

Remote Access

Remote Access

1. Preliminary preparation
 - 1.1. Enable SSH and VNC
 - Graphical interface
 - Command line
 - 1.2. Get IP
 - Graphical interface
2. SSH remote control
3. VNC remote login

We often use SSH and VNC tools to remotely control the Raspberry Pi system.

1. Preliminary preparation

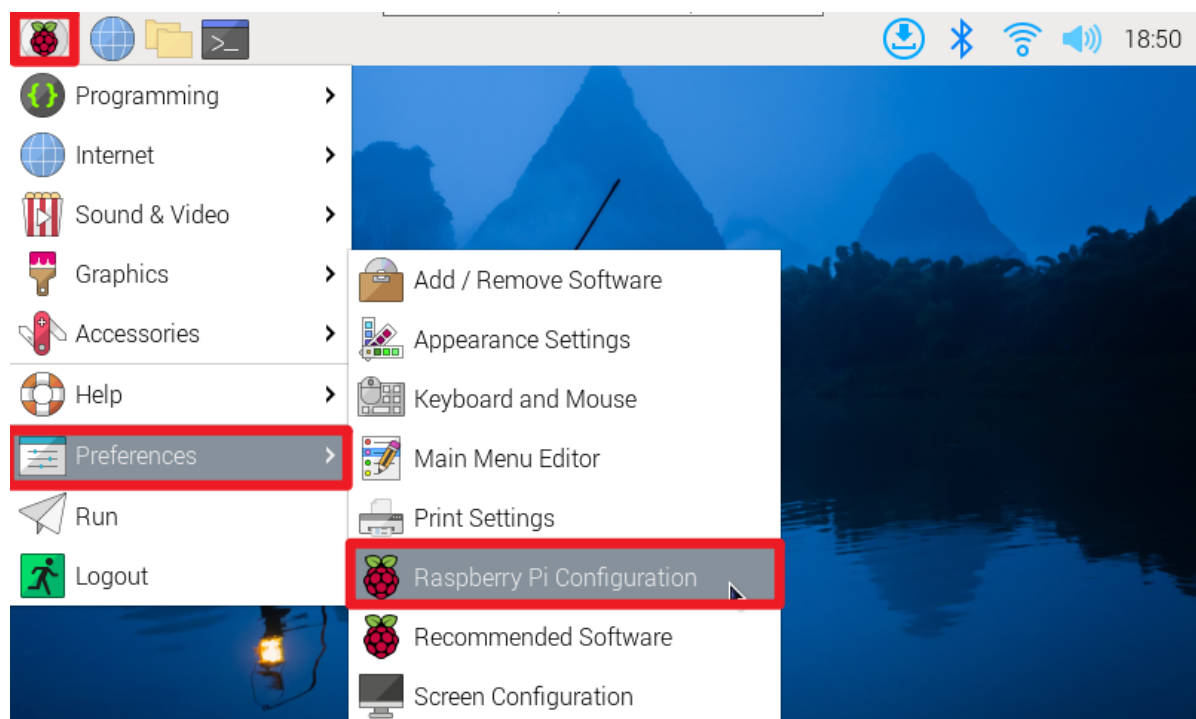
Note: SSH and VNC are already enabled in the car image, so you can skip the preliminary preparation content

