

Hands-on Bluetooth Low Energy

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Software Installation

We're excited to teach the Hands-on Bluetooth Low Energy workshop at SolidCon. In order to get the most of the class, we're asking everyone to install the software **before** the tutorial.

It's important that you follow this guide and have you computer setup before you arrive. We want to spend time learning about Bluetooth not installing software.

Arduino

We use the Arduino IDE for the first part of the tutorial. The Arduino IDE allows us to write code and upload it to the board.

Arduino IDE

Download Arduino IDE 1.6.4 (or greater) from <http://www.arduino.cc/en/Main/Software>

Mac users should move Arduino.app into /Applications.

Windows users should run the installer. Keep all the default settings.

Linux users need Java installed. Download and extract the archive.

RedBearLab Blend

We are using a 3rd party hardware from RedBearLab. This mean we need to add some additional files to the Arduino IDE.

Preferences

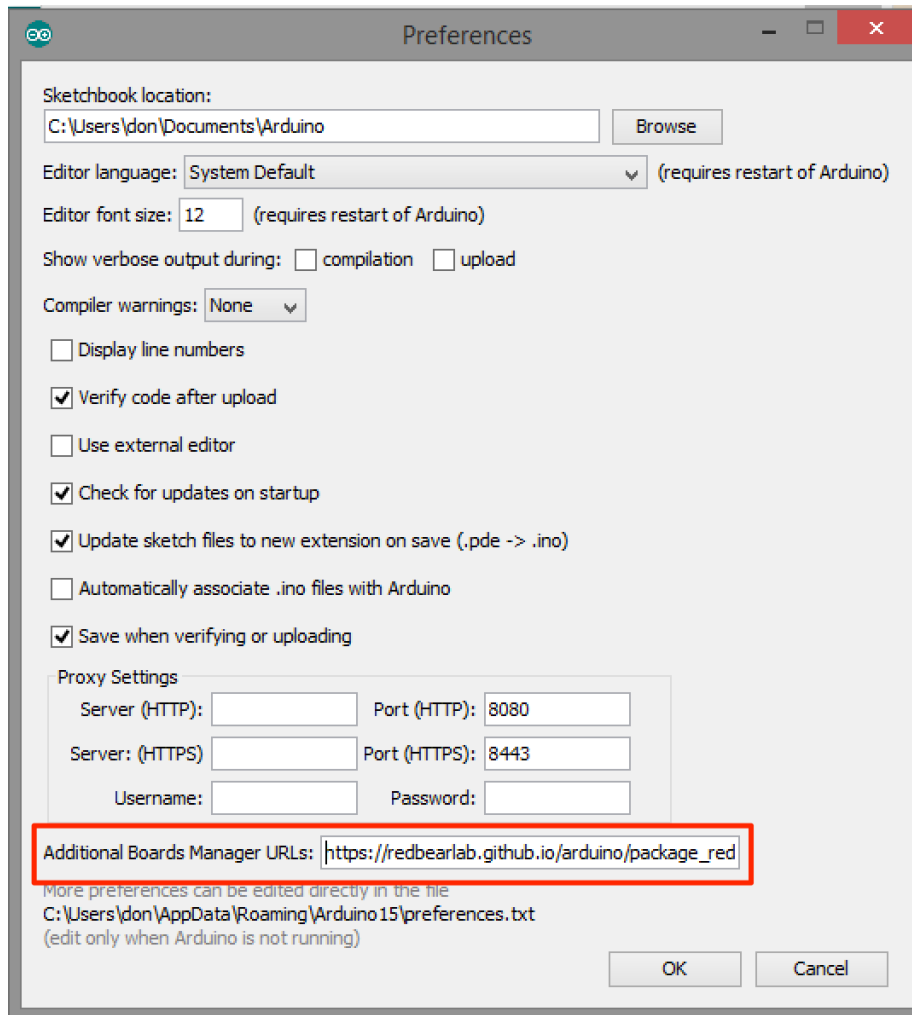
Open the Preferences.

