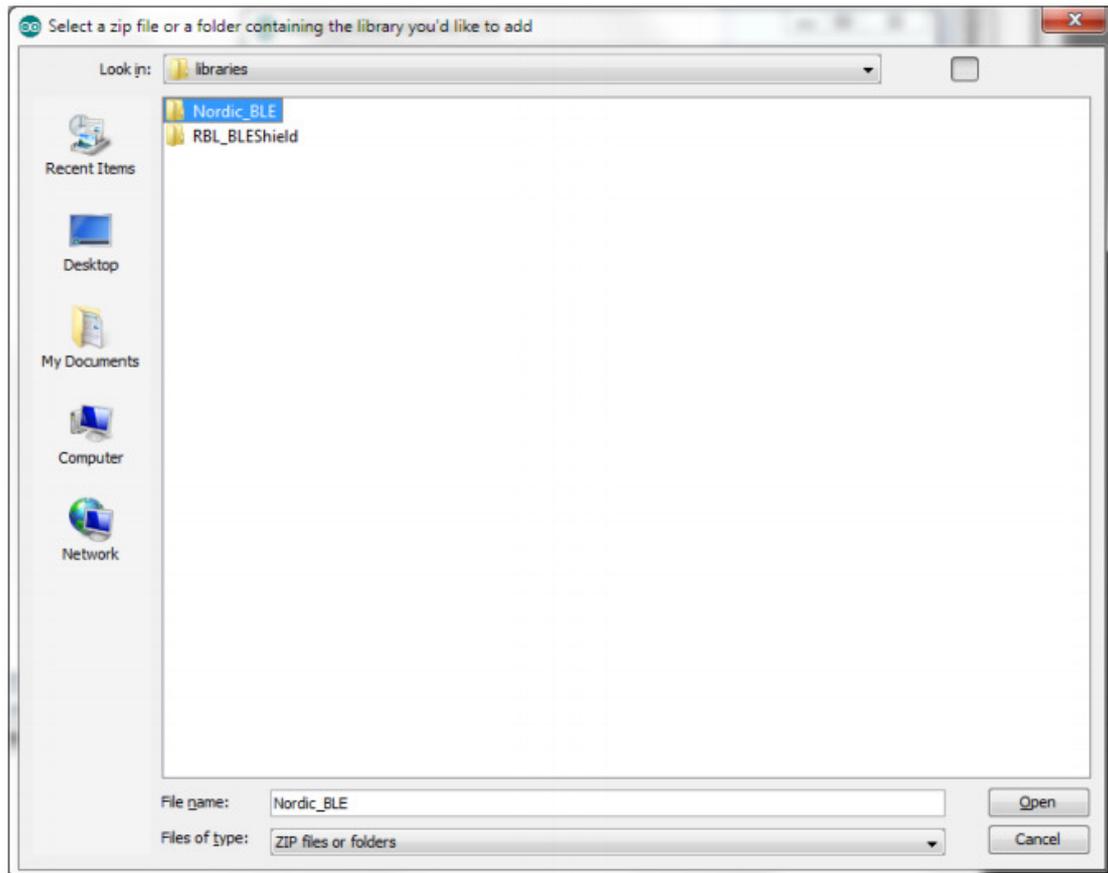
- Unzip the BLEShield_Library_v2.0.zip package
- Uninstall old version of BLE Shield Library from Arduino IDE
 - Exit Arduino IDE
 - Go to Arduino Library folder. (C:\Users<Login-name>\Documents\Arduino\libraries)
 - Delete folders "BLE" and "BluetoothLowEnergy"
 - Delete folders "RBL_BLEShield" and "Nordic_BLE"

If you are using older IDE version which requires manually adding libraries. Go to next step. Restart the Arduino IDE after copying the both the Nordic_BLE and RBL_BLEShield folders. The library and examples should now appear under IDE menu File / Examples / RBL_BLEShield

