

## Environmental preparation before the development of the Raspberry Pi camera

### 1. Environmental requirements:

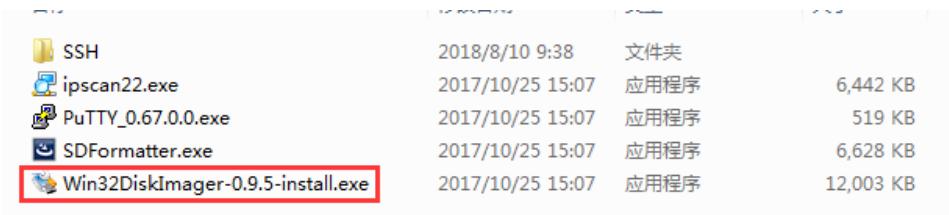
1. Burned the system image of the Raspberry Pi;
2. Opened the SSH service of the Raspberry Pi;
3. The Raspberry Pi board can connect to the network;
4. It is possible to transfer files cross the file system by SSH software;

### 2. Steps

#### 2.1) Write system image

You need to use [Win32DiskImager](#) to write the Raspberry Pi system image.

(Note : This software in the Tools folder)



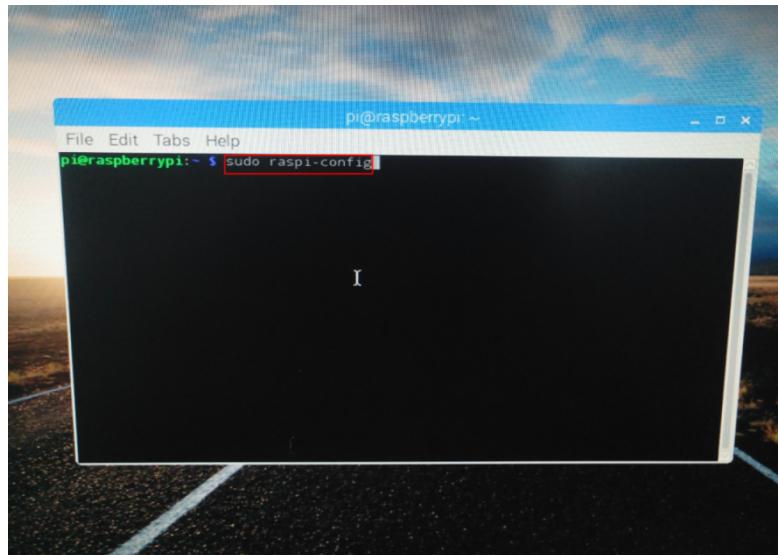
#### 2.2) Opening SSH service:

**Case1:** (Suitable for users with display screen)

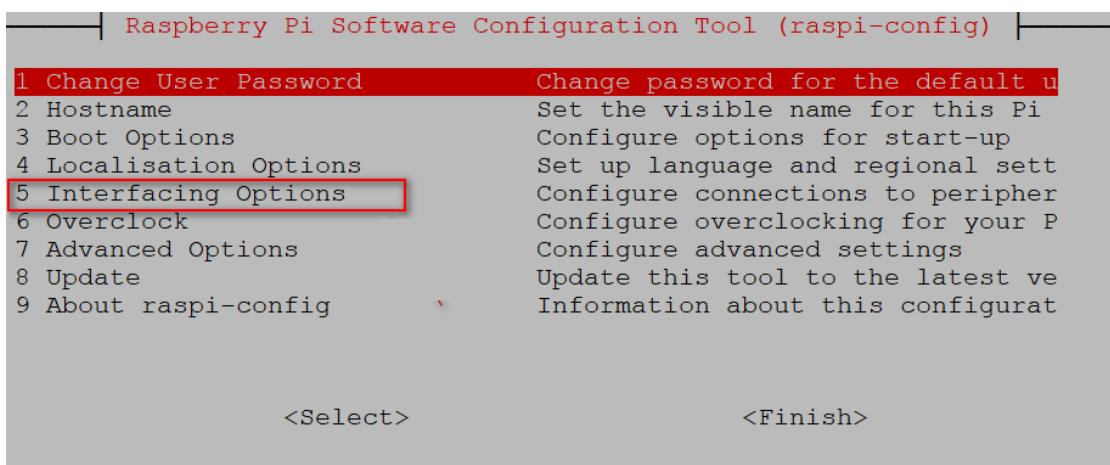
After the system image is written, you should insert the SD card directly into the Raspberry Pi to run. we need to connect the monitor, mouse and keyboard.

