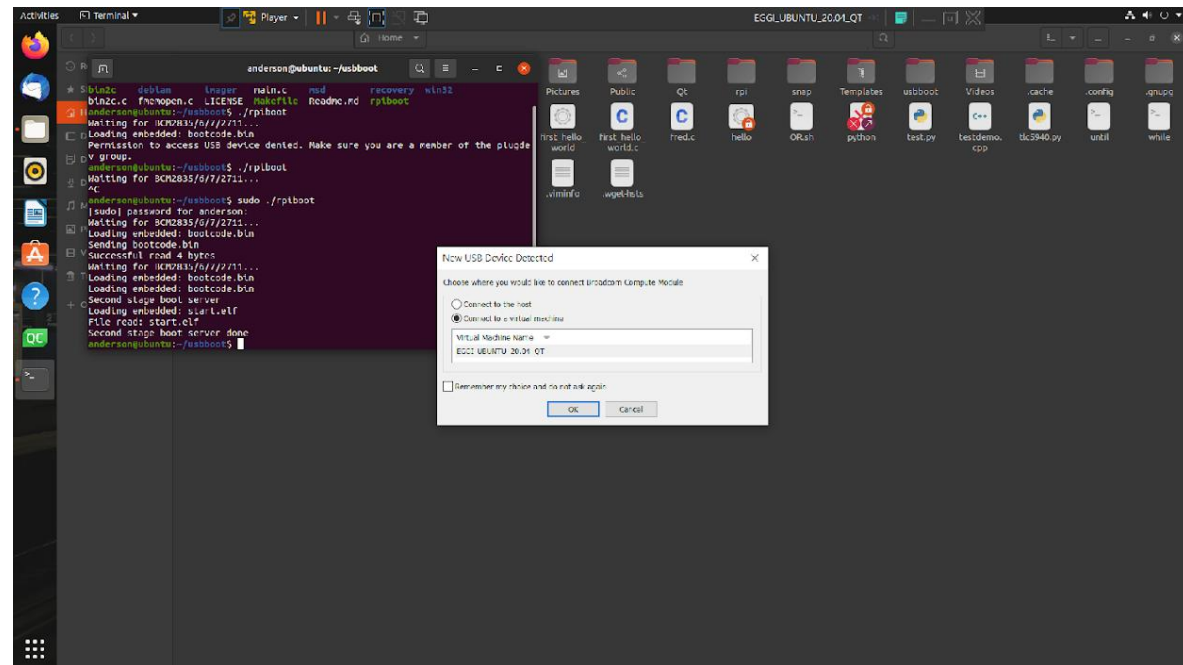


# 樹莓派在Linux上安裝連接驅動

請在linux終端機裡面根據步驟下指令

1. 先安裝git (**`sudo apt install git`**)
2. 下載網址的東西(**`git clone --depth=1 https://github.com/raspberrypi/usbboot`**)
3. 切換到usbboot目錄(**`cd usbboot`**)
4. 安裝libusb(**`sudo apt install libusb-1.0-0-dev`**)
5. 使用make構建並安裝該usbboot工具(**`make`**)
6. 進行連接(**`sudo ./rpiboot`**)
7. 將Compute Module 3+ 8GB



# 樹梅派系統備份

```
anderson@ubuntu:~/usbboot$ ./rpiboot  
Waiting for BCM2835/6/7/2711...
```

```
anderson@ubuntu: ~/usbboot  
anderson@ubuntu: ~/usbboot  
anderson@ubuntu:~/usbboot$ lsblk
```