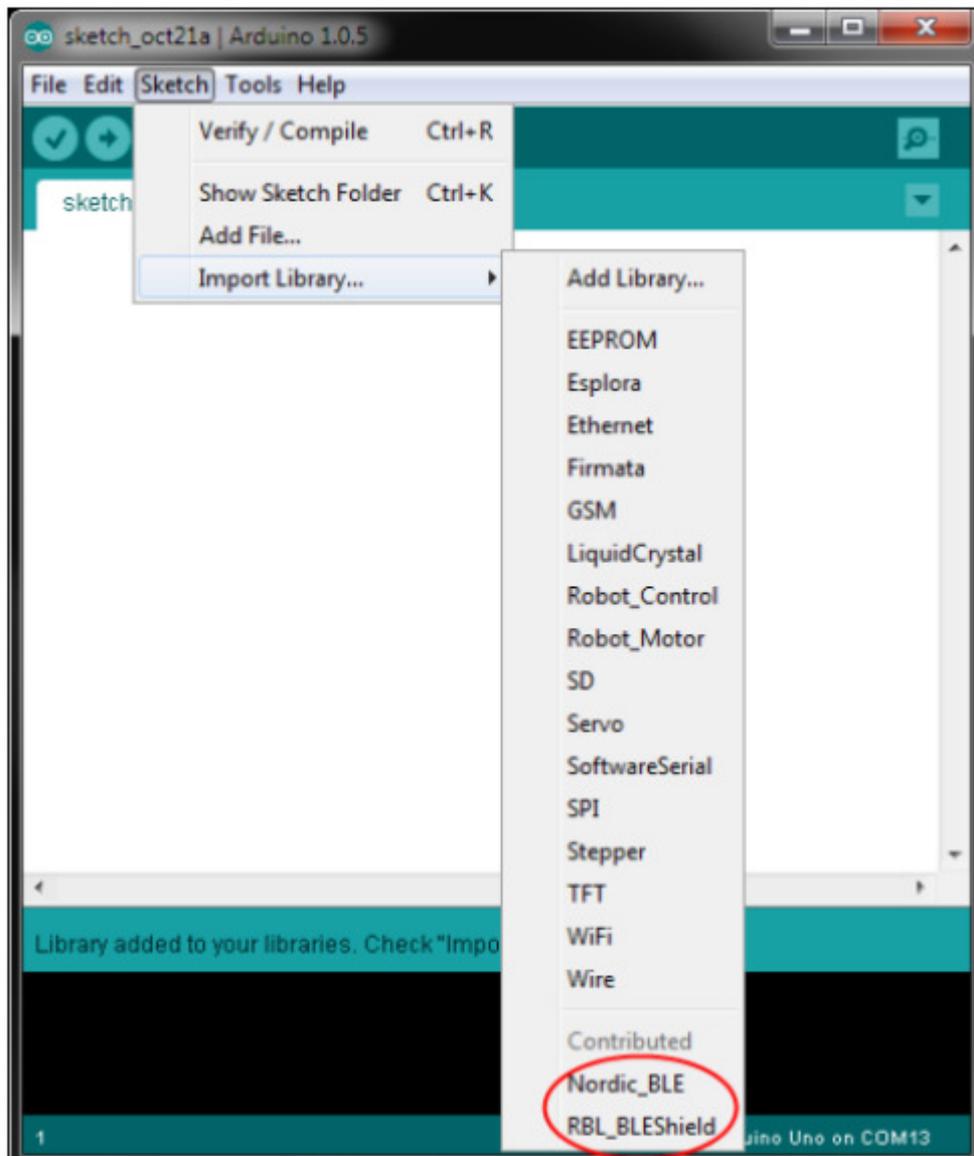
- Sketch > Import Library... > Add Library...



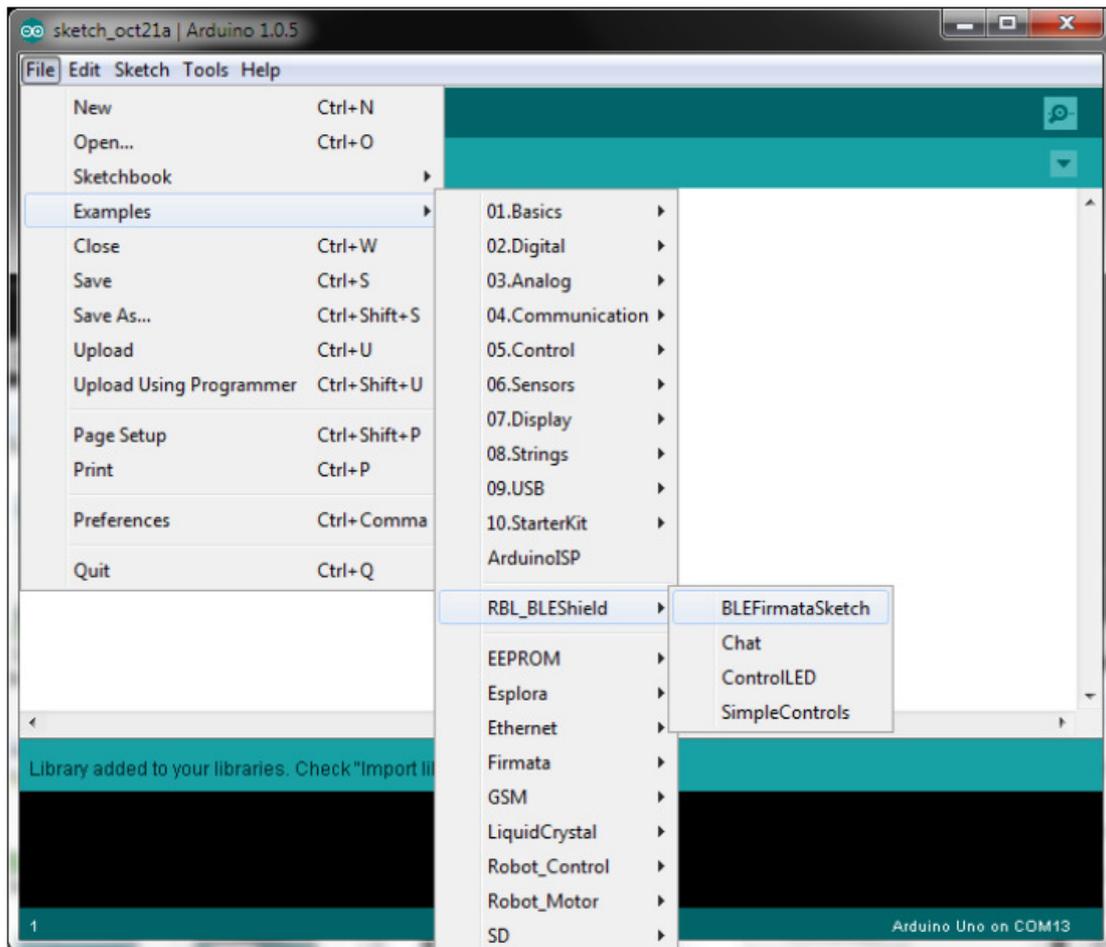
- Navigate inside folder BLEShield_Library_v2.0
Note: Avoid keyboard, Instead Use Mouse to select navigate to BLEShield_Library folder to avoid pre-mature selection

