Remote Login

Remote Login
1. Enable SSH service
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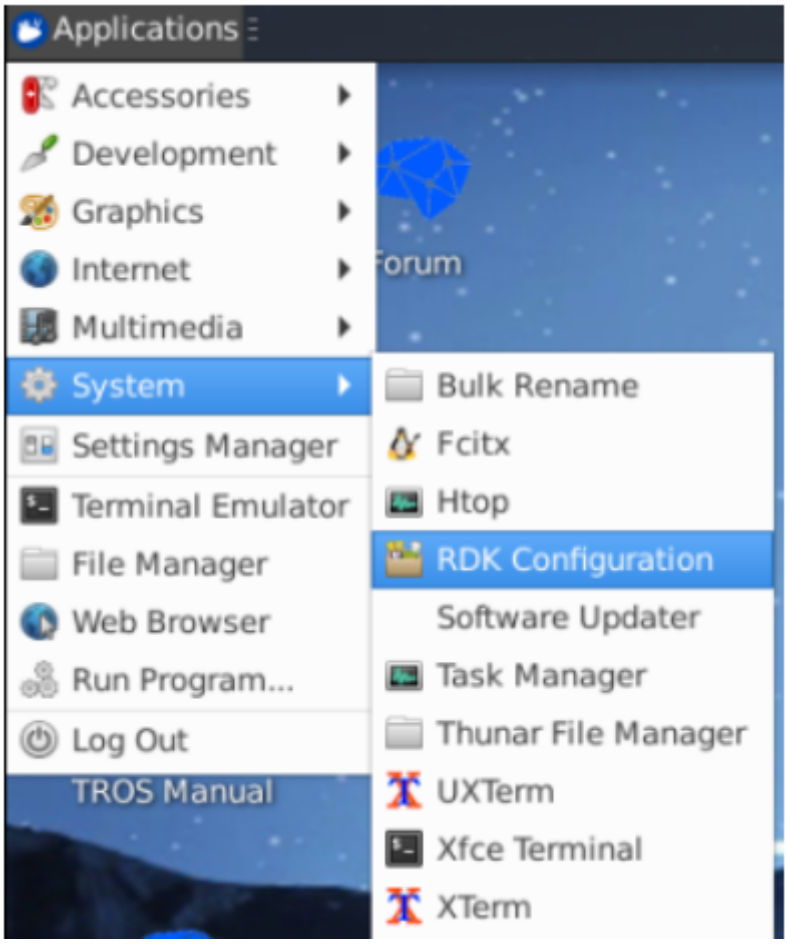
This section will show you how to log in remotely via the serial port and network (VNC, SSH).

Before logging in remotely via the network, the development board needs to be connected to the network via wired Ethernet or wireless WiFi, and the IP address of the development board needs to be configured.
For the IP address information under the two connection methods, please refer to the following description:

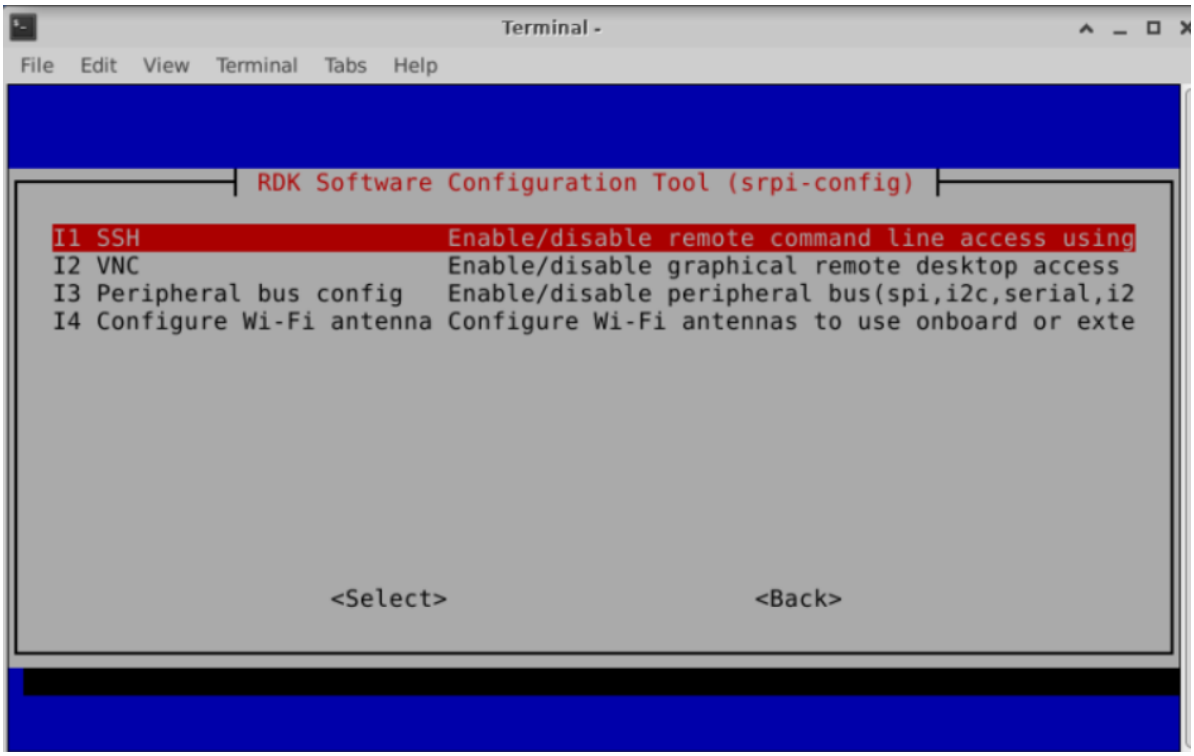
- Wired Ethernet: The development board uses static IP mode by default, with an IP address of `192.168.1.10`, a mask of `255.255.255.0`, and a gateway of `192.168.1.1`
- Wireless WiFi: The IP address of the development board is generally assigned by the router. You can view the IP address of the wlan0 network through the `ifconfig` command in the device command line

