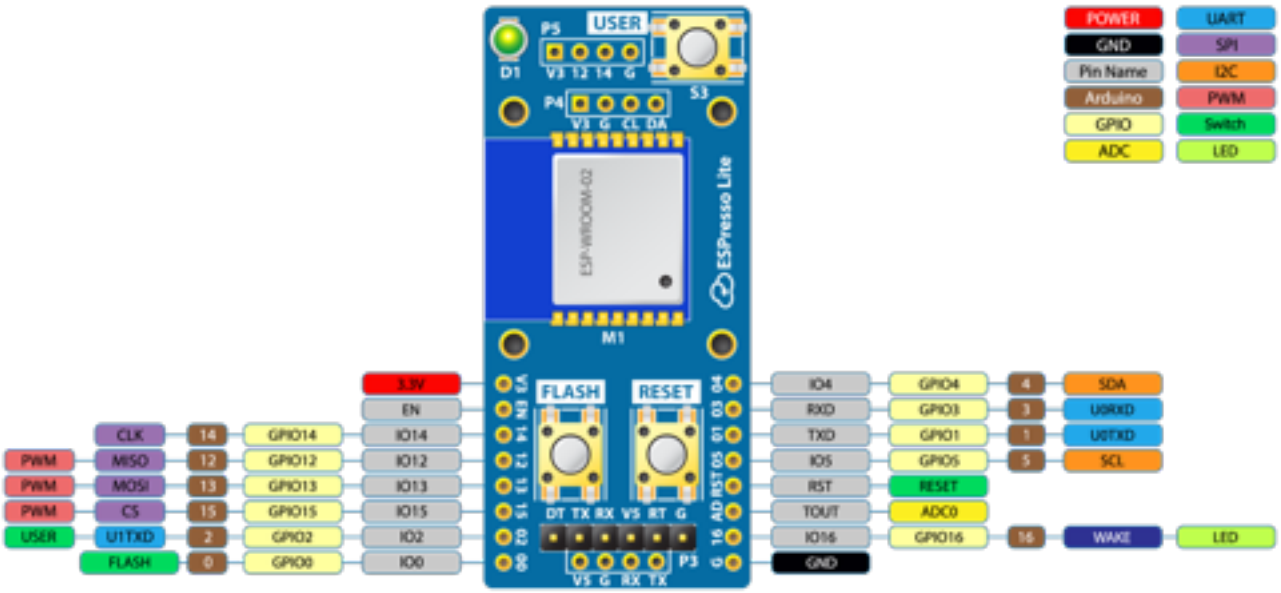
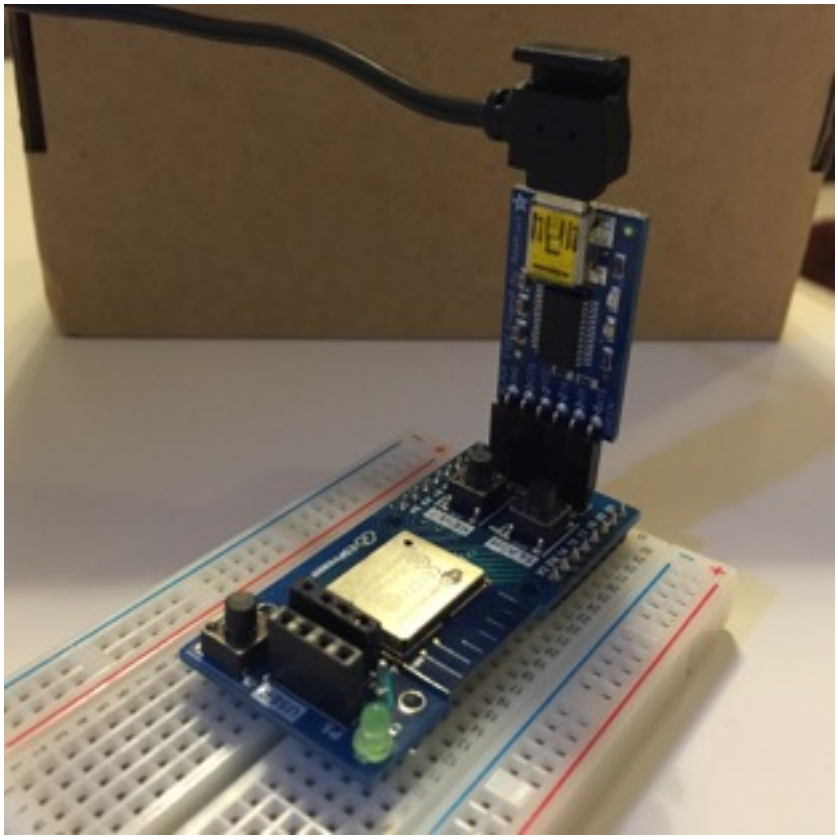
ESPresso Lite Tutorial