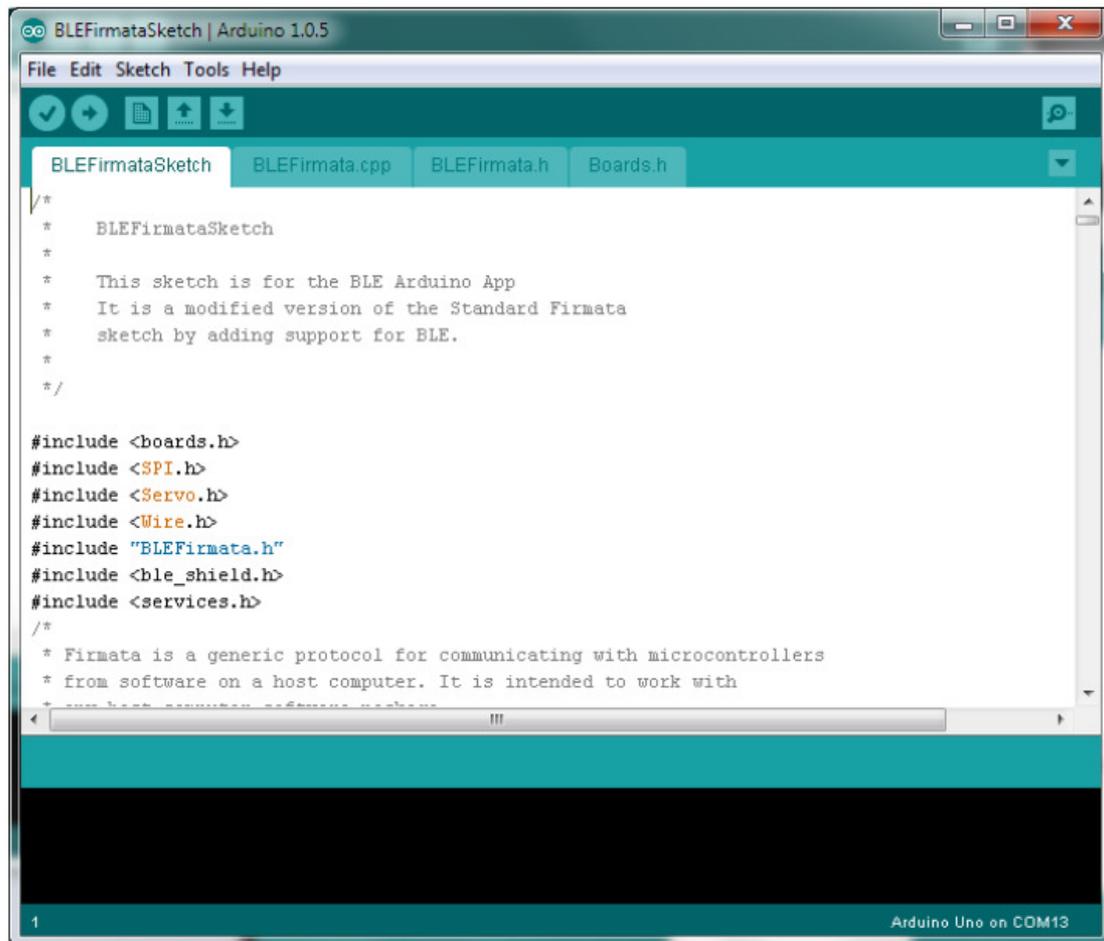


- Select the 'Nordic_BLE' folder icon
- Click "Open" to import.
- Repeat the above for 'RBL_BLEShield folder'
- Now it both Nordic_BLE and RBL_BLEShield appears at the 'Contributed' section of Import Library menu