1. Enable SSH service

Find the **RDK Configuration** item on the menu bar and click to open it.

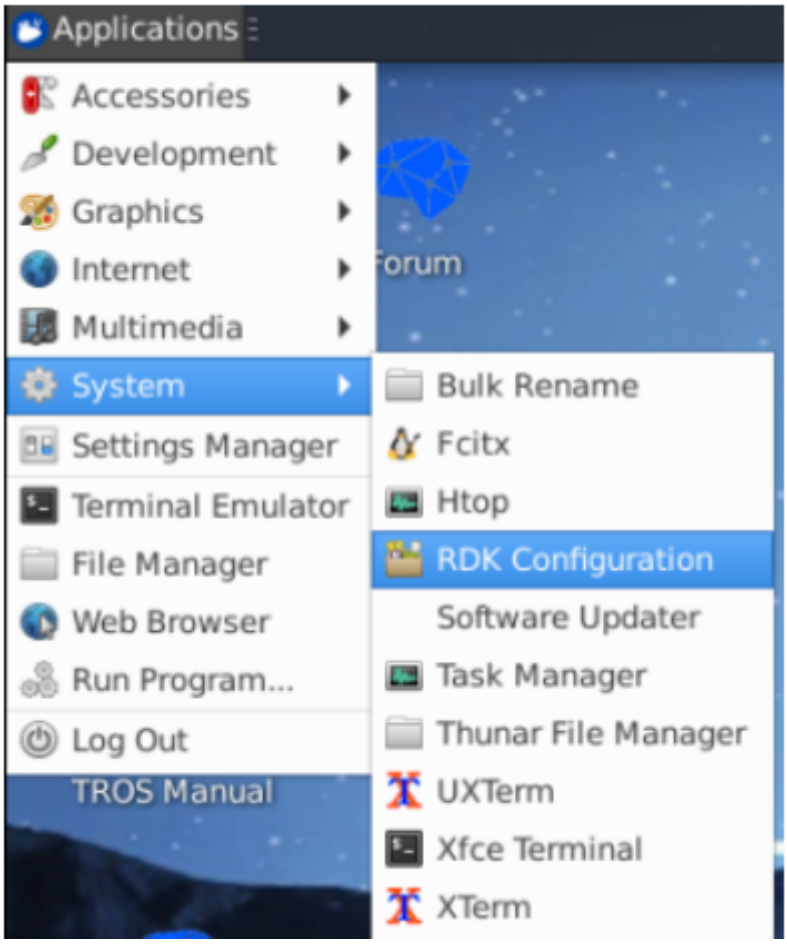


Select **Interface Options** -> **SSH**, and enable or disable the SSH service as prompted.



