IoT Experiments - build your own prototype!

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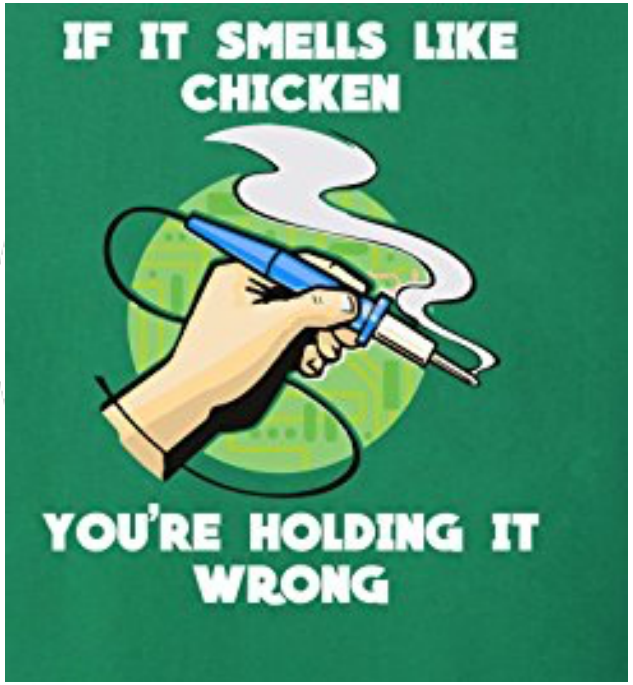
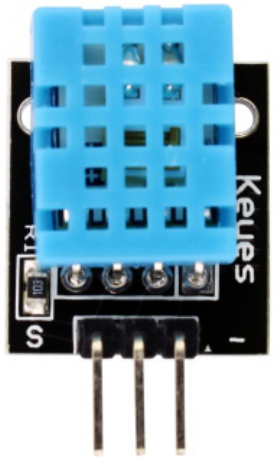
Checklist!

- Chat: tlk.io/workshop
- Code: github.com/dshop-gliwice/iot-workshop
- What OS do you use?
- Arduino IDE & Board
- Libraries
- USB-Driver
- Postman

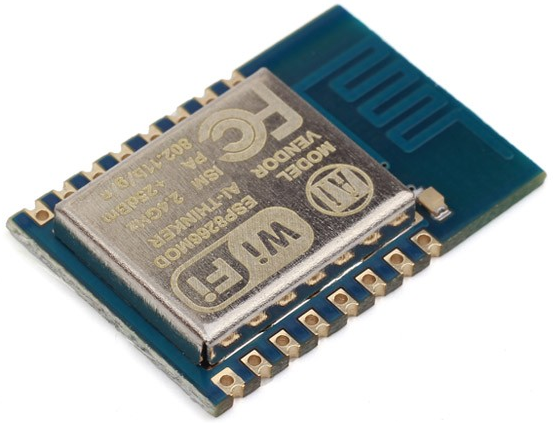
Let's build IoT!