(Note: Official original system image of the Raspberry pi without SSH service, so we need to open this service by ourself.)

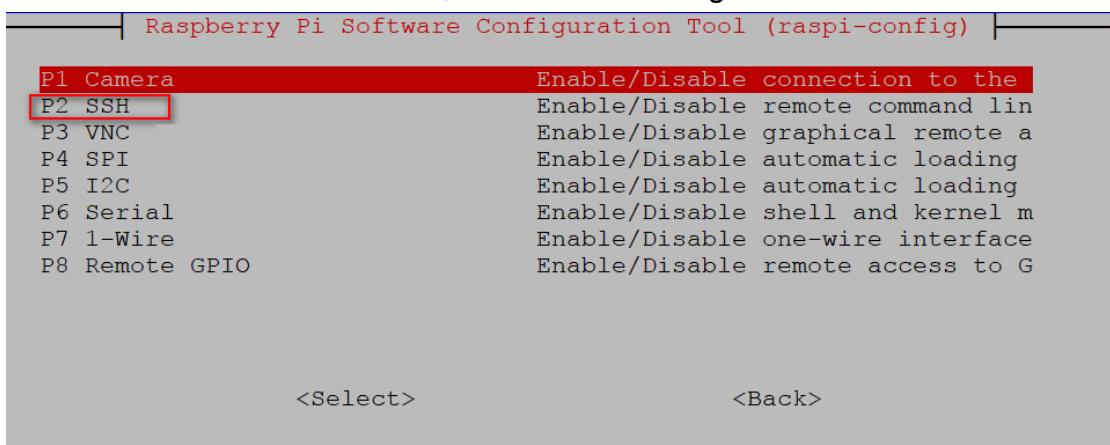
① You need to open the command line terminal in the Raspberry Pi system and input:[sudo raspi-config](#) ,as shown in the figure below.



② You should choose :[5 Interfacing Options](#),as shown in the figure below.



③ You should choose :P2 SSH, as shown in the figure below.



After the above steps, we have opened the SSH service successfully.

#### Method to start root:

- 1) You need to input: **sudo passwd root**
- 2) You need to input the root password twice  
input: **sudo passwd --unlock root**

You can switch root privileges for development.

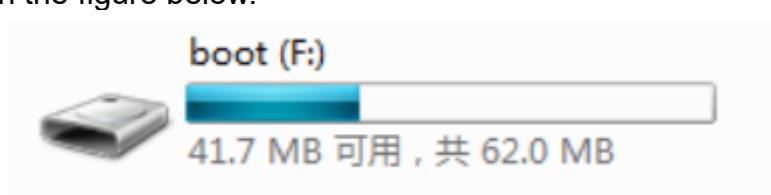
You need to input: **su**

Then you need to input password of root privileges.

#### Case2: If you don't possess a monitor

You need to connect the SD card to the computer with a card reader and create a new SSH file(without any format) in this disk.

As shown in the figure below.



## 2.3)Connect to internet

### Case 1: (Suitable for users with display screen)

After entering the system, For users who use the screen, you can directly click on the network icon in the upper right corner of the screen to connect to the currently available WIFI(Raspberry Pi 3 Mode B+ can be connected to 5G WIFI). Then, you need to open the command line terminal in the Raspberry Pi system and input: **ifconfig** to search the IP address of the Raspberry Pi, as shown in the figure below.