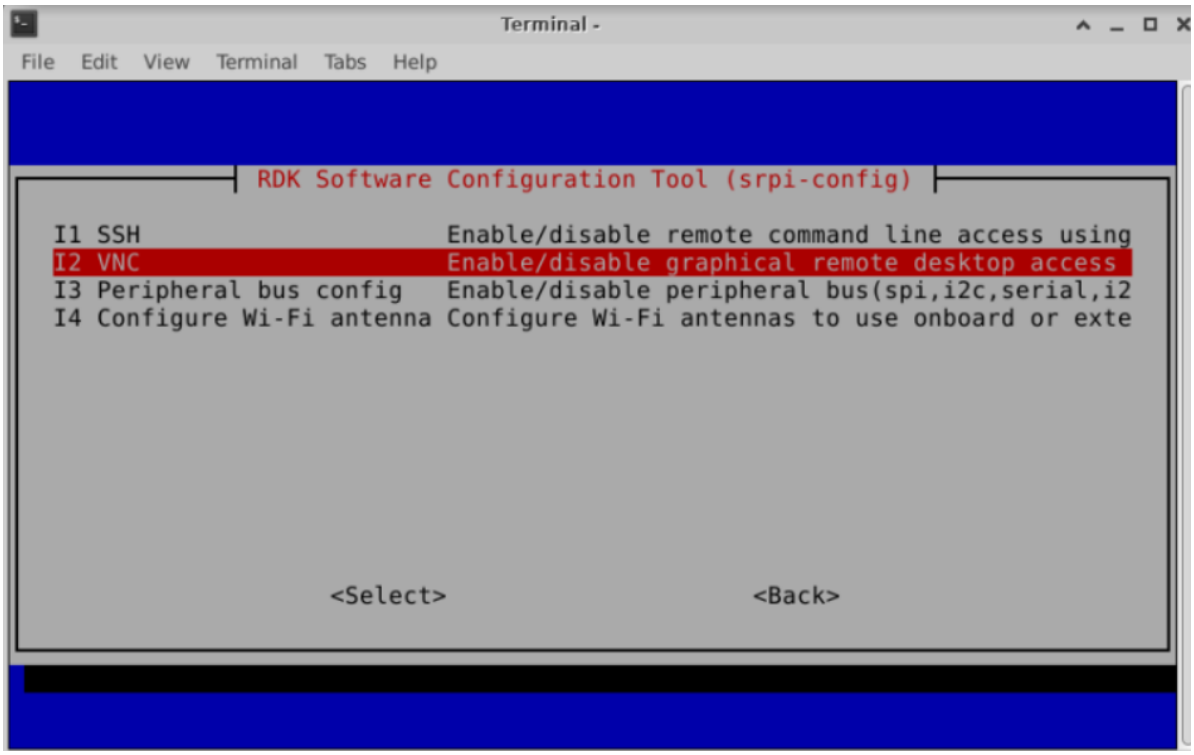
2. Enable VNC service

Find the **RDK Configuration** item on the menu bar and click to open it.



Select **Interface Options** -> **VNC**, and enable or disable the VNC service according to the prompts.

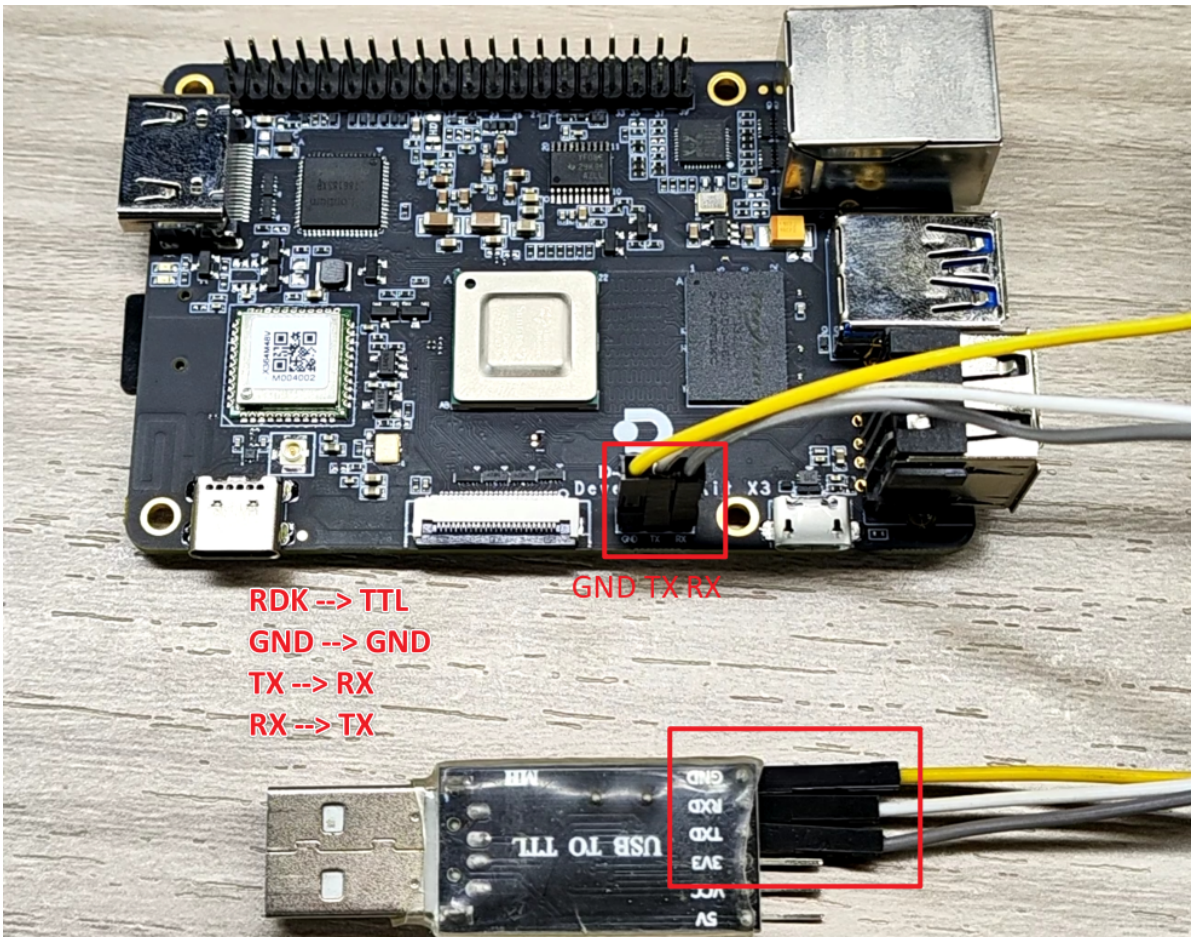
When you choose to enable VNC, you need to set a login password. The password must be an 8-bit string consisting of numbers and characters.