Mac use **Arudino** -> **Preferences**

Windows and Linux use **File** -> **Preferences**

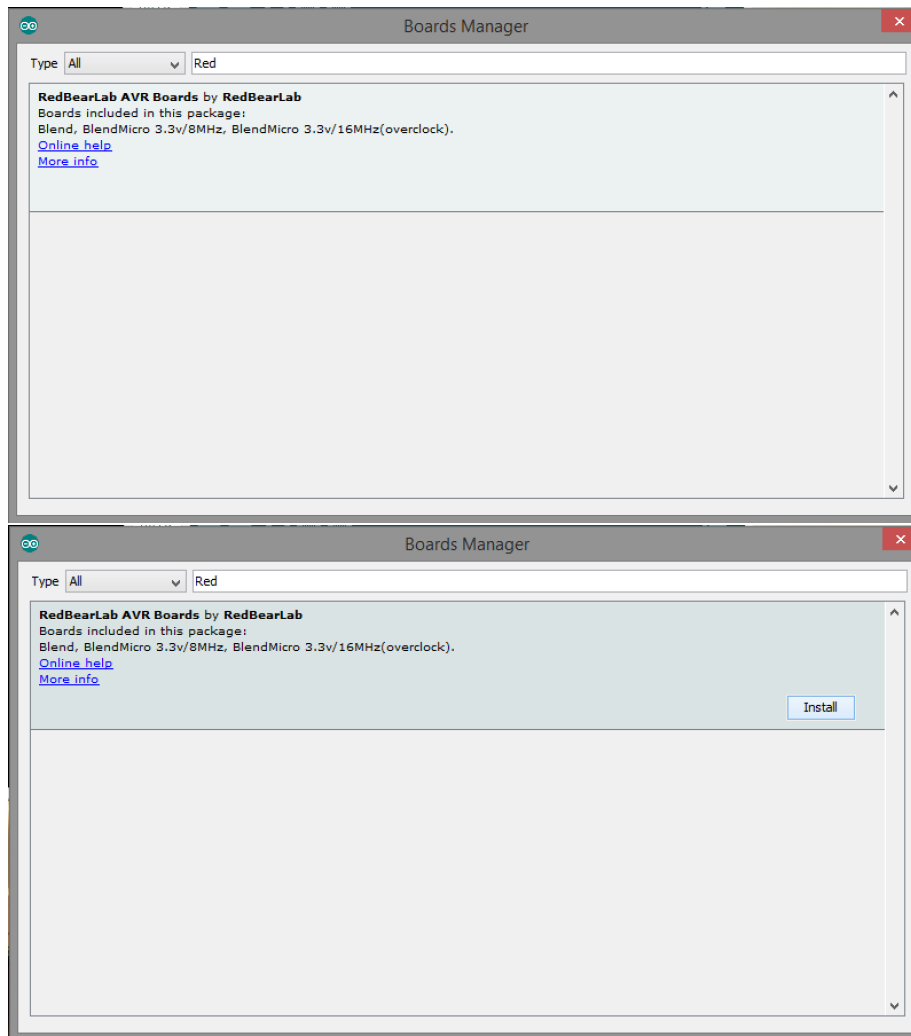
Enter `https://redbearlab.github.io/arduino/package_redbearlab_index.json` in the Additional Board Manager URLs field

Click OK to close the preferences screen.