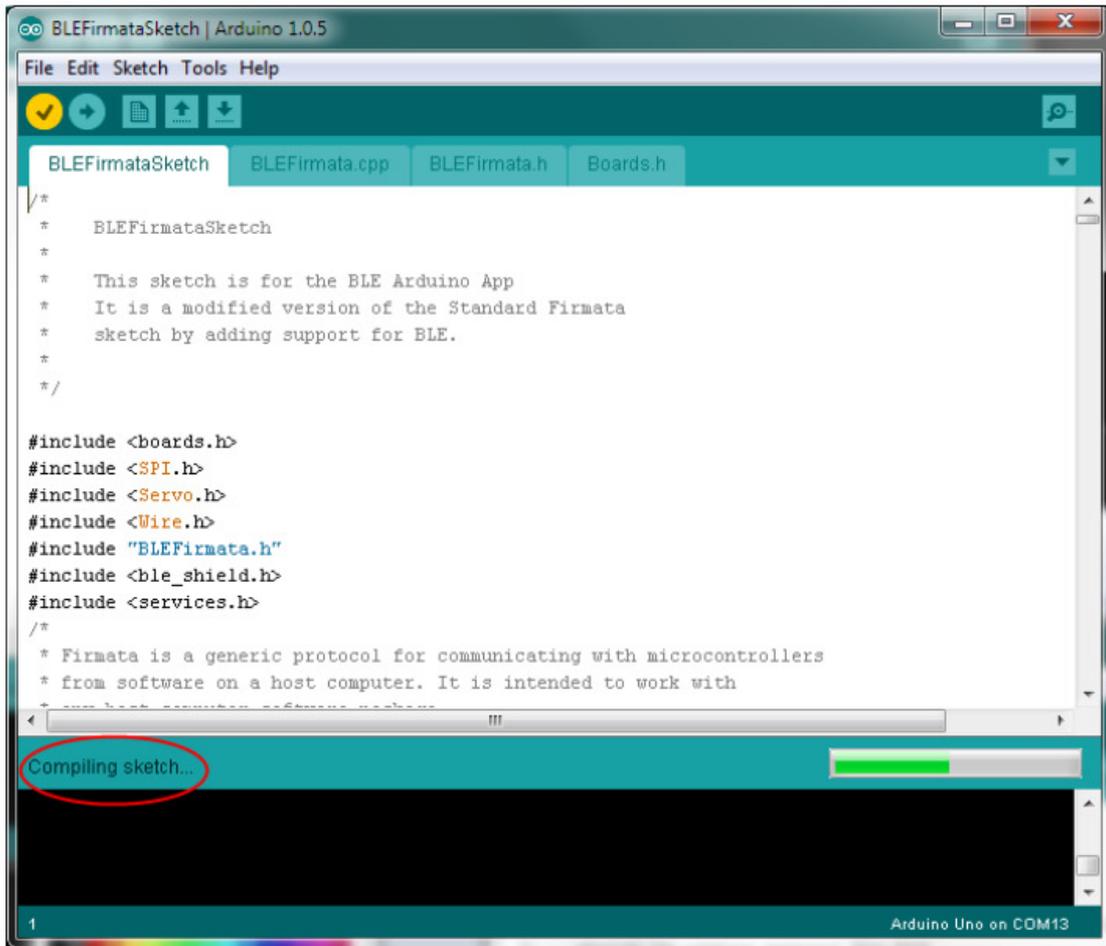
7. Select and Open the BLEFirmataSketch Sketch
Arduino IDE Menu: File > Examples > RBL_BLEShield > BLEFirmataSketch