3. Serial port login

Before logging in via the serial port, you need to confirm whether the serial port cable of the development board is correctly connected to the computer.

The connection method is as follows.

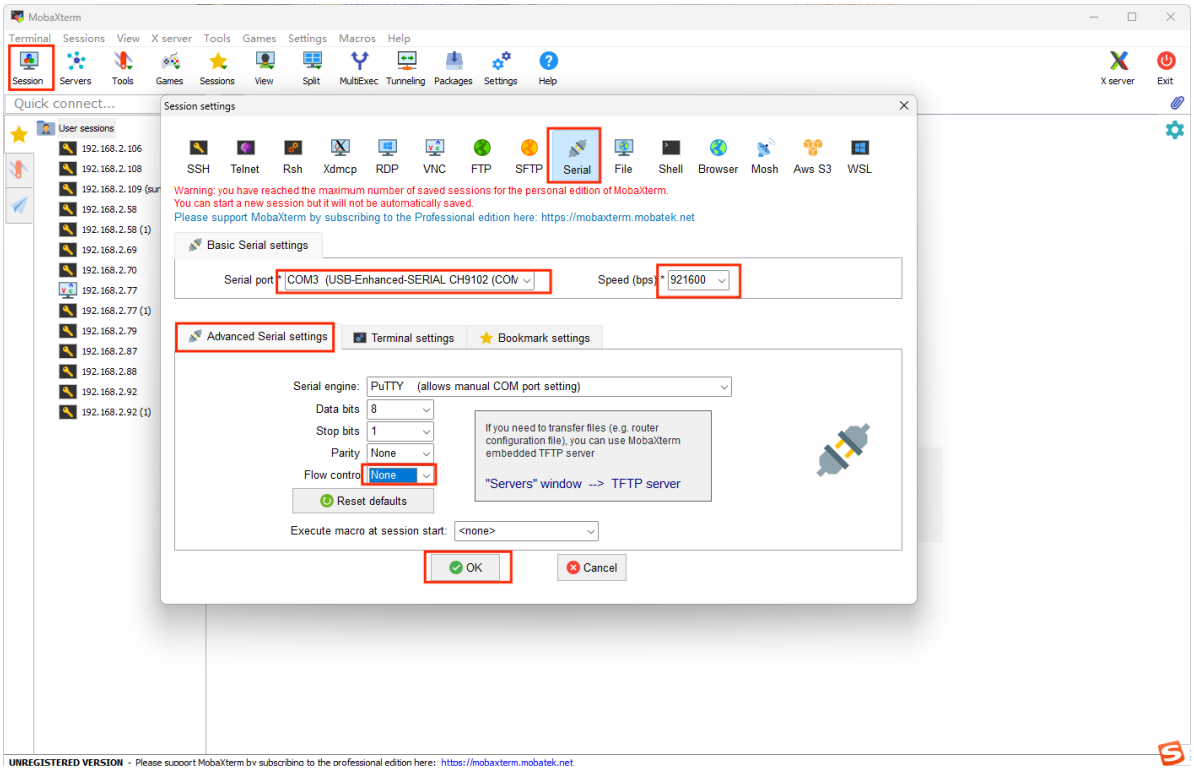


Connect the serial port module to the USB port on the PC. Serial port login requires the use of PC terminal tools. Commonly used tools include `Putty`, `MobaXterm`, etc. Users can choose according to their own usage habits.