Board Manager

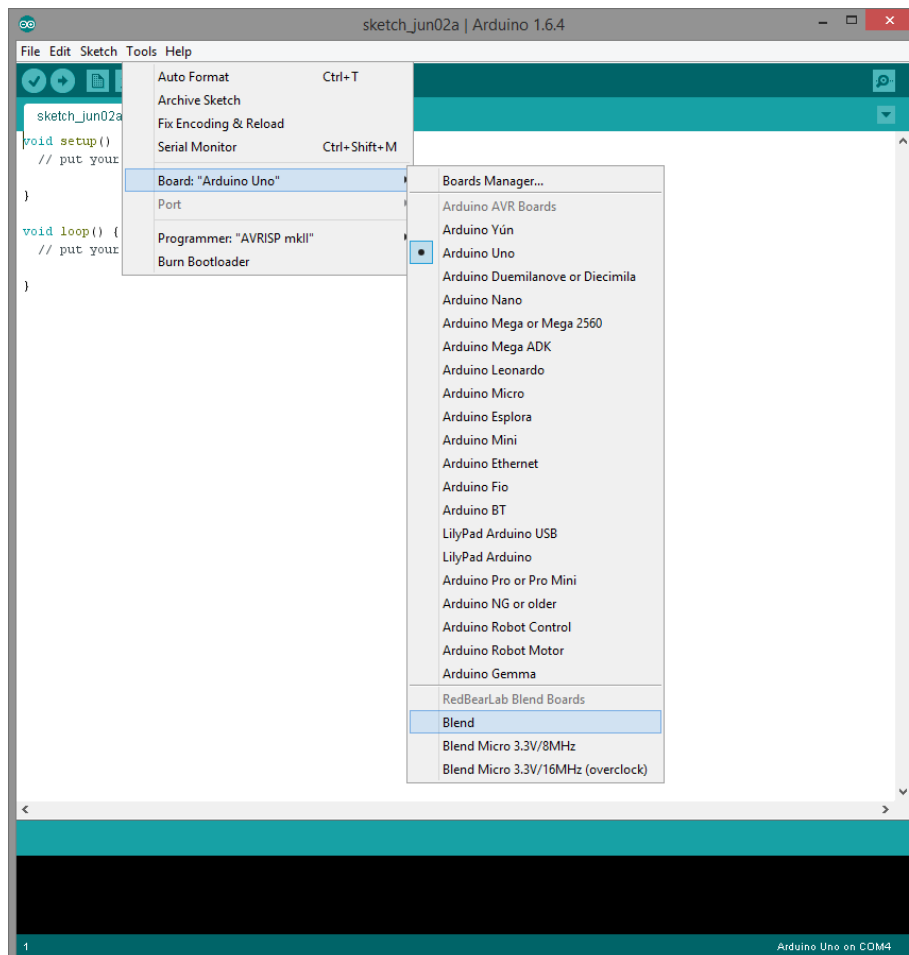
- Choose File -> Board -> Board Manager
- Type Red into the search box.
- Click the row to select RedBearLab AVR Boards.
- Click the Install button to install the board definitions.



Verify the install

Verify that the software for the RedBearLab board installed.