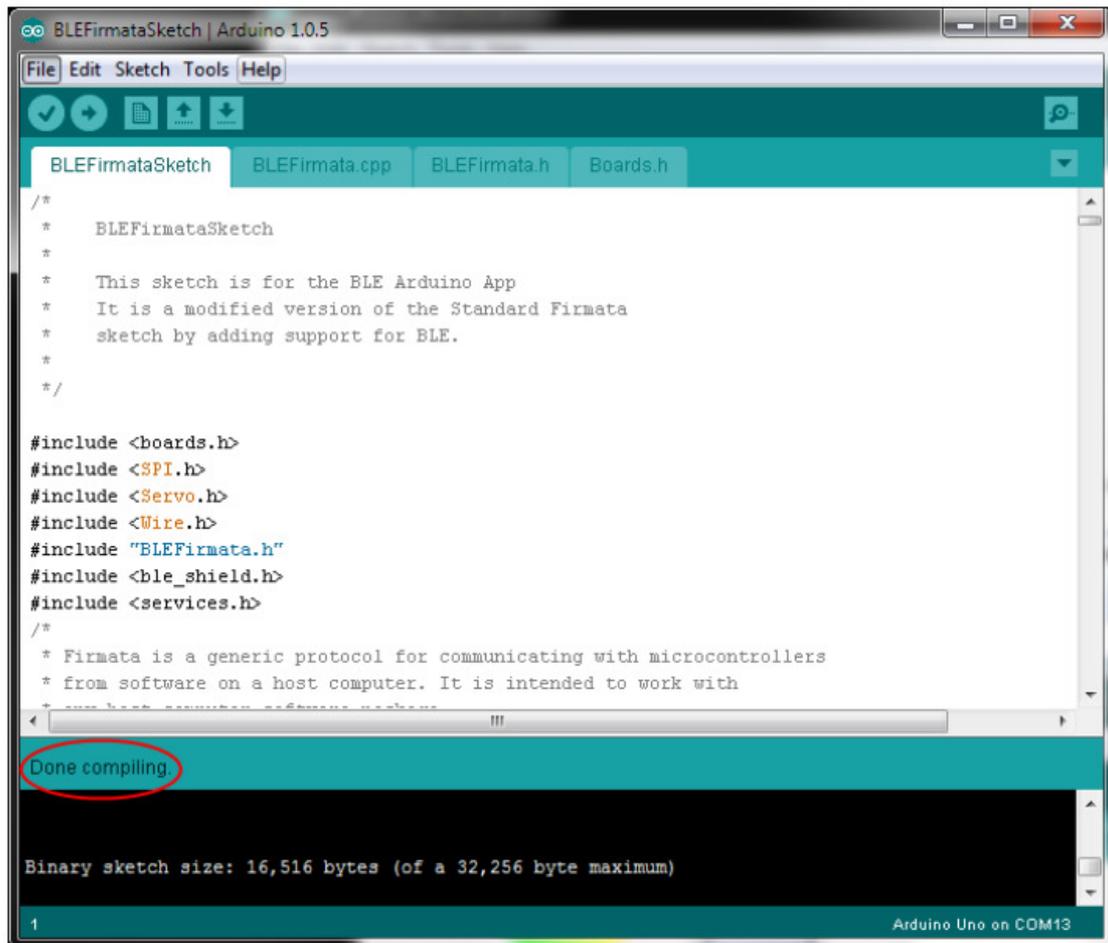




8. Verify the Sketch

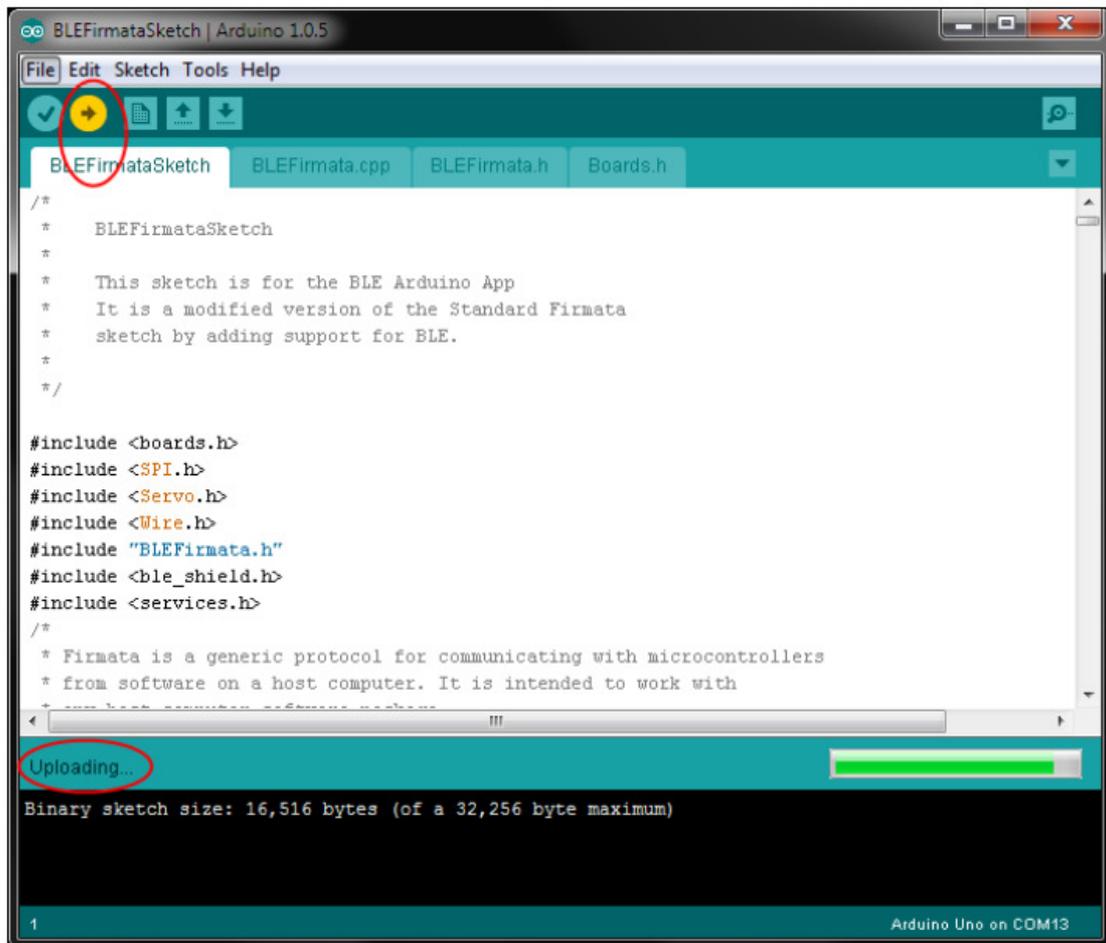
Arduino IDE Menu: Sketch > Verify/Compile