The port configuration process of different tools is basically similar. The following takes `MobaXterm` as an example to introduce the process of creating a new serial port connection.

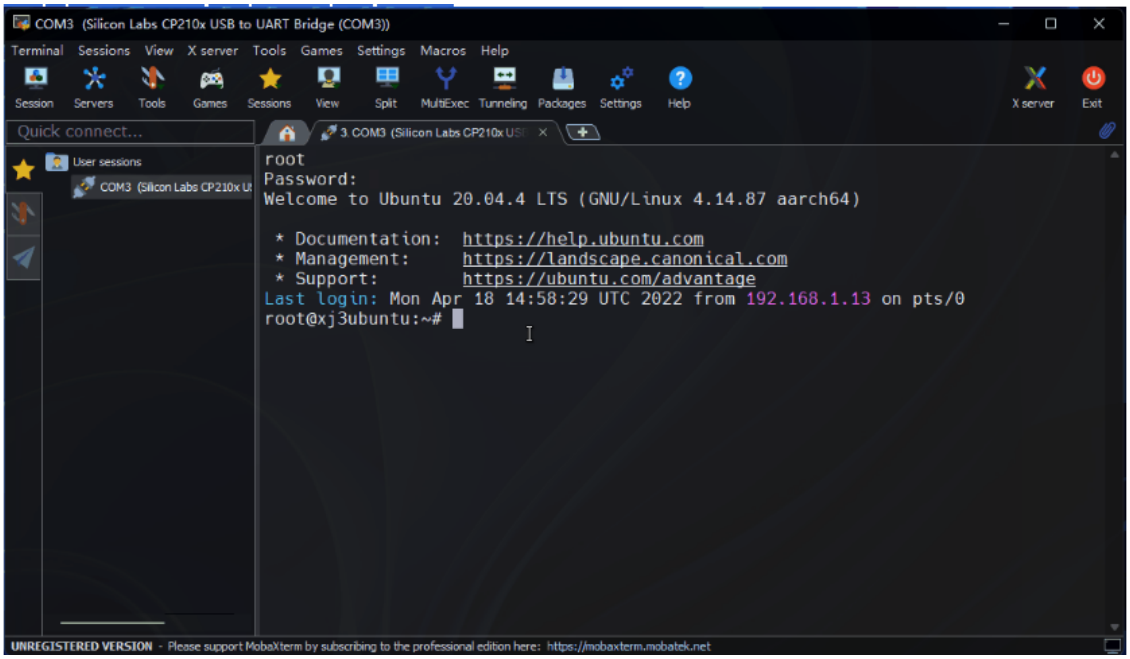
- Open the `MobaXterm` tool, click `Session`, and then select `Serial`
- Configure the port number, for example, `COM3`. The actual serial port number used is based on the serial port number recognized by the PC.
- Set the serial port configuration parameters.

Baud rate	921600
Data bits	8
Parity	None
Stop bits	1
Flow Control	NO



> If you cannot find the serial port device here, please download the serial port driver first, unzip [Serial Port Driver_CP210x_USB2UART_Driver.zip] in [Common Software], double-click dpinst64.exe to install the system driver of the serial port module, and then try again.

- Click `OK`, enter username: `root`, password: `root` to log in to the device.



- At this point, you can use the `ifconfig` command to query the IP address of the development board.

  eth0 and wlan0 represent wired and wireless networks respectively.