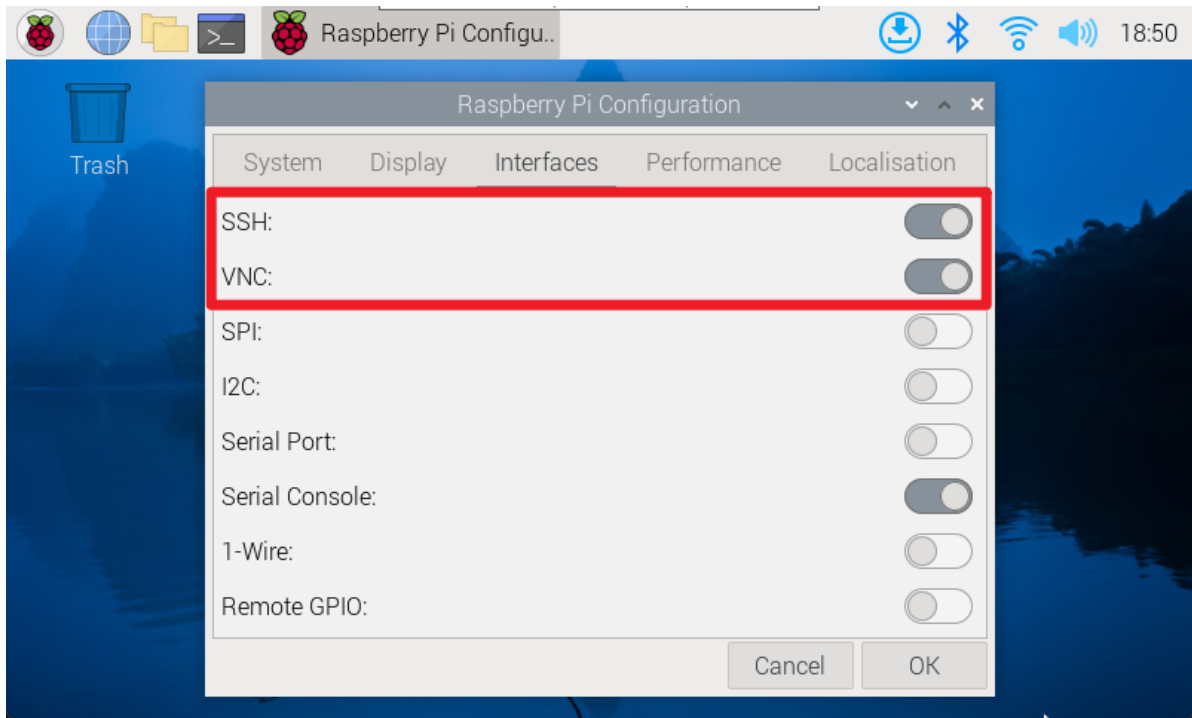
Before performing SSH and VNC remote login, you need to enable SSH and VNC functions in the Raspberry Pi system settings or use the raspi-config tool.