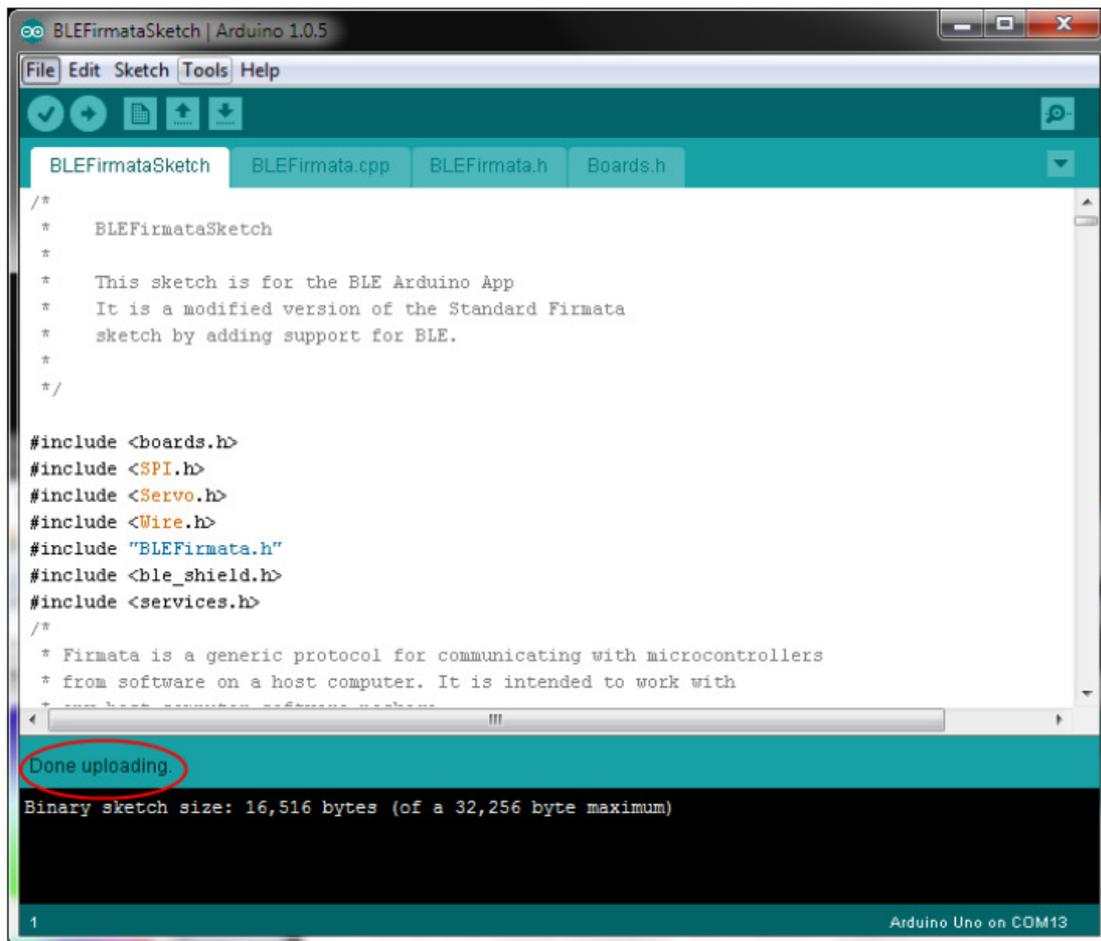




9. Upload the Sketch

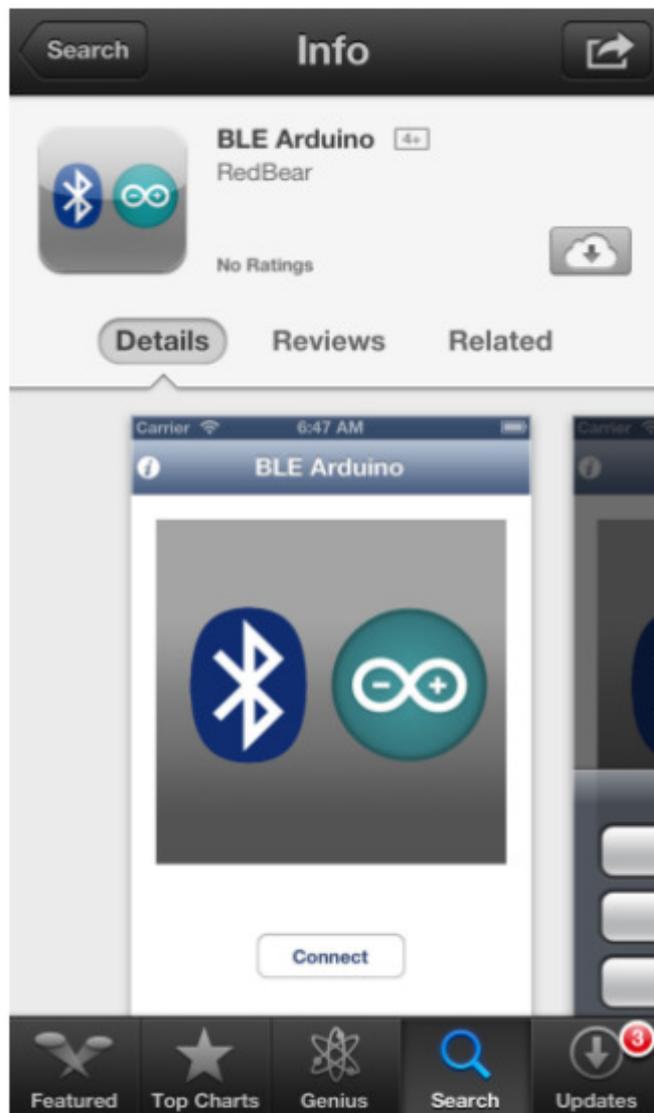
Click on the Right Arrow button at the IDE toolbar to begin upload (it might compile first)