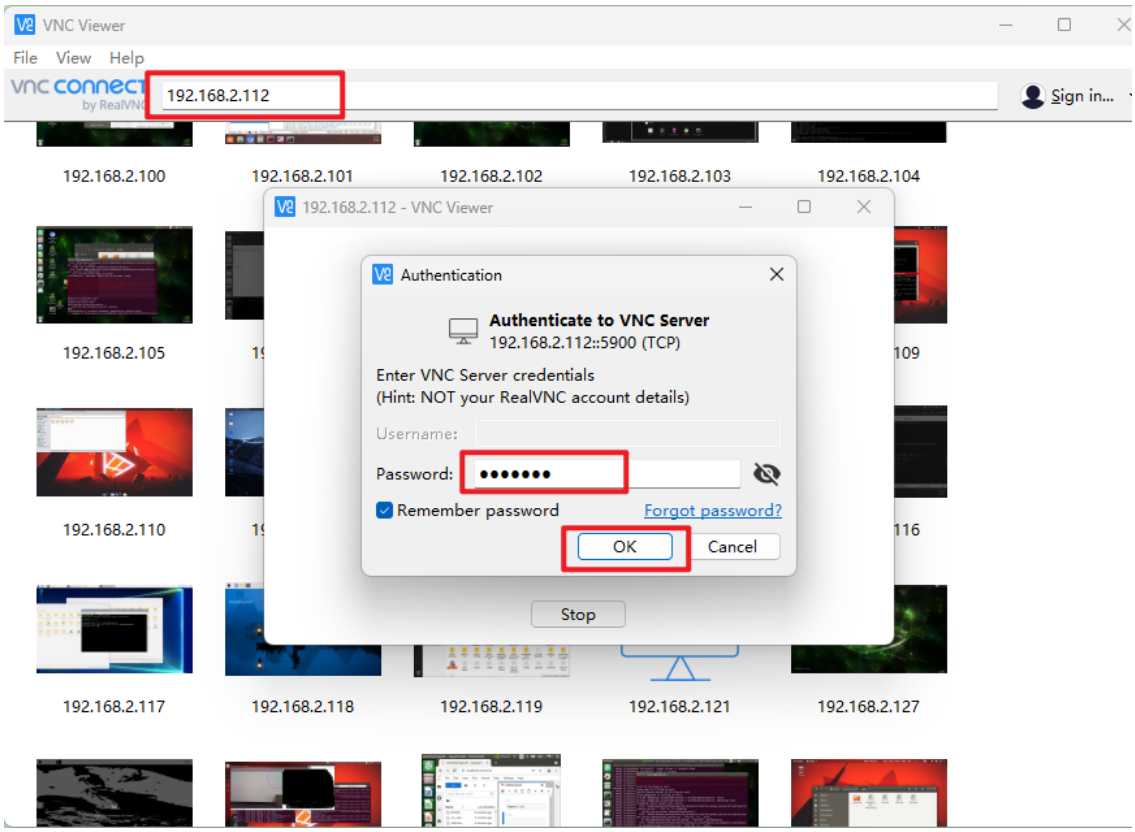
```
root@ubuntu:~# ifconfig
eth0: flags=4099<UP,BROADCAST,MULTICAST>  mtu 1500
        inet 192.168.1.10  netmask 255.255.255.0  broadcast 192.168.1.255
        ether 60:e1:5e:c7:89:37  txqueuelen 1000  (Ethernet)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
        device interrupt 43  base 0xa000

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 151  bytes 11312 (11.3 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 151  bytes 11312 (11.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.2.112  netmask 255.255.255.0  broadcast 192.168.2.255
        inet6 fe80::5c12:9a80:9309:b827  prefixlen 64  scopeid 0x20<link>
        ether 70:f7:54:cd:c8:2f  txqueuelen 1000  (Ethernet)
        RX packets 19902  bytes 1919157 (1.9 MB)
        RX errors 0  dropped 15  overruns 0  frame 0
        TX packets 255  bytes 196972 (196.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

root@ubuntu:~#
```

