如何透過 dd 指令燒入Linux 至 Banana Pi

事前準備：

1. 準備欲燒入的Linux image .

2. 準備一個空間足夠的SDcard，並事先格式化

3. 將下載下來的image 拷貝一份至隨身碟中

流程：

1. 先將image 燒入SDcard

2. 透過SDcard 開機

3. 將隨身碟中的image 燒入至 Banana Pi中的 emmc

4. 將SDcard 移除，重新開機試試看

步驟一：

找到插入 Mac 中的 SdCard 磁碟

diskutil list

```
[zhangshhandeMBP:~ allen$ diskutil list
/dev/disk0 (internal, physical):
   #:                       TYPE NAME                    SIZE       IDENTIFIER
   0:      GUID_partition_scheme                        *251.0 GB   disk0
   1:                        EFI EFI                     314.6 MB   disk0s1
   2:                  Apple_APFS Container disk1        250.7 GB   disk0s2

/dev/disk1 (synthesized):
   #:                       TYPE NAME                    SIZE       IDENTIFIER
   0:      APFS Container Scheme -                       +250.7 GB   disk1
                               Physical Store disk0s2
   1:                APFS Volume Macintosh HD：資料       57.6 GB    disk1s1
   2:                APFS Volume Preboot                 82.3 MB    disk1s2
   3:                APFS Volume Recovery                528.5 MB   disk1s3
   4:                APFS Volume VM                      1.1 GB     disk1s4
   5:                APFS Volume Macintosh HD            11.0 GB    disk1s5

/dev/disk2 (external, physical):
   #:                       TYPE NAME                    SIZE       IDENTIFIER
   0:      GUID_partition_scheme                        *7.7 GB    disk2
   1:                        EFI EFI                     209.7 MB   disk2s1
   2:        Microsoft Basic Data UNTITLED              7.5 GB     disk2s2
```

步驟二：

須先卸載 SdCard （否則步驟三執行不了)

diskutil unmountDisk /dev/disk2

```
[zhangshhandeMBP:m4 allen$ diskutil unmountDisk /dev/disk2
Unmount of all volumes on disk2 was successful
```

步驟三：

燒入 image 至 SdCard 中

sudo dd if="imgae" of="disk" bs="number" m

```
sh-3.2# dd if=2020-05-18-ubuntu-16.04-server-bpi-m4-aarch64-sd-emmc.img of=/dev/disk2 bs=10m
```

if 內指定欲燒入的image

of 內指定硬碟

bs 內指定一次寫入大小

步驟四：

將SdCard 插入Banana Pi 開機

步驟五：

插入隨身碟至 Banana Pi

步驟六：

找到插入Banana Pi 中的 USB 磁碟

fdisk -l

```
pi@bpi-iot-ros-ai:~$ sudo fdisk -l
[sudo] password for pi:
Disk /dev/mmcblk0: 29.7 GiB, 31914983424 bytes, 62333952 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x40216a58

Device         Boot  Start      End  Sectors  Size Id Type
/dev/mmcblk0p1       204800   729087   524288  256M  c W95 FAT32 (LBA)
/dev/mmcblk0p2       729088 62333951 61604864 29.4G 83 Linux

Disk /dev/mmcblk1: 7.3 GiB, 7818182656 bytes, 15269888 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: dos
Disk identifier: 0x40216a58

Device         Boot  Start      End  Sectors  Size Id Type
/dev/mmcblk1p1       204800   729087   524288  256M  c W95 FAT32 (LBA)
/dev/mmcblk1p2       729088 14940159 14211072  6.8G 83 Linux

Disk /dev/mmcblk1boot1: 4 MiB, 4194304 bytes, 8192 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/mmcblk1boot0: 4 MiB, 4194304 bytes, 8192 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

步驟七：

燒入 image 至 Banana Pi 的 Emmc 中

sudo dd if="imgae" of="disk" bs="number" MB

```
pi@bpi-iot-ros-ai:~$ sudo dd if=2018-01-05-ubuntu-16.04-mate-desktop-v1.0-bpi-m64-sd-emmc.img of=/dev/mmcblk1 bs=10MB
[sudo] password for pi:
765+1 records in
765+1 records out
7650410496 bytes (7.7 GB, 7.1 GiB) copied, 919.927 s, 8.3 MB/s
pi@bpi-iot-ros-ai:~$
```

if 內指定欲燒入的**image**

of 內指定硬碟

bs 內指定一次寫入大小

步驟八：

將 **Sdcard** 拿掉，重新開機