NAME	MAJ:MIN	RM	SIZE	RO	TYPE	MOUNTPOINT
loop0	7:0	0	55.5M	1	loop	/snap/core18/1988
loop1	7:1	0	61.8M	1	loop	/snap/core20/1081
loop2	7:2	0	55.4M	1	loop	/snap/core18/2128
loop3	7:3	0	64.8M	1	loop	/snap/gtk-common-themes/1514
loop4	7:4	0	65.1M	1	loop	/snap/gtk-common-themes/1515
loop5	7:5	0	61.6M	1	loop	/snap/core20/904
loop6	7:6	0	219M	1	loop	/snap/gnome-3-34-1804/66
loop7	7:7	0	219M	1	loop	/snap/gnome-3-34-1804/72
loop8	7:8	0	51M	1	loop	/snap/snap-store/547
loop9	7:9	0	32.3M	1	loop	/snap/snapd/11107
loop10	7:10	0	51M	1	loop	/snap/snap-store/518
loop11	7:11	0	32.3M	1	loop	/snap/snapd/12883
sda	8:0	0	60G	0	disk	
├─sda1	8:1	0	512M	0	part	/boot/efi
├─sda2	8:2	0	1K	0	part	
├─sda5	8:5	0	59.5G	0	part	/
sdb	8:16	1	7.3G	0	disk	
├─sdb1	8:17	1	256M	0	part	/media/anderson/boot
└─sdb2	8:18	1	7G	0	part	/media/anderson/rootfs
sdc	11:0	1	1024M	0	rom	

```
anderson@ubuntu:~/usbboot$
```

# 樹梅派系統備份

1. 在想要存放img檔案下路徑開啟終端機，這裡使用家目錄底下存放
2. 終端機上sudo dd of=rpi\_8G.img if=/dev/sdX bs=1M(of為指定輸出img的檔案名稱，if為樹莓派裝置位置(就是用lsblk指令查看裝置))
3. 可以開啟另外一個終端機輸入watch -n 2 ls -ln 查看img檔案大小變化量
4. 打包img檔案成功會出現整個img容量跟總共時間

```
anderson@ubuntu: ~  
anderson@ubuntu: ~  
anderson@ubuntu: /usr/local/bin  
Every 2.0s: ls -lh  
total 5.4G  
-rwxrwxr-x 1 anderson anderson 165 Dec 25 2020 AND  
-rw-rw-r-- 1 anderson anderson 83 Dec 24 2020 bill.c  
drwxr-xr-x 2 anderson anderson 4.0K Sep 7 18:57 Desktop  
drwxr-xr-x 2 anderson anderson 4.0K Nov 21 2020 Documents  
drwxr-xr-x 3 anderson anderson 4.0K Dec 10 2020 Downloads  
drwxrwxr-x 3 anderson anderson 4.0K Sep 7 18:58 EGGI_QT  
-rwxrwxr-x 1 anderson anderson 89 Dec 24 2020 first  
-rwxrwxr-x 1 anderson anderson 17K Dec 24 2020 first_hello_world  
-rw-rw-r-- 1 anderson anderson 119 Dec 24 2020 first_hello_world.c  
-rw-rw-r-- 1 anderson anderson 81 Dec 24 2020 fred.c  
-rwxr-xr-x 1 root root 17K Sep 8 00:38 hello  
drwxrwxrwx 3 anderson anderson 4.0K Sep 7 19:00 Louis  
drwxr-xr-x 2 anderson anderson 4.0K Nov 21 2020 Music  
-rwxrwxr-x 1 anderson anderson 160 Dec 25 2020 OR.sh  
drwxr-xr-x 2 anderson anderson 4.0K Dec 3 2020 Pictures  
drwxr-xr-x 2 anderson anderson 4.0K Nov 21 2020 Public  
lrwxrwxrwx 1 root root 7 Sep 7 01:41 python -> python3  
drwxr-xr-x 9 anderson anderson 4.0K Nov 22 2020 Qt  
drwxr-xr-x 11 anderson anderson 4.0K Nov 22 2020 rpi  
-rw-r--r-- 1 root root 5.4G Sep 9 00:32 rpi_8G.img  
drwxr-xr-x 4 anderson anderson 4.0K Dec 24 2020 snap  
drwxr-xr-x 2 anderson anderson 4.0K Nov 21 2020 Templates  
-rwxrwxrwx 1 anderson anderson 90 Sep 8 00:37 testdemo.cpp  
-rw-rw-r-- 1 anderson anderson 293 Nov 30 2020 test.py  
-rw-rw-r-- 1 anderson anderson 1.4K Nov 30 2020 tlc5940.py  
-rwxrwxrwx 1 anderson anderson 128 Dec 25 2020 until  
drwxrwxr-x 8 anderson anderson 4.0K Sep 7 19:36 usbboot  
drwxr-xr-x 2 anderson anderson 4.0K Nov 21 2020 Videos
```

```
anderson@ubuntu:~$ sudo dd of=rpi_8G.img if=/dev/sdb bs=1M  
  
7456+0 records in  
7456+0 records out  
7818182656 bytes (7.8 GB, 7.3 GiB) copied, 1526.63 s, 5.1 MB/s
```