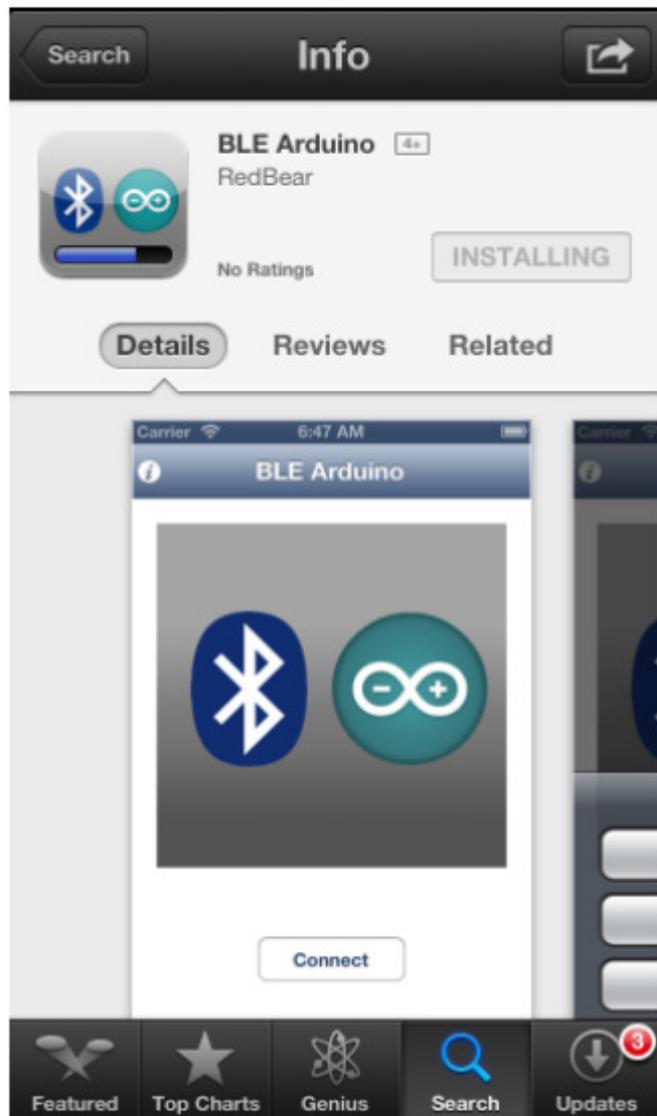


iOS Device Set-up (iPhone 5)

1. (First-Time Only) Download 'BLE Arduino' from App Store on iPhone or from iTunes.
AppStore