Hardware - Core

ESP 8266



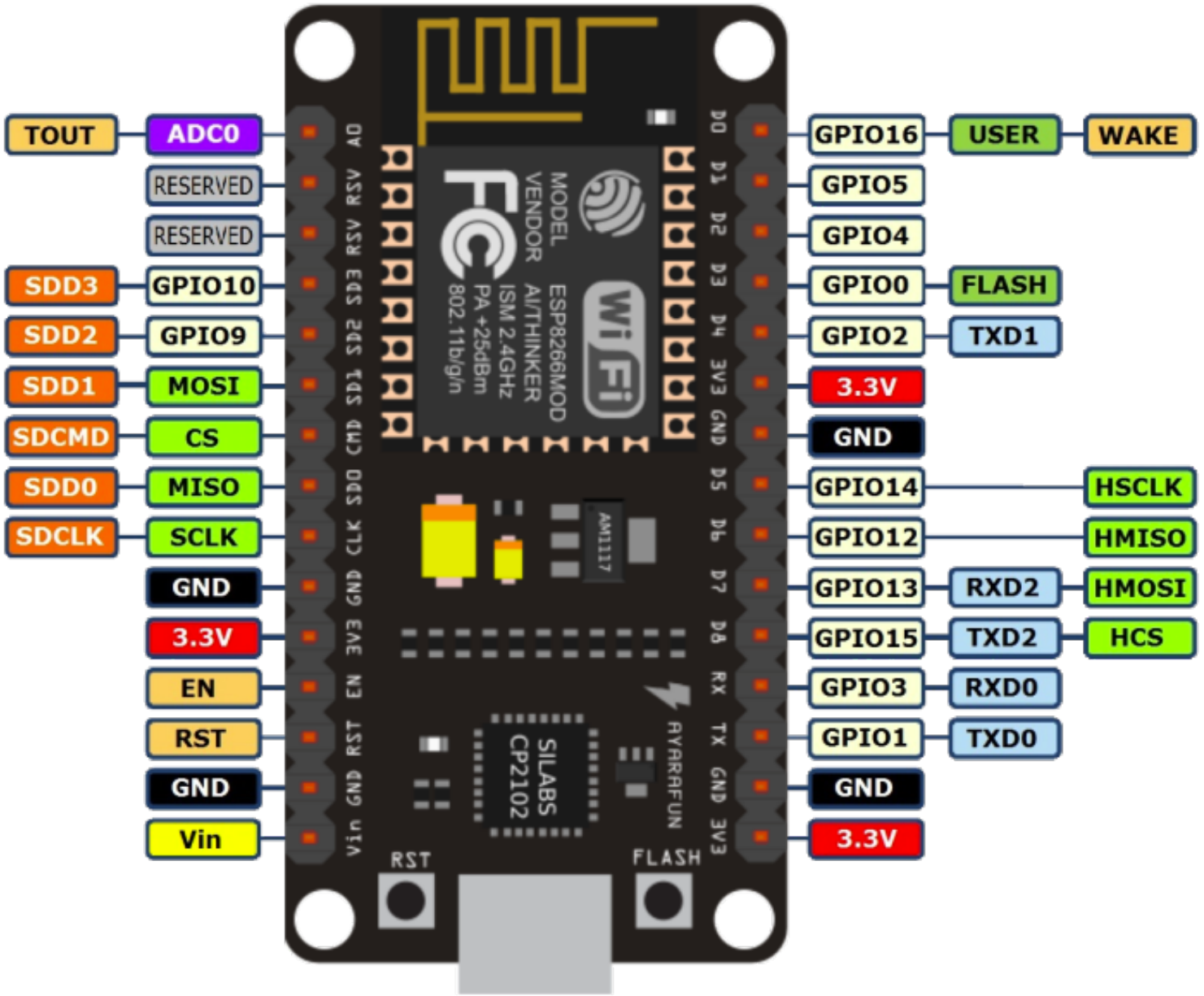
- 32-bit RISC CPU 80 MHz
- 64 KiB of instruction RAM, 96 KiB of data RAM
- 4 MiB flash
- Wi-Fi a/b/g/n
- 16 GPIO pins
- Interfaces: SPI, I²C, UART, 10-bit ADC

- NodeMCU: a Lua-based firmware.
- **Arduino Core** - https://github.com/esp8266/Arduino