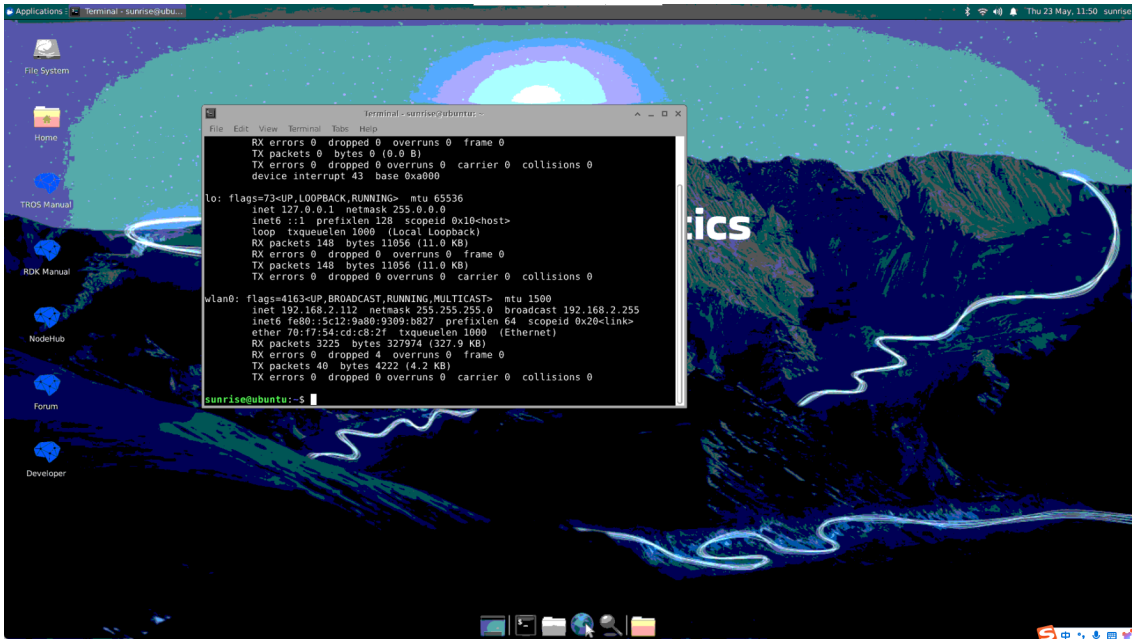
4. VNC log in

This section is for users who use the Ubuntu Desktop system version. It introduces how to use `VNC Viewer` to achieve remote desktop login function.
`VNC Viewer` is a graphical desktop sharing software that can realize remote device login and desktop control on the computer.

This software can preview the development board system desktop through the computer monitor and use the computer's mouse and keyboard for remote operation.

- Open `VNC Viewer`, Enter the IP address of the development board, fill in the VNC login password set in [Enable VNC service], and click OK to log in.