ESPresso Lite Pin out

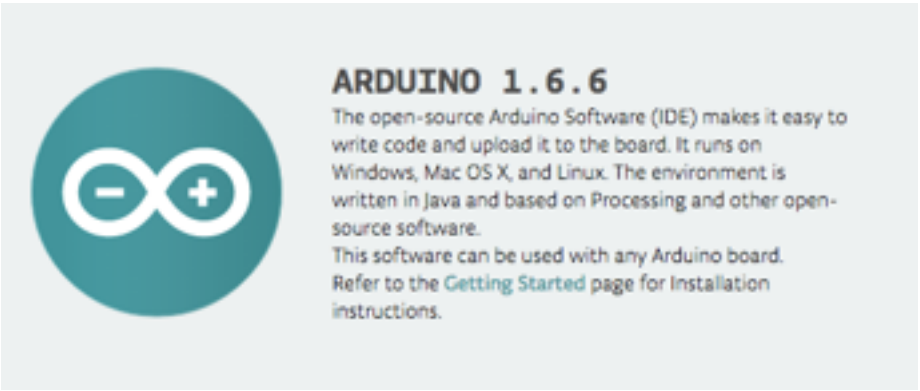


USB to Serial Connection



Arduino IDE version 1.6.6

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



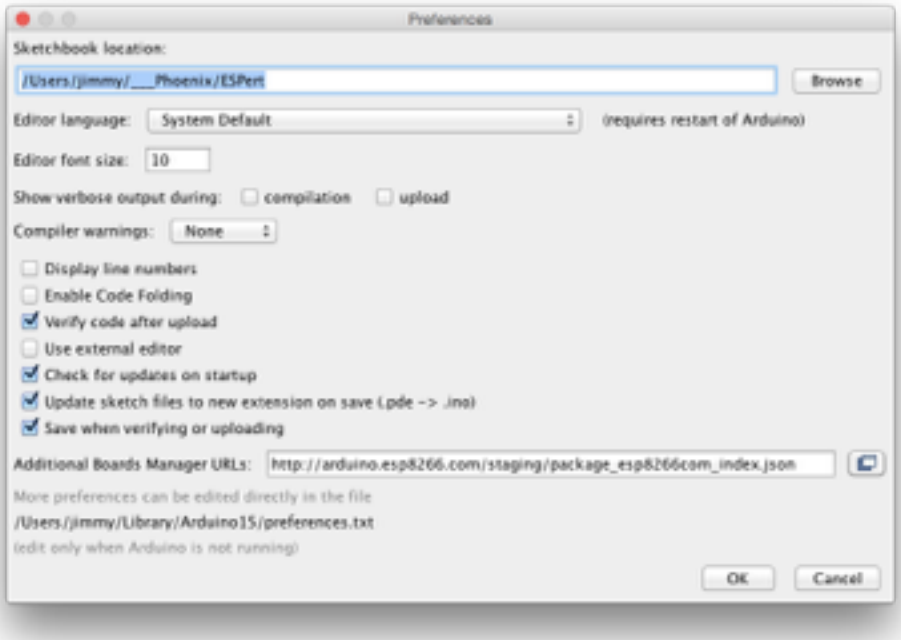
- Install Arduino 1.6.6 from the Arduino website.
- Start Arduino and open Preferences window.
- Enter http://arduino.esp8266.com/stable/package_esp8266com_index.json into Additional Board Manager URLs field. You can add multiple URLs, separating them with commas.
- Open Boards Manager from Tools > Board menu and install esp8266 platform (and don't forget to select your ESP8266 board from Tools > Board menu after installation).

