



# ubuntu 系统的备份与烧录


## 1、备份树莓派镜像

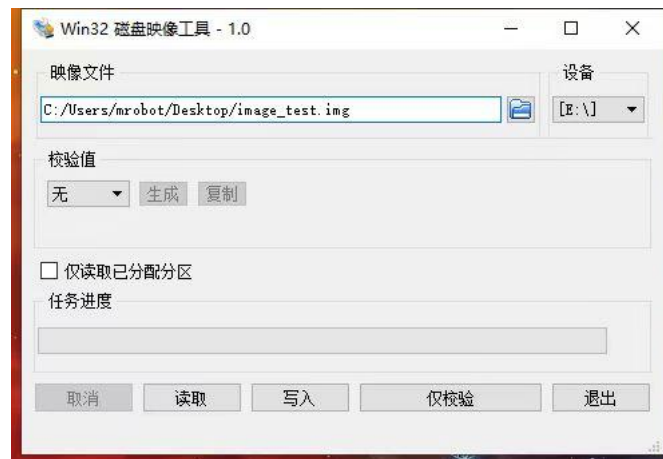
- 新建空白的文件，后缀名为 (新建一个空白的 txt 文件，然后将 txt 后缀改为，文件名设置为英文)



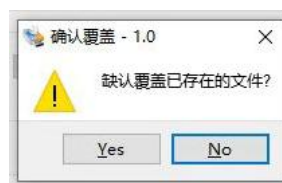
- 将含有需要备份的树莓派镜像的内存卡连接到电脑。注意!! 插入带有镜像的内存卡时会出现格式化弹窗，一定要点击取消!!!!



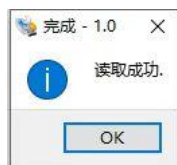
- 打开 win32DiskImager 磁盘映像工具，映像文件选择刚刚新建的空白文件，设备选择需要备份的内存卡，然后点击读取



- 点击读取按钮之后会出现一个确认覆盖写入的警告弹框，点击 “yes”



• 32G 的镜像备份的时间大约需要 30 分钟，完成后会弹出完成的弹窗，点击 OK 即可完成，完成后退出 win32DiskImage。



• 备份完成后查看一下镜像文件的大小，看是否与内存卡大小一致。



## 2、烧录树莓派

- 内存卡插入读卡器，然后插入电脑，将内存卡格式化。
- 打开 Win32DiskImager，选择下载好的 ubuntu 镜像和内存卡，烧录系统。
- 将内存卡插入树莓派，并连接显示器和键盘，启动系统。第一次启动系统时的用户名和密码均为 ubuntu，登陆后需要修改密码。

```
Ubuntu 18.04.5 LTS ubuntu tty1

ubuntu login: ubuntu
Password:
You are required to change your password immediately (root enforced)
Changing password for ubuntu.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-1015-raspi aarch64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Thu Aug  6 22:54:00 UTC 2020

System load: 0.63           Memory usage: 5%   Processes:   128
Usage of /:  5.0% of 28.95GB Swap usage:   0%   Users logged in: 0

0 packages can be updated.
0 updates are security updates.

Your Hardware Enablement Stack (HWE) is supported until April 2023.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ubuntu:~$ _
```

【注意】如果使用的是 MAC 电脑，通过以下步骤进行烧录

- 内存卡插入读卡器，然后插入电脑，将内存卡格式化。
- 打开 mac 命令行，推荐使用 iTerm，键入 `df -lh`，列出当前电脑挂着的磁盘，确定内存卡的系统目录，以 `/dev/disk2s1` 为例。

```
wangtao@wangtaodeMacBook-Pro ~ % df -lh
Filesystem      Size  Used Avail Capacity iused      ifree %iused  Mounted on
/dev/disk1s1s1  466Gi  15Gi  214Gi     7%  575614 2240675560     0%  /
/dev/disk1s5    466Gi   2.0Gi  214Gi     1%     2 2240675560     0%  /System/Volumes/VM
/dev/disk1s3    466Gi  513Mi  214Gi     1%   3001 2240675560     0%  /System/Volumes/Preboot
/dev/disk1s6    466Gi   3.2Mi  214Gi     1%    19 2240675560     0%  /System/Volumes/Update
/dev/disk1s2    466Gi  234Gi  214Gi    53% 1024289 2240675560     0%  /System/Volumes/Data
/dev/disk2s1    30Gi   2.8Mi   30Gi     1%     0     0 100%  /Volumes/NO NAME
```

- 键入 `diskutil unmount /dev/disk2s1`，卸载硬盘。

```
wangtao@wangtaodeMacBook-Pro ~ % diskutil unmount /dev/disk2s1
Volume NO NAME on disk2s1 unmounted
```

- 键入 `diskutil list`，查看内存卡硬盘列表，以 `/dev/disk2` 为例。

```
wangtao@wangtaodeMacBook-Pro ~ % diskutil list
/dev/disk0 (internal, physical):
#          TYPE NAME              SIZE          IDENTIFIER
0:        GUID_partition_scheme    *500.3 GB     disk0
1:          EFI EFI                314.6 MB      disk0s1
2:        Apple_APFS Container disk1 500.0 GB      disk0s2

/dev/disk1 (synthesized):
#          TYPE NAME              SIZE          IDENTIFIER
0:        APFS Container Scheme -    +500.0 GB     disk1
           Physical Store disk0s2
1:          APFS Volume Macintosh HD 15.7 GB       disk1s1
2:        APFS Snapshot com.apple.os.update-... 15.7 GB       disk1s1s1
3:          APFS Volume Macintosh HD - Data 250.9 GB      disk1s2
4:          APFS Volume Preboot          538.2 MB      disk1s3
5:          APFS Volume Recovery          1.1 GB        disk1s4
6:          APFS Volume VM                2.1 GB        disk1s5

/dev/disk2 (external, physical):
#          TYPE NAME              SIZE          IDENTIFIER
0:        FDisk_partition_scheme    *31.9 GB      disk2
1:        Windows_FAT_32 NO NAME        31.9 GB       disk2s1
```

• 键入 `sudo dd bs=4m if=&&&& of=/dev/disk2`，其中“&&&&”表示的是 ubuntu 系统镜像的目录。

```
wangtao@wangtaodeMacBook-Pro ~ % sudo dd bs=4m if=/Users/wangtao/Desktop/mRobotit/mRobotit/系统镜像/ubuntu-18.04.5-preinstalled-server-arm64+raspi3.img of=/dev/disk2
Password:
632+1 records in
632+1 records out
2653289472 bytes transferred in 249.263487 secs (10644517 bytes/sec)
```