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 tutroials use Seeeduino)
- Arduino IDE installed. Able to upload basic sample sketches to Arduino or Arduino compatible Board (This tutroials 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





3. Set the REQN and RDYN jumper on the BLE Shield 2.



Default settings (unmodified sketch from BLE Shield Library 2.0)

NordicBLE	Seeeduino
RDYN	8
REQN	9

4. Connect Seeeduino to Host PC with USB cable.



5. Check the Power LED on both Seeeduino 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

Look in:	Ibraries			-	
Gi	RBL BLES	Shield			
Recent Items					
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ly Documents					
1					
Computer					
company					
	-				
Network					
	File name:	Nordic_BLE			Open
	Files of type:	7ID files or folders			Cancel

- 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

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		Ethernet	
		Firmata	
		GSM	
		LiquidCrystal	
		Robot_Control	
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		(Nordic_BLE	
1		ABL_BLEShield Jino Un	o on COM13

7. Select and Open the BLEFirmataSketch Sketch

Arduino IDE Menu: File > Examples > RBL_BLEShield > BLEFirmataSketch

😳 s	ketch_oct21a Arduino 1.0.5						J
File	Edit Sketch Tools Help]
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			RBL_BLEShield	•	BLEFirmataSketch		
≺ Libr	ary added to your libraries. C	check "Import III	EEPROM Esplora Ethernet Firmata GSM LiquidCrystal Robot_Control Bohot Motor	> > > > > > > > > > > > > > > > > > >	Chat ControlLED SimpleControls	•	
1			SD	•		Arduino Uno on COM13	



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



Connect

4. Click Connect and select 'Uno' from Boards



BLE Arduino
Salact Reard
Select Board
Uno
Mega
Leonardo
Cancel

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



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