ESPert Library

- GitHub Repository
  https://github.com/JimmySoftware/ESPert

  (Download zip)

- Start Arduino and open Preferences window
- Enter directory of ESPert to Sketchbook location

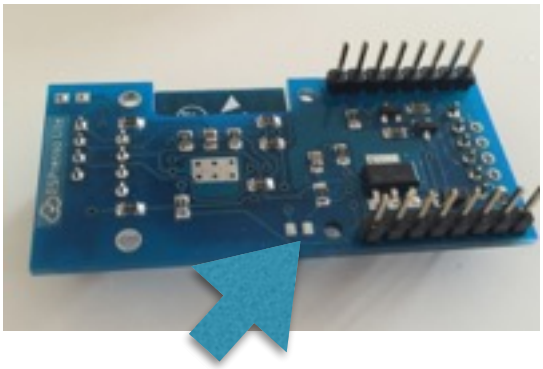


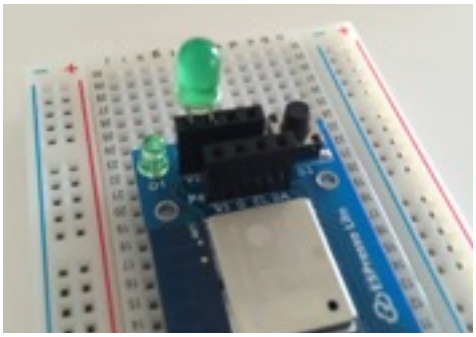
Example 1 - Blink

- GPIO16
  - GPIO16 is pulled high in normal stage
  - Connect with LED (Green) - **LOW** GPIO16 will turn **ON** the LED

Example 2 - Sleep

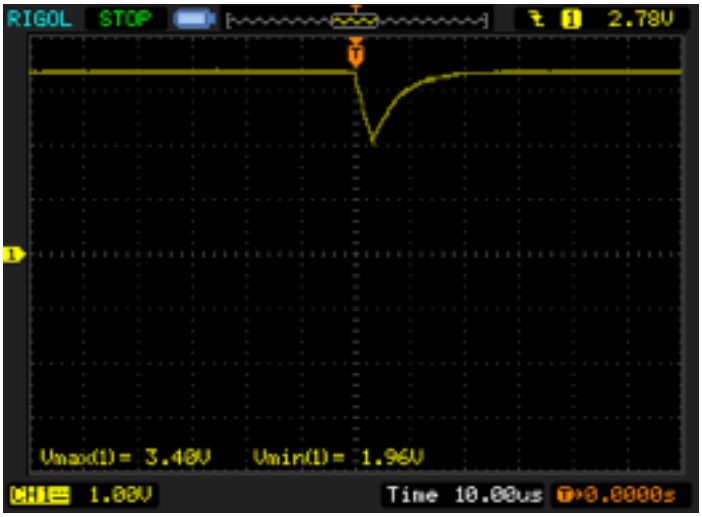
- To use ESP8266 sleep feature, you need to use GPIO16 to wake up the CPU. You have to connect GPIO16 to RESET by short circuit as shown in picture.





- If you use GPIO16 to wake up CPU, the LED can not be used. You can add another LED by plug in the LED to GPIO12 as shown in picture.

- GPIO16 connect to RESET for ESP8266 to wake from deep sleep mode. During wakeup, RTC will generate a pulse on GPIO16 so as to reset the chip. Below is the waveform observed on GPIO16/RST. The falling edge actually only reaches 1.96V then it climbs immediately, with effective pulse width only 5.2us. (Ref: Ba0sh1)



Example 3 - Blink using ESPert library

- Initialize your ESPert library object
- Use .LED of ESPert library object to control LED
- The default GPIO for LED is GPIO16

In case you want to use other GPIO for LED (for example, you use GPIO16 for Wake up ESP8266 from deep sleep)

- Initialize .LED as stated in source code comment

Example 4 - Button

- Default button (USER switch) using GPIO2
- GPIO2 is pulled high in normal stage
- Pressing switch will LOW the GPIO2 state

- The example will turn ON the LED when you press button

Example 5 - OLED

- Use I2C

Example 6 - DHT

- Default is GPIO12, type DHT22