1.1. Enable SSH and VNC

Graphical interface

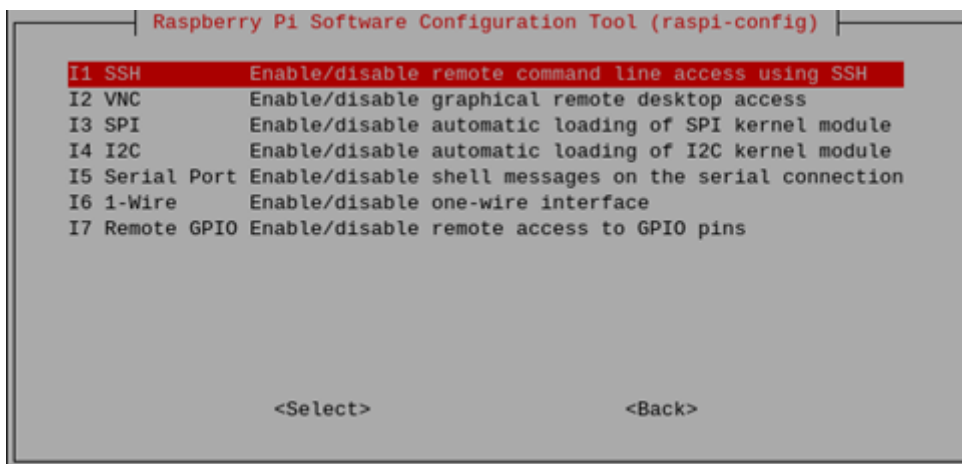
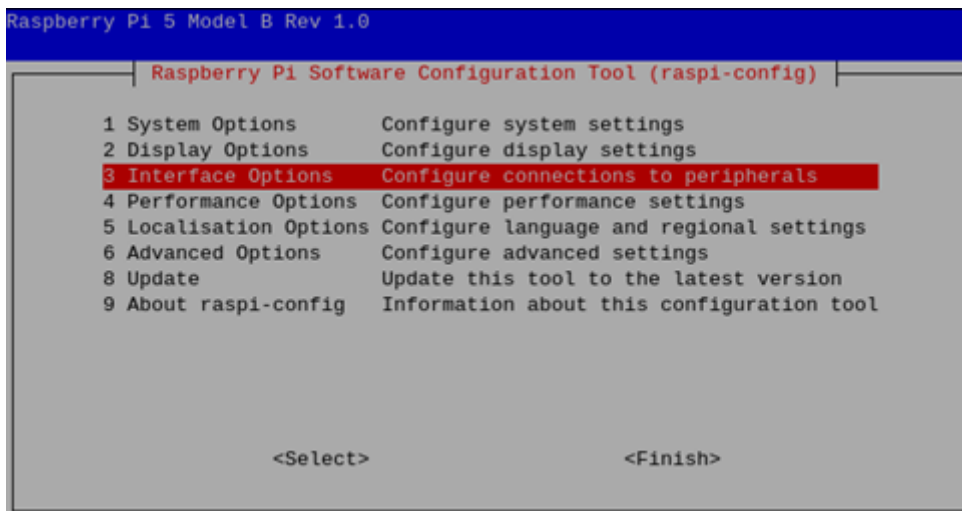
Enable SSH and VNC: applications menu → Preferences → Raspberry Pi Configuration

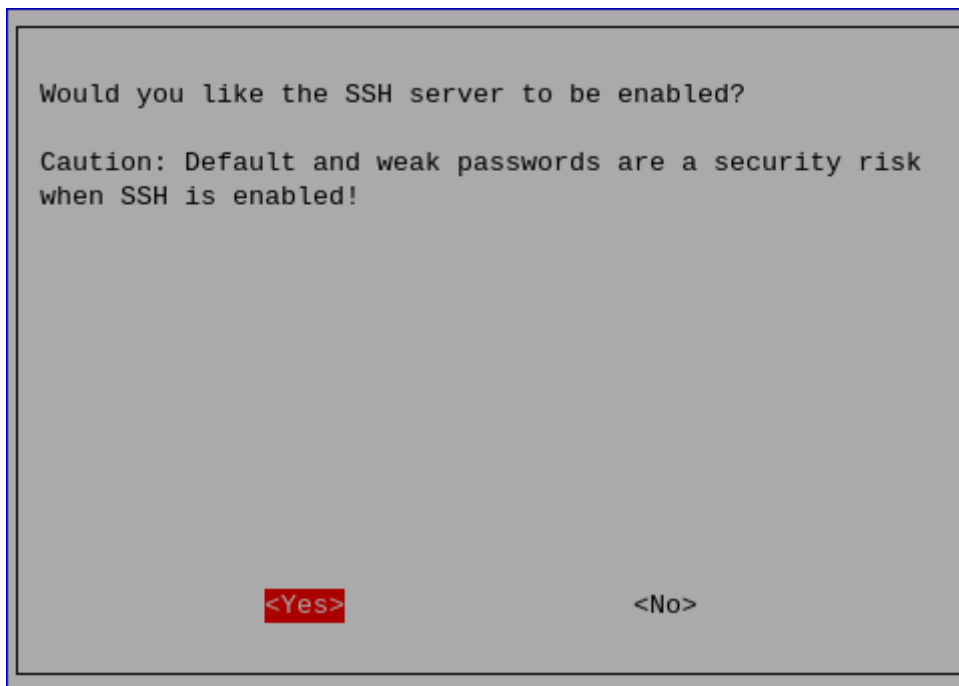




Command line

Use raspi-config tool to enable SSH and VNC functions: Interface Options → SSH/VNC: enable