(Note:just for example:my IP address of the Raspberry Pi is 192.168.0.119)

```
root@raspberrypi:/# ifconfig
eth0      Link encap:Ethernet HWaddr b8:27:eb:8c:fc:4f
          inet6 addr: fe80::6e5:5863:be3c:1f57/64 Scope:Link
          UP BROADCAST MULTICAST MTU:1500 Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

lo       Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING MTU:65536 Metric:1
          RX packets:200 errors:0 dropped:0 overruns:0 frame:0
          TX packets:200 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:16656 (16.2 KiB)  TX bytes:16656 (16.2 KiB)

wlan0    Link encap:Ethernet HWaddr b8:27:eb:d9:a9:1a
          inet addr:192.168.0.119 Bcast:192.168.0.255 Mask:255.255.255.0
          inet6 addr: fe80::32f8:a30e:b396:fe6c/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
          RX packets:12670 errors:0 dropped:8551 overruns:0 frame:0
          TX packets:659 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:2598051 (2.4 MiB)  TX bytes:87043 (85.0 KiB)

root@raspberrypi:/#
```

### Case 2: If you don't possess a monitor

You need to insert the Internet cable into the Raspberry Pi board, and the indicator light of the Raspberry Pi network port will flash. You can get the IP address of the Raspberry Pi by IP SCAN software.

(Note : This software in the Tools folder)

SSH	2018/8/10 9:38	文件夹
ipscan22.exe	2017/10/25 15:07	应用程序 6,442 KB
PUTTY_0.67.0.0.exe	2017/10/25 15:07	应用程序 519 KB
SDFormatter.exe	2017/10/25 15:07	应用程序 6,628 KB
Win32DiskImager-0.9.5-install.exe	2017/10/25 15:07	应用程序 12,003 KB

You can double-click to use it.

Status	Name	IP	/	Manufacturer	MAC address
+ 192.168.0.1		192.168.0.1		BC:46:99:ED:50:C3	
+ ROOMS		192.168.0.66		FC:AA:14:57:A9:41	
+ 192.168.0.100		192.168.0.100		58:7F:66:F5:AB:0B	
+ EN46T88DGUDPI19		192.168.0.101		2C:4D:54:56:F6:71	
+ DESKTOP-F4FAVSJ		192.168.0.103		08:57:00:9B:28:A0	
+ EN46T88DGUDPI19		192.168.0.105		2C:4D:54:56:F6:71	
+ MS-20160304UNEO		192.168.0.106		2C:20:0B:21:9E:76	
+ MS-20160304UNEO		192.168.0.107	Liteon Technology Corp...	44:6D:57:33:26:0C	
+ MS-20160229WKOH		192.168.0.108		3C:46:D8:7D:08:44	
+ 192.168.0.109		192.168.0.109		E0:DD:C0:43:88:36	
+ ROOMS		192.168.0.112		68:3E:34:80:A5:22	
+ DESKTOP-F4FAVSJ		192.168.0.114		74:23:44:E7:8C:1B	
+ ADMIN-PC		192.168.0.115		2C:4D:54:F0:9A:50	
+ 192.168.0.116		192.168.0.116		6C:5C:14:B7:1B:FD	
+ EN46T88DGUDPI19		192.168.0.117	Raspberry Pi Foundation	B8:27:EB:D9:A9:1A	
+ XZSCUMWJ6VGJL9V		192.168.0.118	GIGA-BYTE TECHNOLOG...	00:1F:D0:B7:11:73	
+ MS-20160219C			Intel Corporate	40:8D:5C:82:2A:32	
+ Rooms				4C:EB:42:6E:F0:32	
+ MS-20160219C				F8:A4:5F:84:04:BC	
+ MS-20150803NLGC		192.168.0.123	Intel Corporate	74:E5:0B:49:8E:38	
+ MS-20160111FUEO		192.168.0.125	Raspberry Pi Foundation	B8:27:EB:D9:A9:1A	

Then you can remote login into the system with this IP address.