

Flash Commands

Core tools

Esp-idf commands can be executed using:

- **idf.py**, Located in: `./esp32/esp-idf/tools/idf.py/`
- **python**, Located in: `./esp32/idf-tools/python_env/idf6.1_py3.13_env/bin/python`
- **esptool**, Located in: `./esp32/idf-tools/python_env/idf6.1_py3.13_env/bin/esptool`

idf.py to be invoked as:

```
$ idf.py <parameters>
```

esptool can be invoked in different ways:

```
$ esptool <parameters>
$ python -m esptool <parameters>
```

Full Flash

```
idf.py -p /dev/ttyACM0 flash
python -m esptool --chip esp32c3 -p /dev/ttyACM0 -b 460800 --before default-
reset --after hard-reset write-flash --flash_mode dio --flash_size 4MB --
flash-freq 80m 0x0 build/bootloader/bootloader.bin 0x8000
build/partition_table/partition-table.bin 0xd000 build/ota_data_initial.bin
0x10000 build/LCR-Meter.bin 0x250000 default.config
```

Where parameters are:

- `write_flash`
- -chip **esp32c3** or **esp32**
- -p **/dev/ttyACM0** or **/dev/ttyUSB0**
- -b **460800**
- -before `default_reset`
- -after `hard_reset`
- -flash-mode `dio`
- -flash-size **detect** or 4MB
- -flash-freq **80m** or 40m
- partition 1 = 0x0 build/bootloader/bootloader.bin
- partition 2 = 0x8000 build/partition_table/partition-table.bin
- partition 3 = 0xd000 build/ota_data_initial.bin
- partition 4 = 0x10000 build/LCR-Meter.bin

Flash Application Partition

Use following examples to write to flash:

```
esptool -chip esp32c3 -p /dev/ttyACM0 -b 460800 --before default-reset --after hard-reset write-flash --flash-mode dio --flash-size detect --flash-freq 80m 0x10000 build/ESR-Meter.bin
```

```
python -m esptool --chip esp32c3 -p /dev/ttyACM0 -b 460800 --before default_reset --after hard-reset write-flash --flash-mode dio --flash-size 4MB --flash-freq 80m 0x10000 build/ESR-Meter.bin
```

```
python ../../esp-idf/components/esptool_py/esptool/esptool.py -p /dev/ttyUSB0 -b 460800 --before default-reset --after hard-reset --chip esp32 write-flash --flash_mode dio --flash-size detect --flash-freq 40m 0x00130000 build/thermometer.bin
```

Where parameters are:

- write_flash
- -chip **esp32c3** or **esp32**
- -p **/dev/ttyACM0** or **/dev/ttyUSB0**
- -b **460800**
- --before default_reset
- --after hard-reset
- --flash-mode **dio**
- --flash-size **detect** or 4MB
- --flash-freq **80m** or 40m
- 0x10000 build/ESR-Meter.bin

Flash Config Partition =====

Write Config to partition ===

```
esptool --port /dev/ttyACM0 write-flash --flash-mode qio 0x250000 default.config
```

Read CONFIG from partition ===

```
esptool --port /dev/ttyACM0 -b 460800 --before default-reset --chip esp32c3 read-flash 0x250000 4096 downloaded.config
```

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