刷固件

下载esptool

`pip3 install esptool`

它安装了esptool-2.8, pyserial-3.4, pyaes-1.6.1, ecdsa-0.15和six-1.14.0。

- pyserial：串口
- pyaes：AES
- ecdsa：ECDSA数字签名
- six：py2和py3的差异消除

插上板子

出现了`/dev/tty.SLAB_USBtoUART`

看看板子信息

`esptool.py --chip esp32 -p /dev/tty.SLAB_USBtoUART -b 115200 chip_id`

回答：

```
esptool.py v2.8
Serial port /dev/tty.SLAB_USBtoUART
Connecting........__
Chip is ESP32D0WDQ6 (revision 1)
Features: WiFi, BT, Dual Core, Coding Scheme None
Crystal is 40MHz
MAC: 30:ae:a4:1f:43:ac
Uploading stub...
Running stub...
Stub running...
Warning: ESP32 has no Chip ID. Reading MAC instead.
MAC: 30:ae:a4:1f:43:ac
Hard resetting via RTS pin...
```

再试：

`esptool.py --chip esp32 -p /dev/tty.SLAB_USBtoUART -b 115200 flash_id`

回答：

```
esptool.py v2.8
Serial port /dev/tty.SLAB_USBtoUART
Connecting........_
Chip is ESP32D0WDQ6 (revision 1)
Features: WiFi, BT, Dual Core, Coding Scheme None
Crystal is 40MHz
```

```
MAC: 30:ae:a4:1f:43:ac
Uploading stub...
Running stub...
Stub running...
Manufacturer: c8
Device: 4016
Detected flash size: 4MB
Hard resetting via RTS pin...
```

下载新bin

https://micropython.org/download#esp32

Firmware built with ESP-IDF v4.x, with support for BLE, but no LAN or PPP:

- GENERIC : esp32-idf4-20200329-v1.12-317-g688323307.bin

擦除flash

`esptool.py --chip esp32 --port /dev/tty.SLAB_USBtoUART erase_flash`

```
esptool.py v2.8
Serial port /dev/tty.SLAB_USBtoUART
Connecting........____
Chip is ESP32D0WDQ6 (revision 1)
Features: WiFi, BT, Dual Core, Coding Scheme None
Crystal is 40MHz
MAC: 30:ae:a4:1f:43:ac
Uploading stub...
Running stub...
Stub running...
Erasing flash (this may take a while)...
Chip erase completed successfully in 3.6s
Hard resetting via RTS pin...
```

写新bin

`esptool.py --chip esp32 --port /dev/tty.SLAB_USBtoUART --baud 460800 write_flash -z 0x1000 esp32-idf4-20200329-v1.12-317-g688323307.bin`

```
esptool.py v2.8
Serial port /dev/tty.SLAB_USBtoUART
Connecting........___
Chip is ESP32D0WDQ6 (revision 1)
Features: WiFi, BT, Dual Core, Coding Scheme None
Crystal is 40MHz
MAC: 30:ae:a4:1f:43:ac
Uploading stub...
Running stub...
```

```
Stub running...
Changing baud rate to 460800
Changed.
Configuring flash size...
Auto-detected Flash size: 4MB
Compressed 1428000 bytes to 904363...
Wrote 1428000 bytes (904363 compressed) at 0x00001000 in 21.1 seconds (effective 541.6 kbit/s)...
Hash of data verified.

Leaving...
Hard resetting via RTS pin...
```

安装软件

安装picocom

```
git clone https://github.com/npat-efault/picocom.git
cd picocom
make
cp picocom ~/bin
```

在PATH中加入~/bin

跑新Py

`picocom -b 115200 /dev/tty.SLAB_USBtoUART`

`Ctrl-A Ctrl-X`退出

尝试板子

连接Wi-Fi

```
import network
wlan = network.WLAN(network.STA_IF)
wlan.active(True)
wlan.connect('ssid', 'password') # 换成自己 WIFI 账户和密码
while not wlan.isconnected():
    pass
print('Wifi 已连接')
wlan.ifconfig() #看ip地址
```

控制板上LED

```
from machine import Pin
led = Pin(2, Pin.OUT)
led.value(1)
led.value(0)
```

远程重启

```
import machine
machine.reset()
```

准备工作环境

开启webrepl

```
import webrepl
webrepl.start(password='connie')
```

上传main.py

```
./webrepl_cli.py -p connie main.py 192.168.1.142:/main.py
```

安装mpfshell

https://github.com/wendlers/mpfshell

安装：`sudo pip3 install mpfshell`

Bugfix：

打开：`/Library/Frameworks/Python.framework/Versions/3.8/lib/python3.8/site-packages/mp/conwebsock.py`

找到：

`def on_message(self, ws, message):`和

`def on_error(self, ws, error):`

去掉两个函数参数表中的ws，保存时要输入sudo密码。

进入mpfshell：`mpfshell`

连接esp32：`open 192.168.1.142,connie`

查看文件：`ls`

进入repl：`repl`，按`Ctrl-]`退出

参考

https://zhuanlan.zhihu.com/p/55366938

https://www.jianshu.com/p/d740738b2d3e