Installing

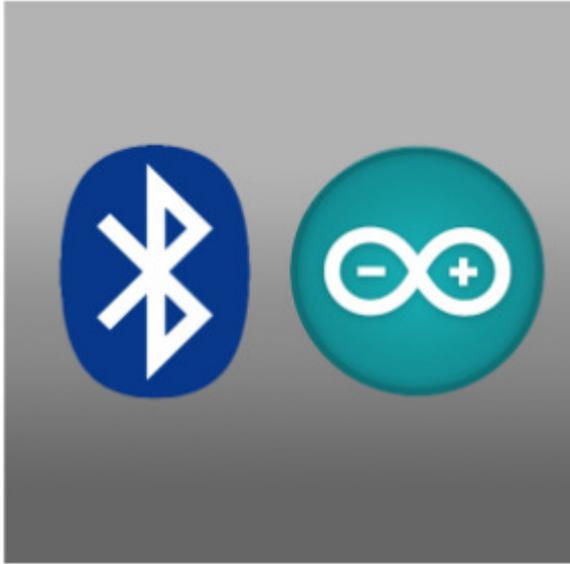


2. Turn on Bluetooth when prompted



3. Start BLE Arduino App

 BLE Arduino



Connect

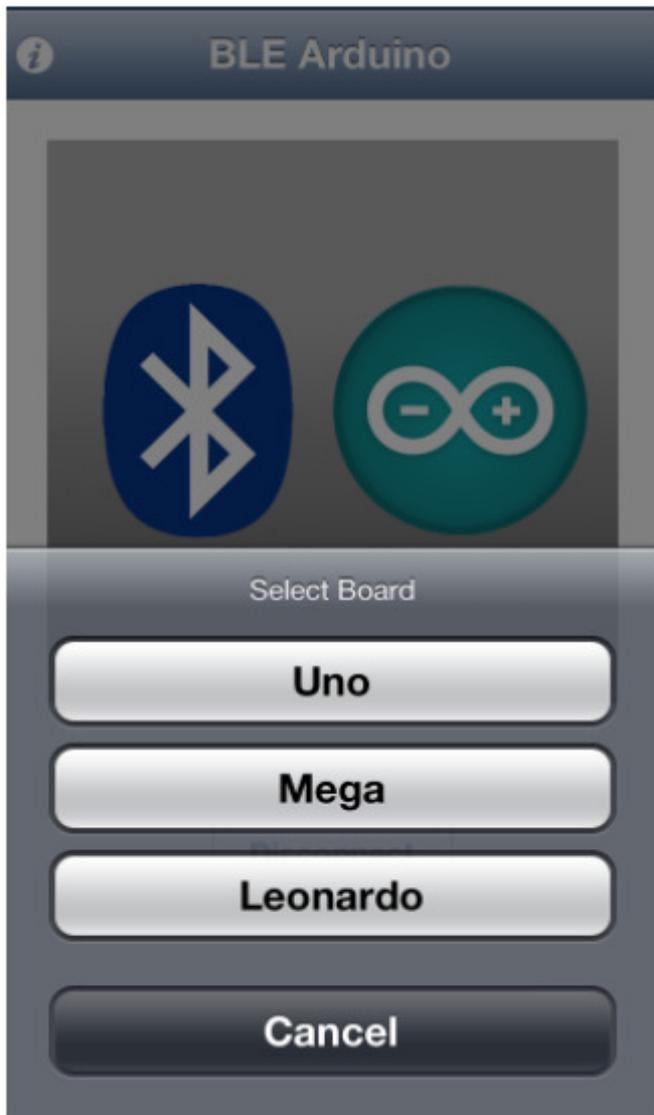
4. Click Connect and select 'Uno' from Boards



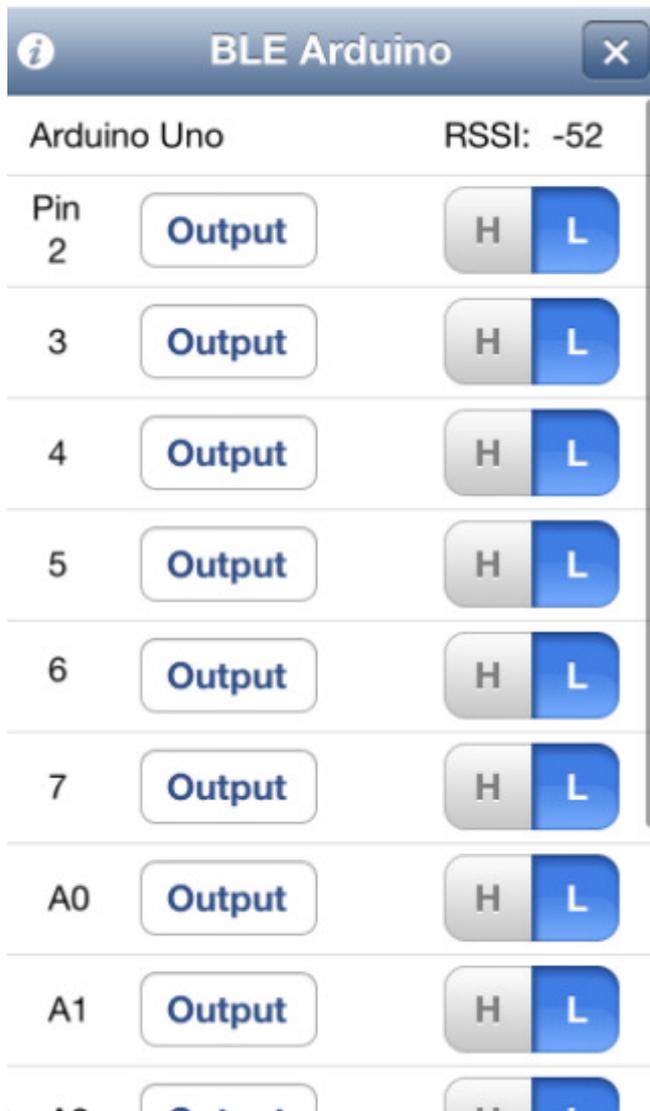
BLE Arduino



Connect



5. On success, Menu appears showing a list of available actions.



6. Click the 'X' button to disconnect. (Located at top-right corner)