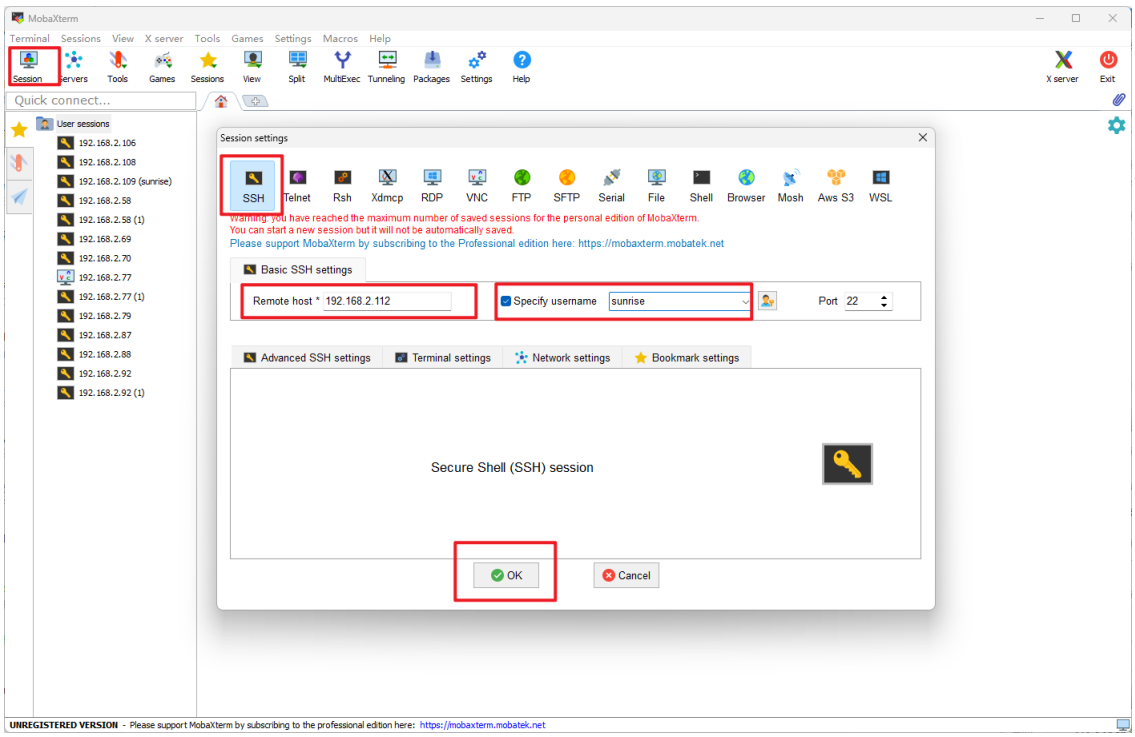


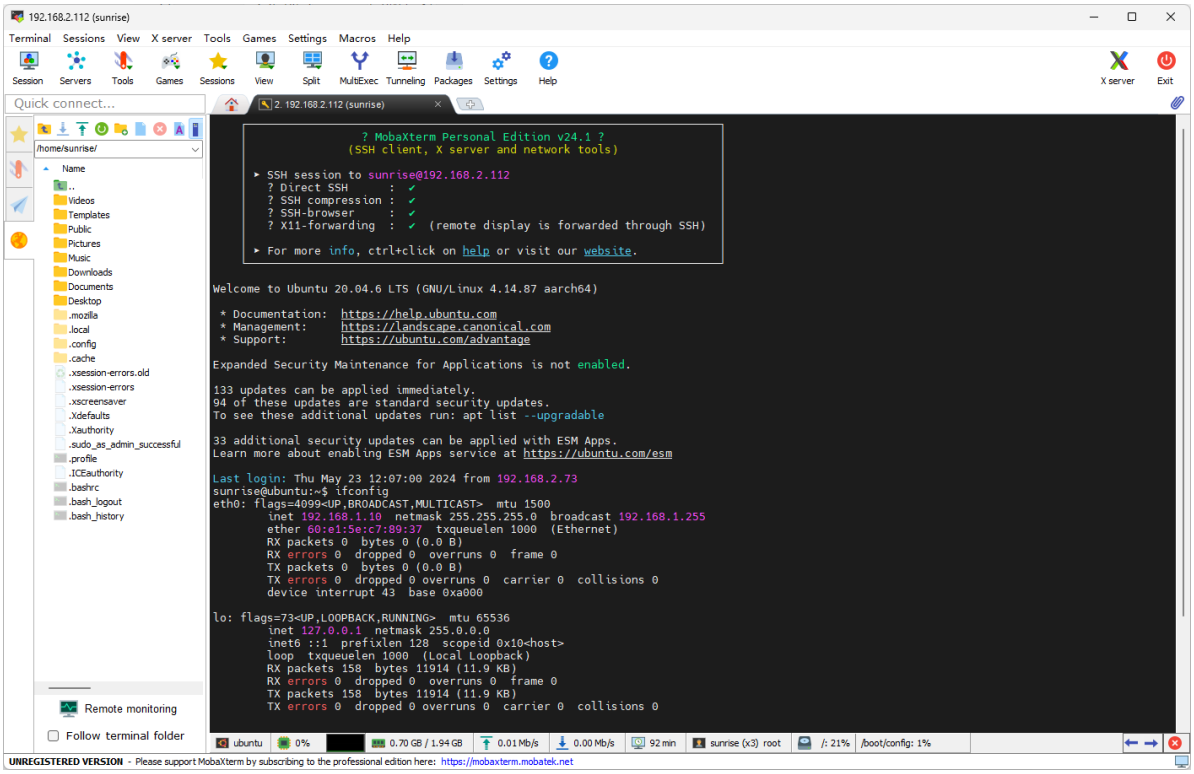
5. SSH log in

In addition to logging into the remote desktop through VNC, you can also log in to the development board through SSH connection.

The following takes `MobaXterm` as an example to introduce the process of creating a new SSH connection:

- Open the `MobaXterm` tool, click `Session`, and then select `SSH`
- Enter the IP address of the development board, for example, `192.168.1.10`
- Select `specify username`, enter `sunrise`, and click ok.




192.168.2.112 (sunrise)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
2. 192.168.2.112 (sunrise)
/home/sunrise/
Name
..
Videos
Templates
Public
Pictures
Music
Downloads
Documents
Desktop
.mozilla
.local
.config
.cache
.xsession-errors.old
.xsession-errors
.xscreensaver
.Xdefaults
.Xauthority
.sudo_as_admin_successful
.profile
.ICEauthority
.bashrc
.bash_logout
.bash_history
Remote monitoring
Follow terminal folder
? MobaXterm Personal Edition v24.1 ?
(SSH client, X server and network tools)
▸ SSH session to sunrise@192.168.2.112
? Direct SSH : ✓
? SSH compression : ✓
? SSH-browser : ✓
? X11-forwarding : ✓ (remote display is forwarded through SSH)
▸ For more info, ctrl+click on help or visit our website.
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 4.14.87 aarch64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage
Expanded Security Maintenance for Applications is not enabled.
133 updates can be applied immediately.
94 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
33 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm
Last login: Thu May 23 12:07:00 2024 from 192.168.2.73
sunrise@ubuntu:~$ ifconfig
eth0: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
inet 192.168.1.10 netmask 255.255.255.0 broadcast 192.168.1.255
ether 60:e1:5e:c7:89:37 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 43 base 0xa000
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 158 bytes 11914 (11.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 158 bytes 11914 (11.9 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
ubuntu 0% 0.70 GB / 1.94 GB 0.01 Mb/s 0.00 Mb/s 92 min sunrise (x3) root /: 21% /boot/config: 1%
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net