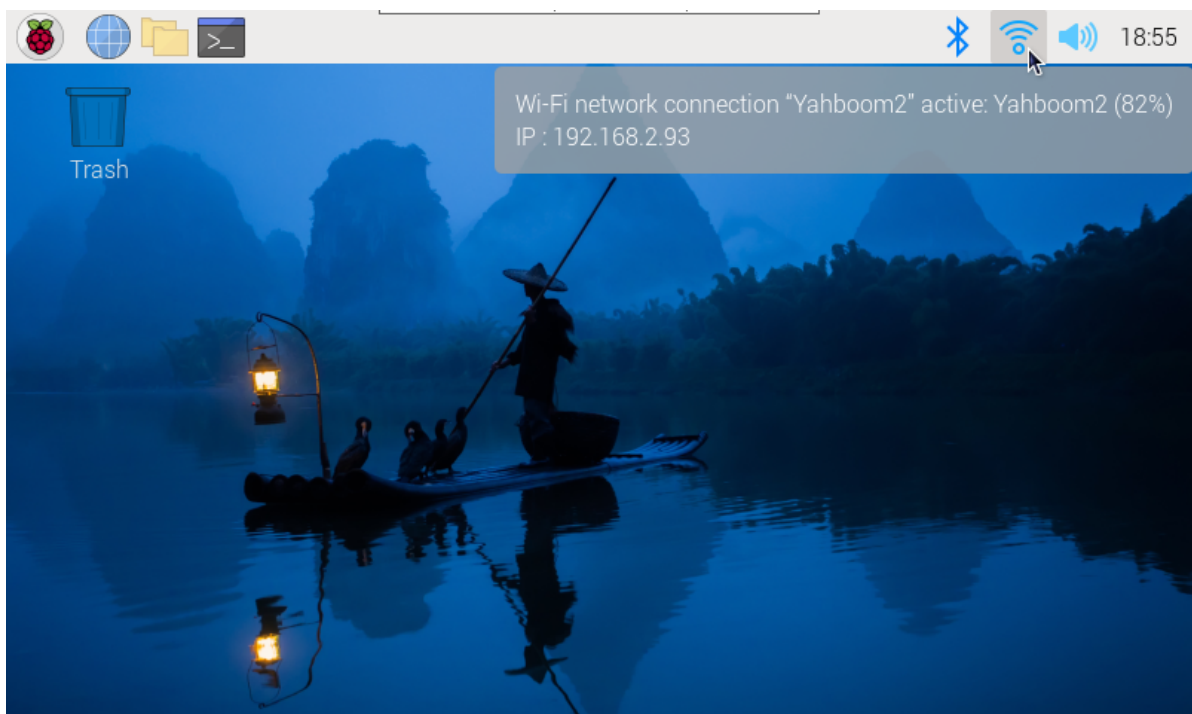
The steps to enable the VNC function are the same, just follow the above steps!
Note: If the VNC service fails to start, check whether the system has been updated; update the software and restart the system before re-enabling the VNC service.