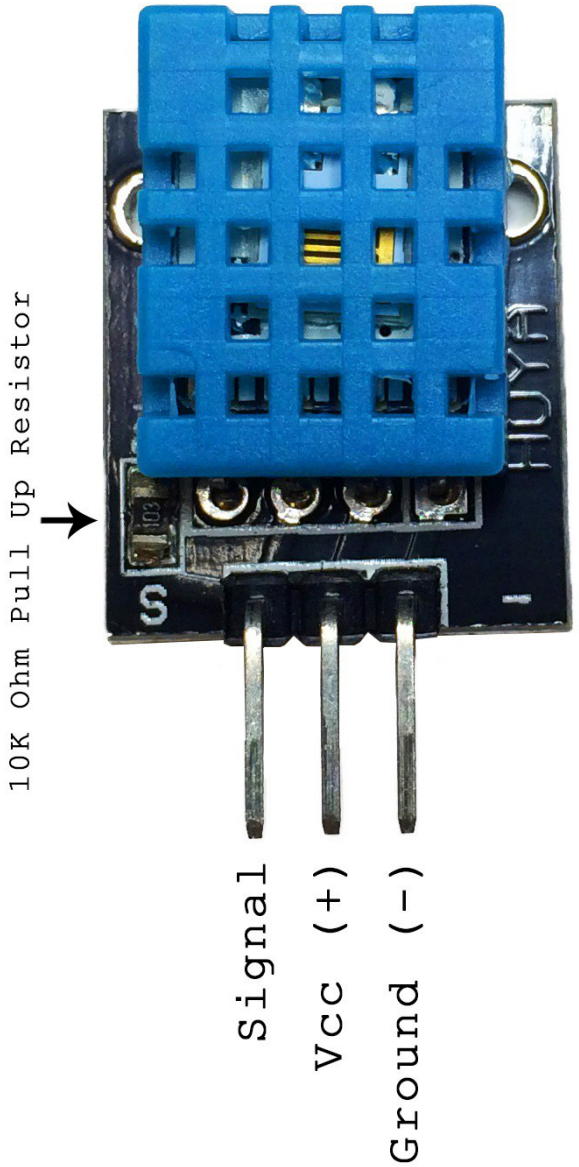
NodeMCU DEVKIT

- LED ☺
- USB interface (micro USB)
- Easy to use

NodeMCU devkit – pinout



Sensor - DHT11

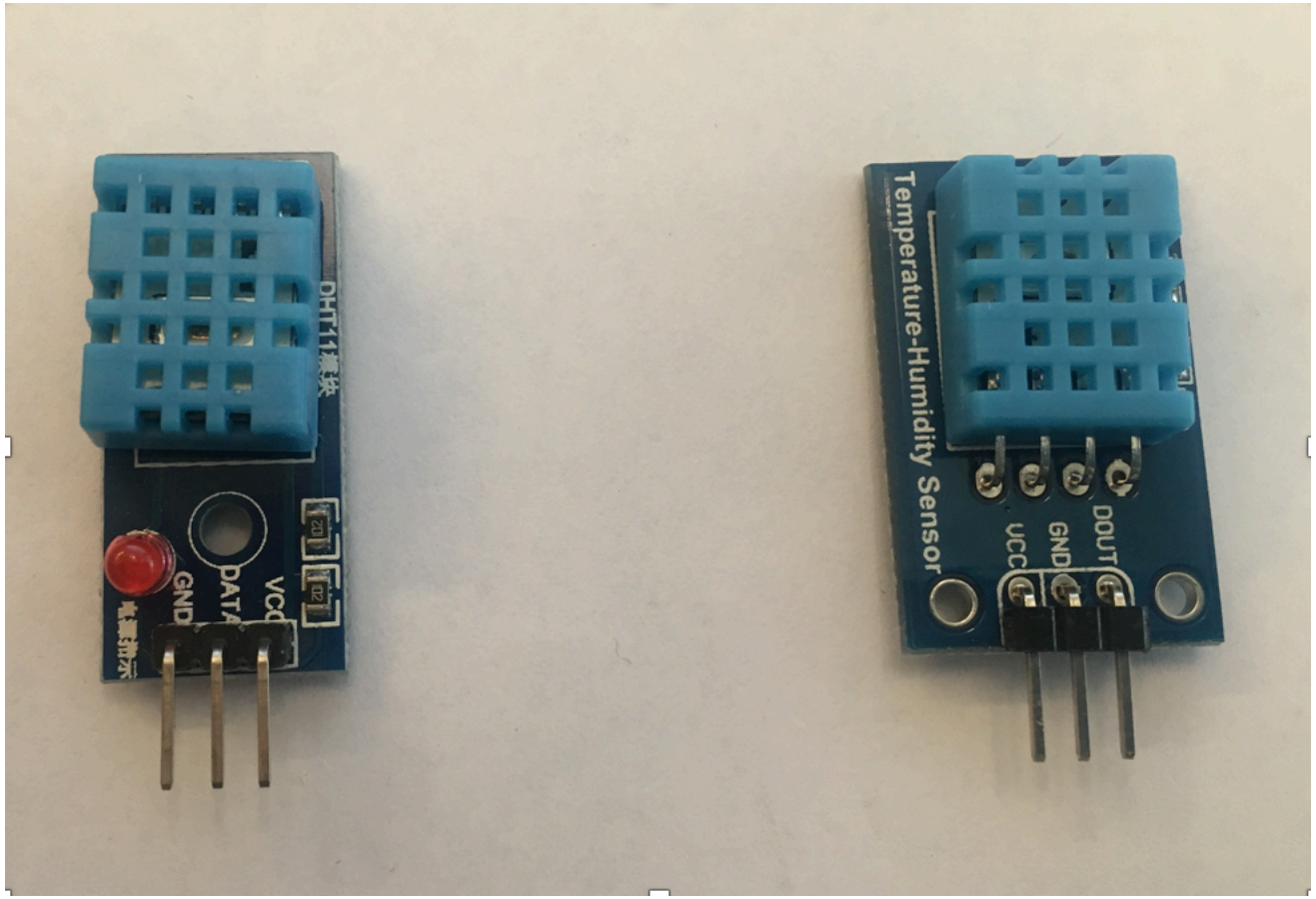


- **Interface – 1wire**
- **Temperature**
  - Measurement range: 0 - 50 °C
  - Accuracy: 1 °C
- **Humidity:**
  - Measurement range: 20 - 90 %RH
  - Accuracy ±4 RH* (at 25 °C)