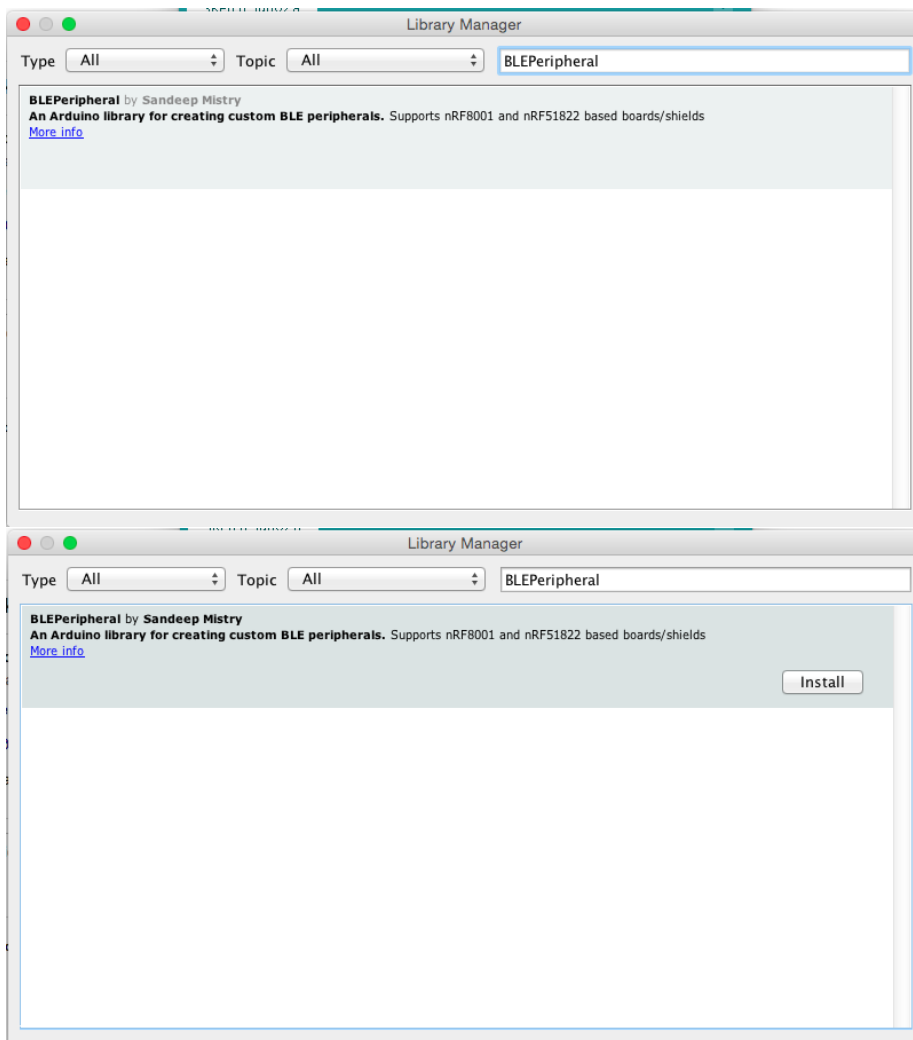
- Open the Arduino IDE
- Choose Tools -> Board
- Choose Blend



BLE Peripheral Library

We use the BLE Peripheral Library for writing our code.

- Open the Arduino IDE.
- Choose **Sketch** -> **Include Library** -> **Manage Libraries...**
- Type **BLEPeripheral** into the search box.
- Click the row to select the library.
- Click the **Install** button to install the library.



PhoneGap

We are going to use [PhoneGap](#) to write mobile apps for iOS and Android. PhoneGap requires Node.js.

- Download Node.js from <https://nodejs.org/>.
- Run the Node.js installer.

Next, we're going to use the Node.js package manager to install PhoneGap.

Mac users, open Terminal.app and run

```
sudo npm install -g phonegap
```

Mac users might be prompted to install the XCode or the command line developer tools. It's OK to install these, but it's faster if you choose **Not Now**.

Windows users, open cmd.exe and run

```
npm install -g phonegap
```

Linux users, open terminal and run

```
npm install -g phonegap
```

Verify

Verify that PhoneGap installed correctly. Run `phonegap -v` and ensure that it prints out the version number. You're OK as long as your version number starts with 5.0.0.

```
$ phonegap -v
5.0.0-0.28.0
```

Text editor

We're also going to need a text editor. We recommend installing Atom, but you can use another editor if you have a favorite.

- Download Atom.io from <https://atom.io/>.
- Mac users should drag Atom.app to /Applications.
- Windows users should run the installer.
- Linux users should install the deb or rpm

jshint

jshint is a tool we use to find errors in JavaScript code.

Install jshint with npm.

```
npm install -g jshint
```

Mac and Linux users may need to use sudo

```
sudo npm install -g jshint
```

If you installed the Atom editor, you should install the atom-jshint plugin.

```
apm install atom-jshint
```

Mobile Apps

iPhone, iPod and iPads users should install [LightBlue](http://bit.ly/lightblueble) (<http://bit.ly/lightblueble>).

Android users should install [nRF Master Control Panel](http://bit.ly/nRF-ble) (<http://bit.ly/nRF-ble>).

Note that older devices and operating systems may not support Bluetooth Low Energy. If your phone doesn't work, please [request a loaner device](#) for the workshop by emailing dcoleman@chariotsolutions.com.

Problems?

If you run into any problems with the software installation, please email dcoleman@chariotsolutions.com and we'll work with you to get it fixed before the class.