1.2. Get IP

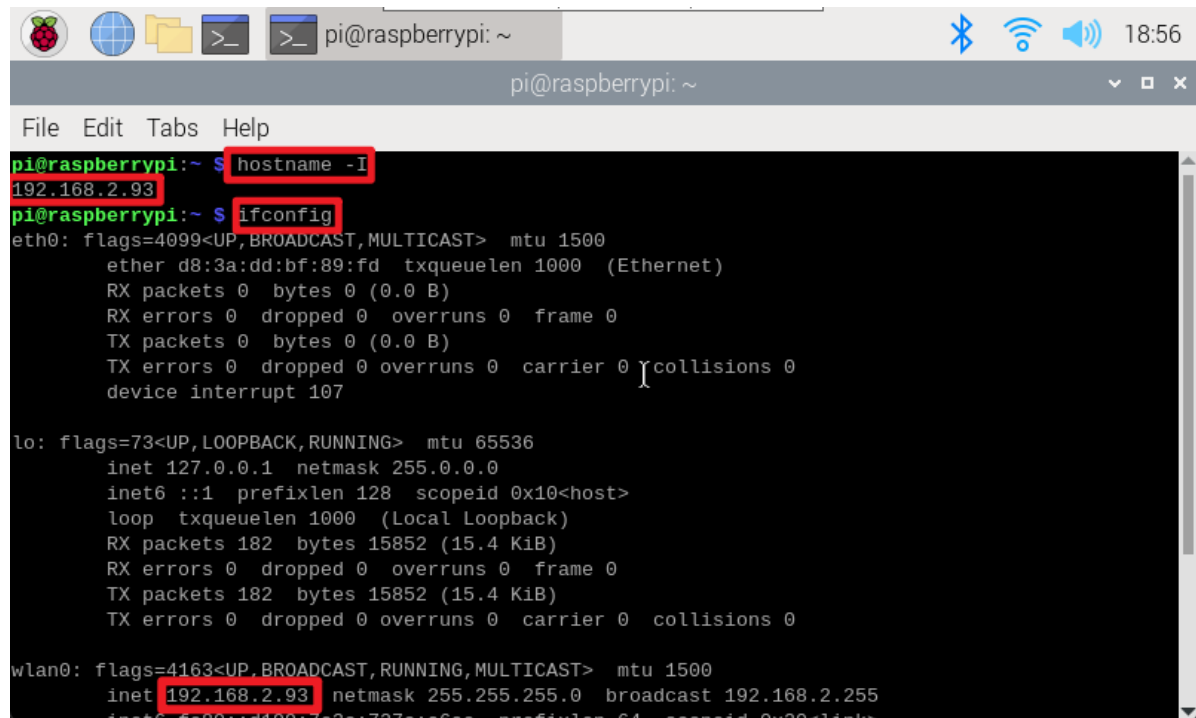
After enabling SSH and VNC functions, you can remotely control the Raspberry Pi according to its IP!

Graphical interface

After the system is connected to WiFi, hover the mouse over the WiFi icon to see the corresponding IP address.



Use the command to view the IP address: `hostname -I` or `ifconfig`



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~$ hostname -I  
192.168.2.93  
pi@raspberrypi:~$ ifconfig  
eth0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500  
    ether d8:3a:dd:bf:89:fd txqueuelen 1000  (Ethernet)  
    RX packets 0  bytes 0 (0.0 B)  
    RX errors 0  dropped 0  overruns 0  frame 0  
    TX packets 0  bytes 0 (0.0 B)  
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0  
    device interrupt 107  
  
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536  
    inet 127.0.0.1  netmask 255.0.0.0  
    inet6 ::1  prefixlen 128  scopeid 0x10<host>  
    loop txqueuelen 1000  (Local Loopback)  
    RX packets 182  bytes 15852 (15.4 KiB)  
    RX errors 0  dropped 0  overruns 0  frame 0  
    TX packets 182  bytes 15852 (15.4 KiB)  
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0  
  
wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500  
    inet 192.168.2.93  netmask 255.255.255.0  broadcast 192.168.2.255  
    inet6 fe80::d100:7a2e:737a:1c6a  prefixlen 64  scopeid 0x20<link>
```

2. SSH remote control

After obtaining the IP address of the Raspberry Pi motherboard, you can log in remotely through SSH in the terminal according to the username and password of the Raspberry Pi system.

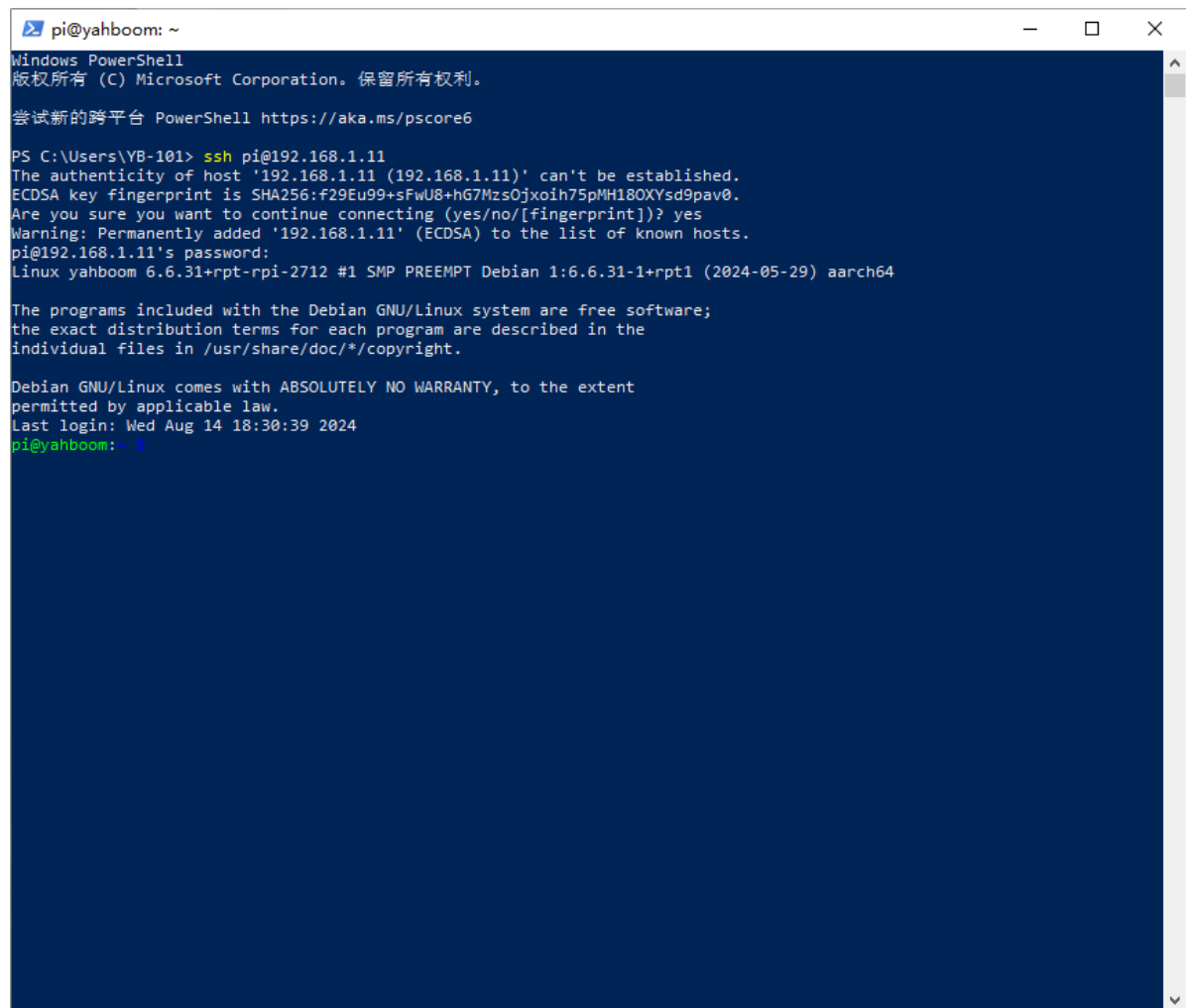
Take the car hotspot as an example, password: 12345678



SSH remote login command: `ssh username@IP address`

The car's username is pi, the password is yahboom, and the hotspot IP address is 192.168.1.11