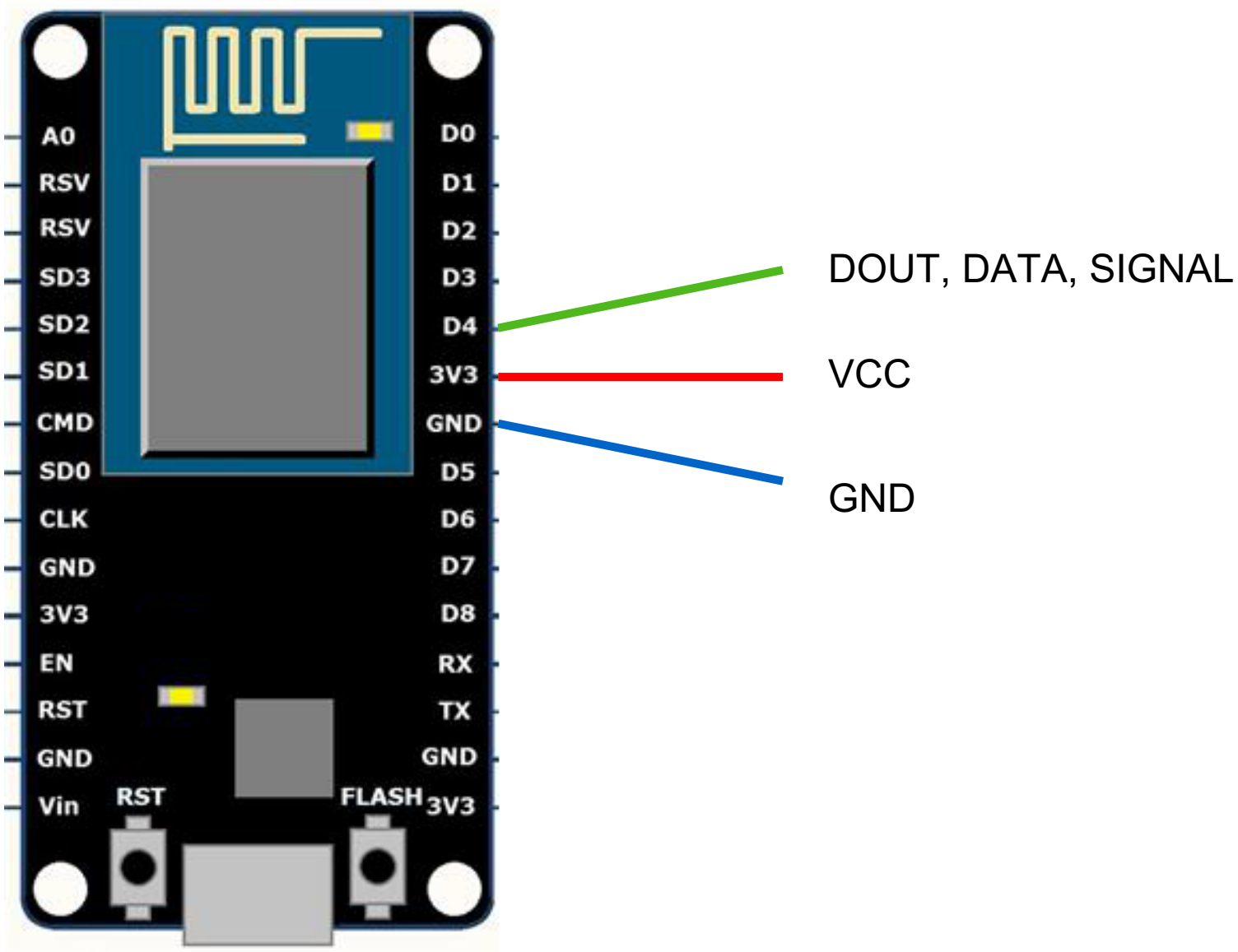
Need more?