# img檔案壓縮容量

在終端機上輸入以下指令

1. `wget https://raw.githubusercontent.com/Drewsif/PiShrink/master/pishrink.sh`
2. `chmod +x pishrink.sh`
3. `sudo mv pishrink.sh /usr/local/bin`

切換目錄

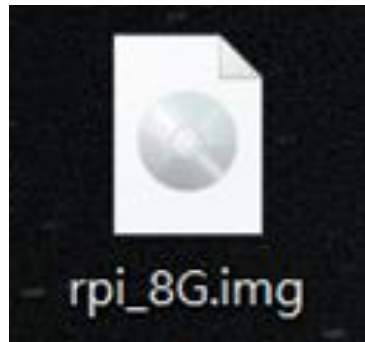
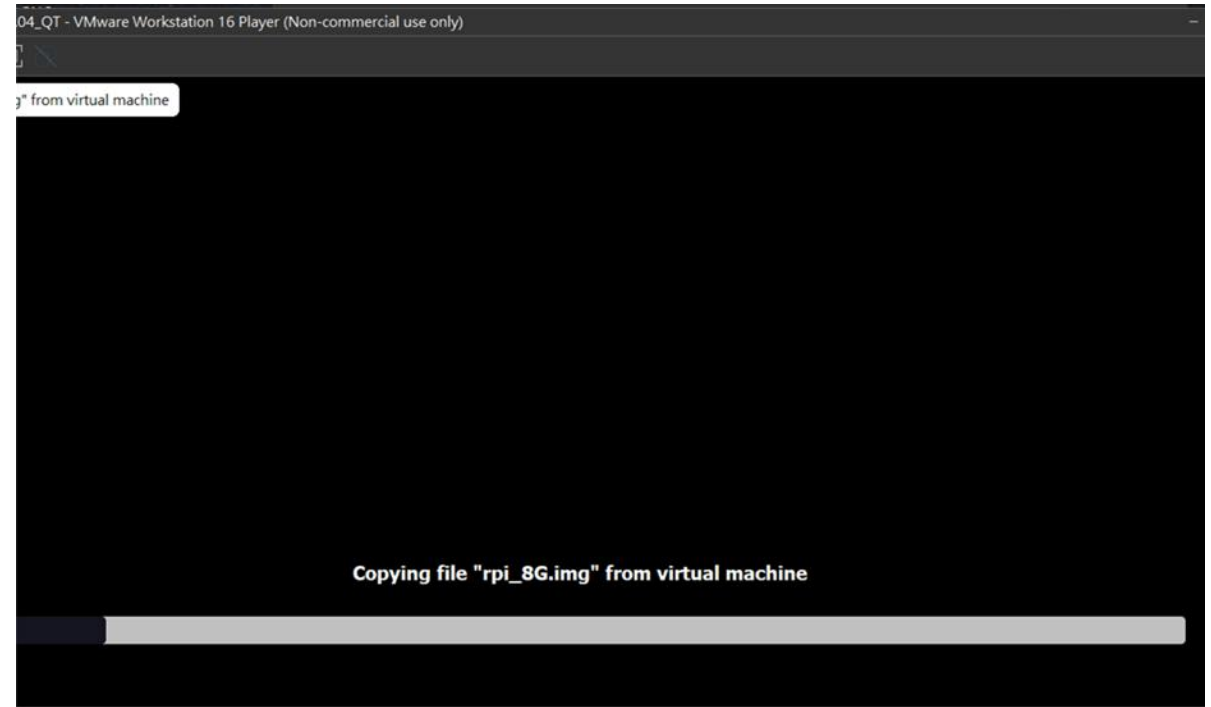
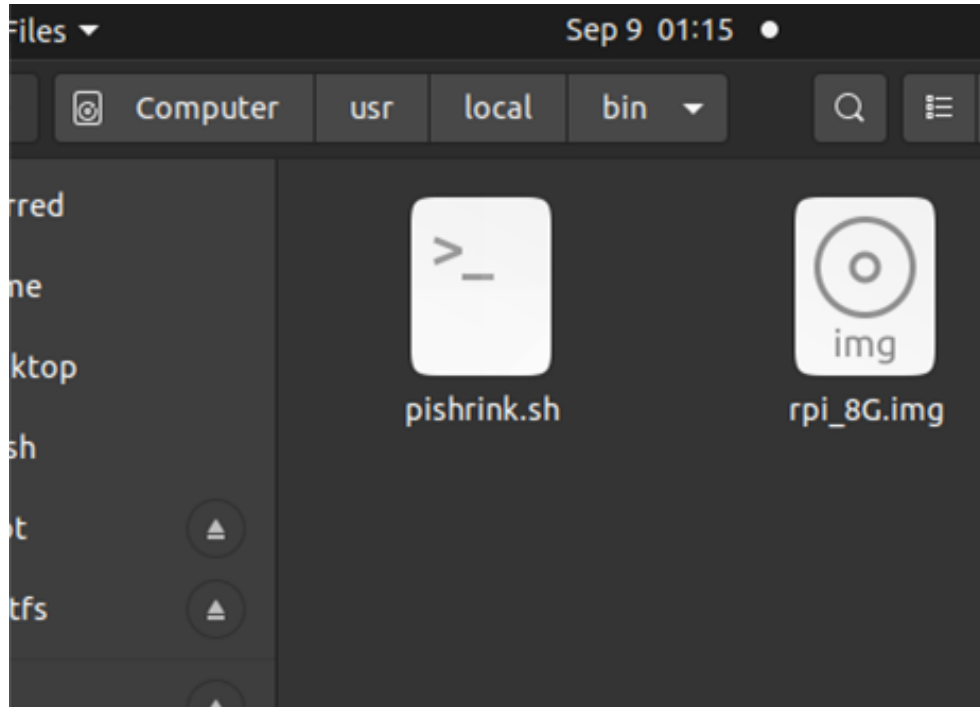
1. 先將剛剛打包好的img檔案移動到`/usr/local/bin`，在終端機輸入`sudo mv rpi_8G.img /usr/local/bin`
2. 切換目錄，輸入`cd /usr/local/bin`
3. 輸入`ls`檢查確認`rpi_8G.img`檔案是否出現
4. 輸入`sudo pishrink.sh rpi_8G.img`

```
anderson@ubuntu:/usr/local/bin$ sudo pishrink.sh rpi_8G.img
[sudo] password for anderson:
pishrink.sh v0.1.2
pishrink.sh: Gathering data ...
Creating new /etc/rc.local
pishrink.sh: Checking filesystem ...
rootfs: 155038/457824 files (0.3% non-contiguous), 1249929/1842176 blocks
resize2fs 1.45.5 (07-Jan-2020)
pishrink.sh: Shrinking filesystem ...
resize2fs 1.45.5 (07-Jan-2020)
Resizing the filesystem on /dev/loop12 to 1637342 (4k) blocks.
Begin pass 2 (max = 23774)
Relocating blocks                XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
Begin pass 3 (max = 57)
Scanning inode table             XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
The filesystem on /dev/loop12 is now 1637342 (4k) blocks long.

pishrink.sh: Shrinking image ...
pishrink.sh: Shrunk rpi_8G.img from 7.3G to 6.5G ...
```

# img檔案壓縮容量

將rpi\_8G取出到Windows



# 樹莓派系統燒入

在Windows上使用

