Use ESP8266 with AT commands
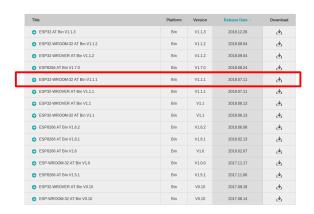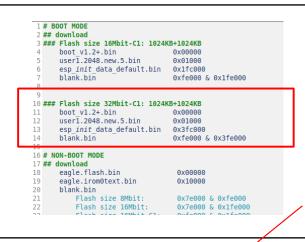
Flashing AT firmware with esptool

1. Download the firmware from:
   https://www.espressif.com/en/support/download/at

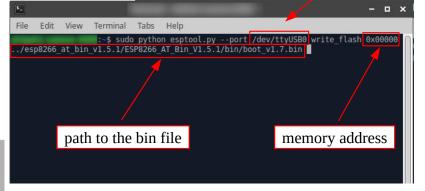 | Title | Platform | Version | Release Date | Download |
   |---|---|---|---|---|
   | ESP32 AT Bin V1.1.3 | Bin | V1.1.3 | 2018.12.26 | |
   | ESP32-WROOM-32 AT Bin V1.1.2 | Bin | V1.1.2 | 2018.09.04 | |
   | ESP32-WROVER AT Bin V1.1.2 | Bin | V1.1.2 | 2018.09.04 | |
   | ESP8266 AT Bin V1.7.0 | Bin | V1.7.0 | 2018.08.24 | |
   | ESP32-WROOM-32 AT Bin V1.1.1 | Bin | V1.1.1 | 2018.07.11 | |
   | ESP32-WROVER AT Bin V1.1.1 | Bin | V1.1.1 | 2018.07.11 | |
   | ESP32-WROVER AT Bin V1.1 | Bin | V1.1 | 2018.06.13 | |
   | ESP32-WROOM-32 AT Bin V1.1 | Bin | V1.1 | 2018.06.13 | |
   | ESP8266 AT Bin V1.6.2 | Bin | V1.6.2 | 2018.06.08 | |
   | ESP8266 AT Bin V1.6.1 | Bin | V1.6.1 | 2018.02.13 | |
   | ESP8266 AT Bin V1.6 | Bin | V1.6 | 2018.02.07 | |
   | ESP-WROOM-32 AT Bin V1.0 | Bin | V1.0.0 | 2017.11.17 | |
   | ESP8266 AT Bin V1.5.1 | Bin | V1.5.1 | 2017.11.06 | |
   | ESP32-WROVER AT Bin V0.10 | Bin | V0.10 | 2017.09.18 | |
   | ESP-WROOM-32 AT Bin V0.10 | Bin | V0.10 | 2017.06.14 | |

2. Open the readme file. It shows the memory addresses where the bin files should be written.
   If you have a device with 4MB flash size then use the instructions for 32Mbit flash size.

   ```
   1 # BOOT MODE
   2 ## download
   3 ### Flash size 16Mbit-C1: 1024KB+1024KB
   4     boot_v1.2+.bin              0x00000
   5     user1.2048.new.5.bin       0x01000
   6     esp_init_data_default.bin  0x1fc000
   7     blank.bin                  0xfe000 & 0x1fe000
   8
   9
   10 ### Flash size 32Mbit-C1: 1024KB+1024KB
   11     boot_v1.2+.bin             0x00000
   12     user1.2048.new.5.bin       0x01000
   13     esp_init_data_default.bin  0x3fc000
   14     blank.bin                  0xfe000 & 0x3fe000
   15
   16 # NON-BOOT MODE
   17 ## download
   18     eagle.flash.bin            0x00000
   19     eagle.irom0text.bin        0x10000
   20     blank.bin
   21         Flash size 8Mbit:      0x7e000 & 0xfe000
   22         Flash size 16Mbit:     0x7e000 & 0x1fe000
   ```

   port name
   (On windows it should be COMxxx)

3. Download esptool from:
   https://github.com/espressif/esptool

   ```
   :~$ sudo python esptool.py --port /dev/ttyUSB0 write_flash 0x00000
   ../esp8266_at_bin_v1.5.1/ESP8266_AT_Bin_V1.5.1/bin/boot_v1.7.bin
   ```

   path to the bin file   memory address

4. Run esptool.py in command line. Example:

   ```
   python esptool.py --port <port name> write_flash
   <memory address> <path to the bin file>
   ```

AT command instruction set:
https://www.espressif.com/sites/default/files/documentation/4a-esp8266_at_instruction_set_en.pdf

More example in the main.c file.