# micropython

## esptools / ampy

```
pip install esptool
pip install adafruit-ampy
```

identify

```
esptool.py chip_id
```

## esp32

Based on loboris fork of micropython

```
sudo apt-get install git wget make libncurses-dev flex bison gperf python
python-serial
```

```
git clone --depth 1 https://github.com/loboris/MicroPython_ESP32_psRAM_LoBo
cd MicroPython_ESP32_psRAM_LoBo
cd MicroPython_BUILD
./BUILD.sh menuconfig
./BUILD.sh
./BUILD.sh flash
# reboot board disconnecting power
```

### old

- download micropython from http://micropython.org/download#esp32

If you are putting MicroPython on for the first time then you should first erase the entire flash

```
esptool.py --port /dev/ttyUSB0 erase_flash
```

## esp8266

download micropython from http://micropython.org/download#esp8266

```
wget http://micropython.org/resources/firmware/esp8266-20180511-v1.9.4.bin
```

erase (optional ?) and upload

```
#esptool --port /dev/ttyUSB0 erase_flash
```

```
esptool --port /dev/ttyUSB0 --baud 460800 write_flash --flash_size=detect 0
esp8266-20180511-v1.9.4.bin

# oppure
esptool --port /dev/ttyUSB0 --baud 115200 write_flash --flash_mode dout --
verify --flash_size=detect -fm dio 0 esp8266-20180511-v1.9.4.bin
```

after press buttons !!!!

access from serial over USB

```
sudo apt install picocom
picocom /dev/ttyUSB0 -b115200
```

network wifi STA

```
import network
sta_if = network.WLAN(network.STA_IF)
sta_if.active(True)
sta_if.connect('<your ESSID>', '<your password>')
sta_if.ifconfig()

('192.168.2.32', '255.255.255.0', '192.168.2.1', '192.168.2.1')
```

enable webrepl

```
import webrepl_setup
```

reboot and connect to webrepl using http://micropython.org/webrepl/

# main

```
ampy -p /dev/ttyUSB0 put blink.py  /main.py
```

# led

```
from machine import Pin
from time import sleep

# GPIO16 (D0) is the internal LED for NodeMCU
led = Pin(16, Pin.OUT)

# The internal LED turn on when the pin is LOW
while True:
    led.value(not led.value())
    #led.on()
```

```
    sleep(1)
    #led.off()
    #sleep(1)
```