Use **DHT22**

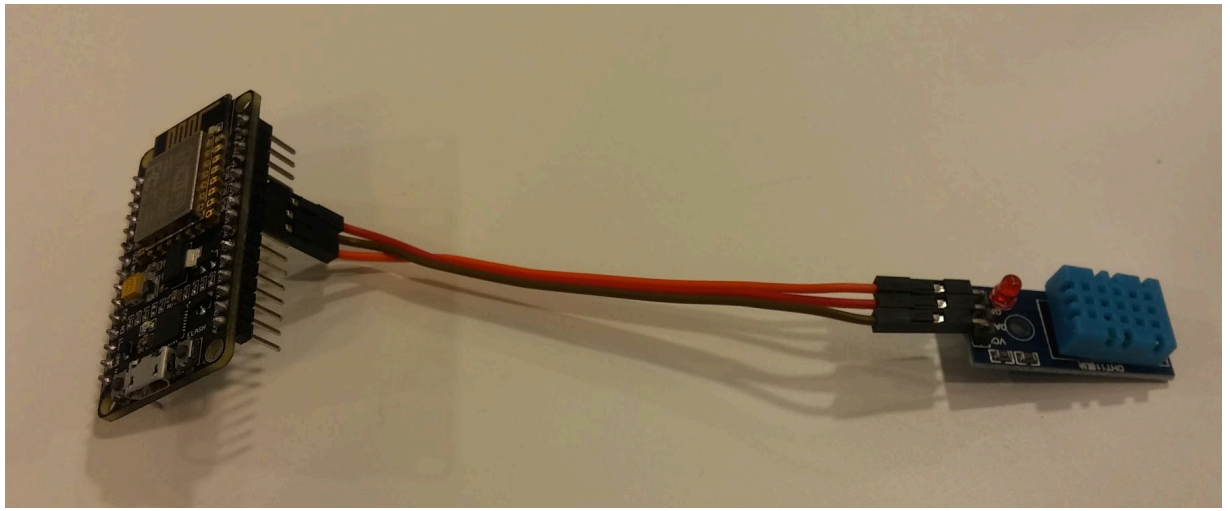
Sensor - pinout

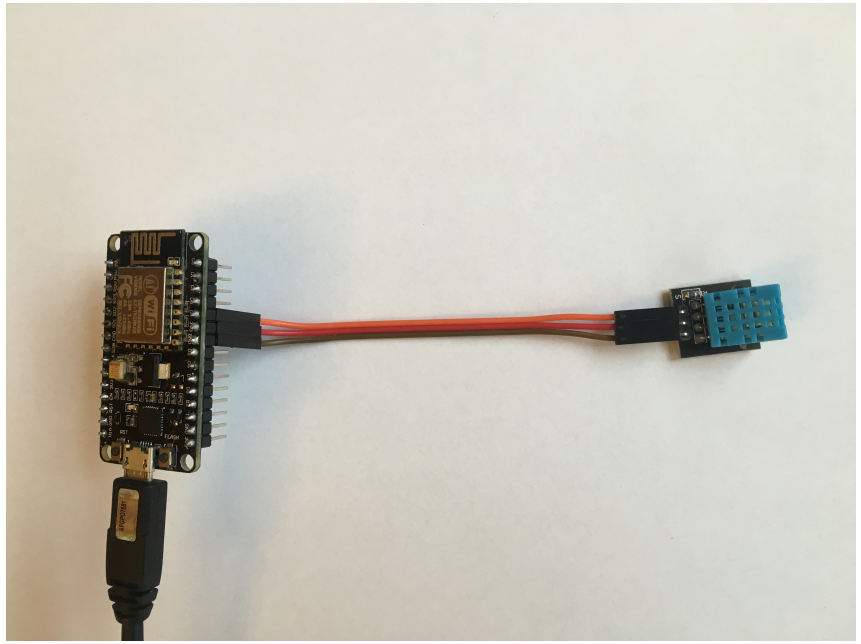


Wiring


A0
RSV
RSV
SD3
SD2
SD1
CMD
SD0
CLK
GND
3V3
EN
RST
GND
Vin
D0
D1
D2
D3
D4
3V3
GND
D5
D6
D7
D8
RX
TX
GND
3V3
RST
FLASH
DOUT, DATA, SIGNAL
VCC
GND

Wiring - example






ARDUINO