

Spike 02 outcomes

Name: Achieve connectivity between pc and esp8266 chip

Goals:

The goal is for the team to be able to wire the correct pins to power the chip and connect i/o with pc.

Personnel:

primary - Luke

Technologies, Tools, and Resources used:

- https://github.com/geekscape/nodemcu_esp8266/tree/master/workshop_1
- Vcc 3.3v serial USB interface
- Esptool: <https://github.com/themadinventor/esptool>
- Pyool: <http://pyserial.sourceforge.net/>
- Explorer: <http://esp8266.ru/esplorer>

Tasks undertaken:

- Confirmed the model of ESP8266.



Figure 1

- Identified pin layout esp8266, and where to plug into ftdi (from figure 2)

ESP-01		USB serial adaptor
1 RXD	<--	TXD
2 VCC	---	VCC 3.3V
3 GPIO0	---	Be able to connect to GND during power-up to flash firmware
4 RESET	---	VCC 3.3V
5 GPIO2		
6 CH_PD	---	VCC 3.3V
7 GND	---	GND
8 TXD	-->	RXD

Figure 2

- Connected ESP8266 to breadboard
- Install FTDI serial usb drivers
- Set FTDI serial/usb to 3.3 Volts (figure 3)

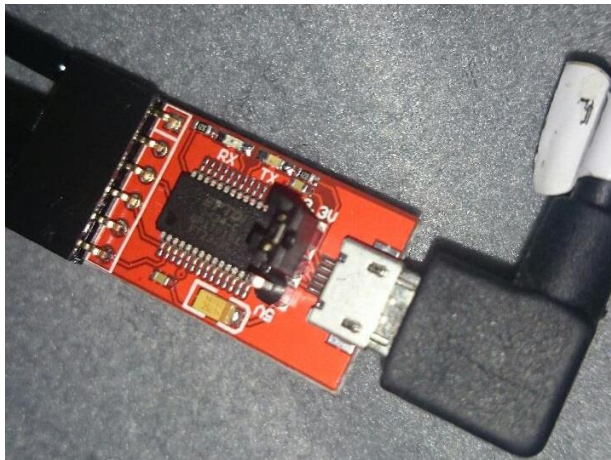


Figure 3

- Connected to FTDI serial/usb (figure 4)
- The jumper should be on the middle and 3.3volt pin to make the vcc line 3.3volt (verified with a multimeter).

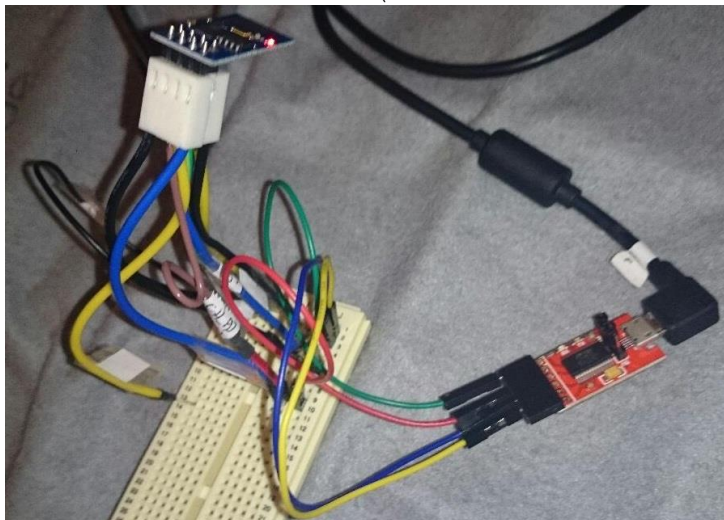


Figure 4

What we found out:

- How to set the serial usb to 3.3v
- The ESP8266 cannot be used on breadboard due to its size, so it must be wired.

Open issues/risks:

- Could not get a different version of the FTDI (232) chip to recognize in windows 8.1

Recommendations:

- Try the ftdi232 in other versions of windows, or further research usage method.
- Devise a way to more comfortably connect an esp8266_01 to a breadboard.