```
ssh pi@192.168.1.11
```



```
pi@yahboom: ~
Windows PowerShell
版权所有 (C) Microsoft Corporation。保留所有权利。

尝试新的跨平台 PowerShell https://aka.ms/pscore6

PS C:\Users\YB-101> ssh pi@192.168.1.11
The authenticity of host '192.168.1.11 (192.168.1.11)' can't be established.
ECDSA key fingerprint is SHA256:f29Eu99+sFWU8+hG7Mzs0jxoih75pMH180XYsd9pav0.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.168.1.11' (ECDSA) to the list of known hosts.
pi@192.168.1.11's password:
Linux yahboom 6.6.31+rpt-rpi-2712 #1 SMP PREEMPT Debian 1:6.6.31-1+rpt1 (2024-05-29) aarch64

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

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Wed Aug 14 18:30:39 2024
pi@yahboom:~$
```

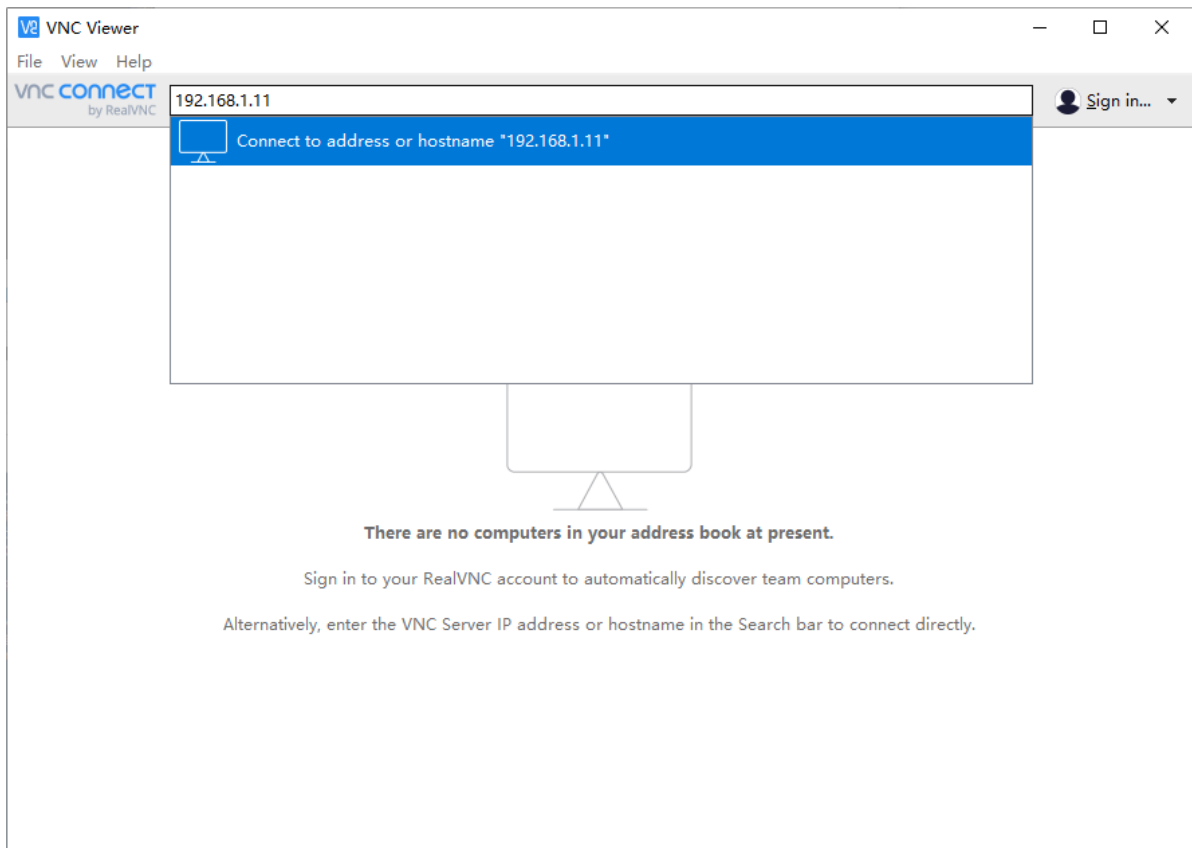
3. VNC remote login

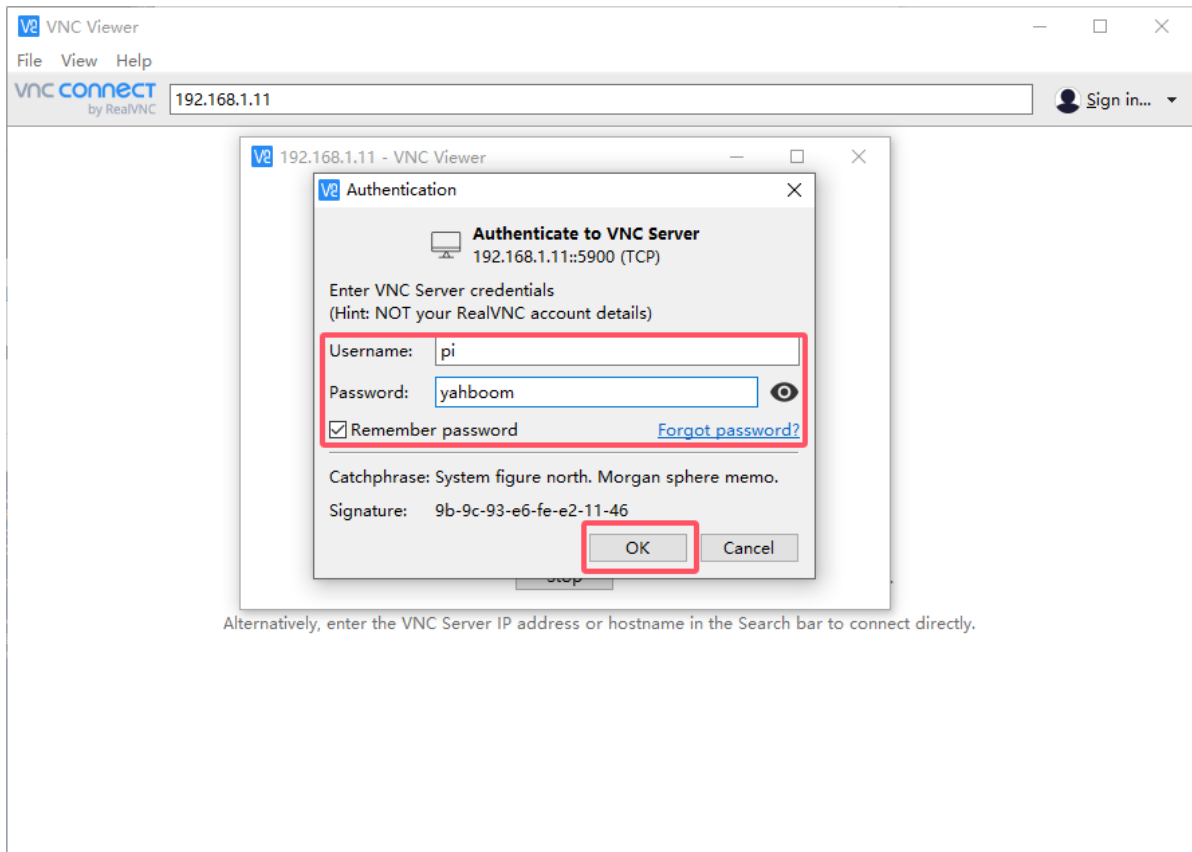
After obtaining the Raspberry Pi motherboard IP address, you can use the RealVNC Viewer software for remote login.

Take the example of connecting to the car hotspot, password: 12345678



The user name for car login is pi, the password is yahboom, and the IP address of the hotspot is 192.168.1.11





After successful remote login, the Raspberry Pi system desktop will be displayed!

