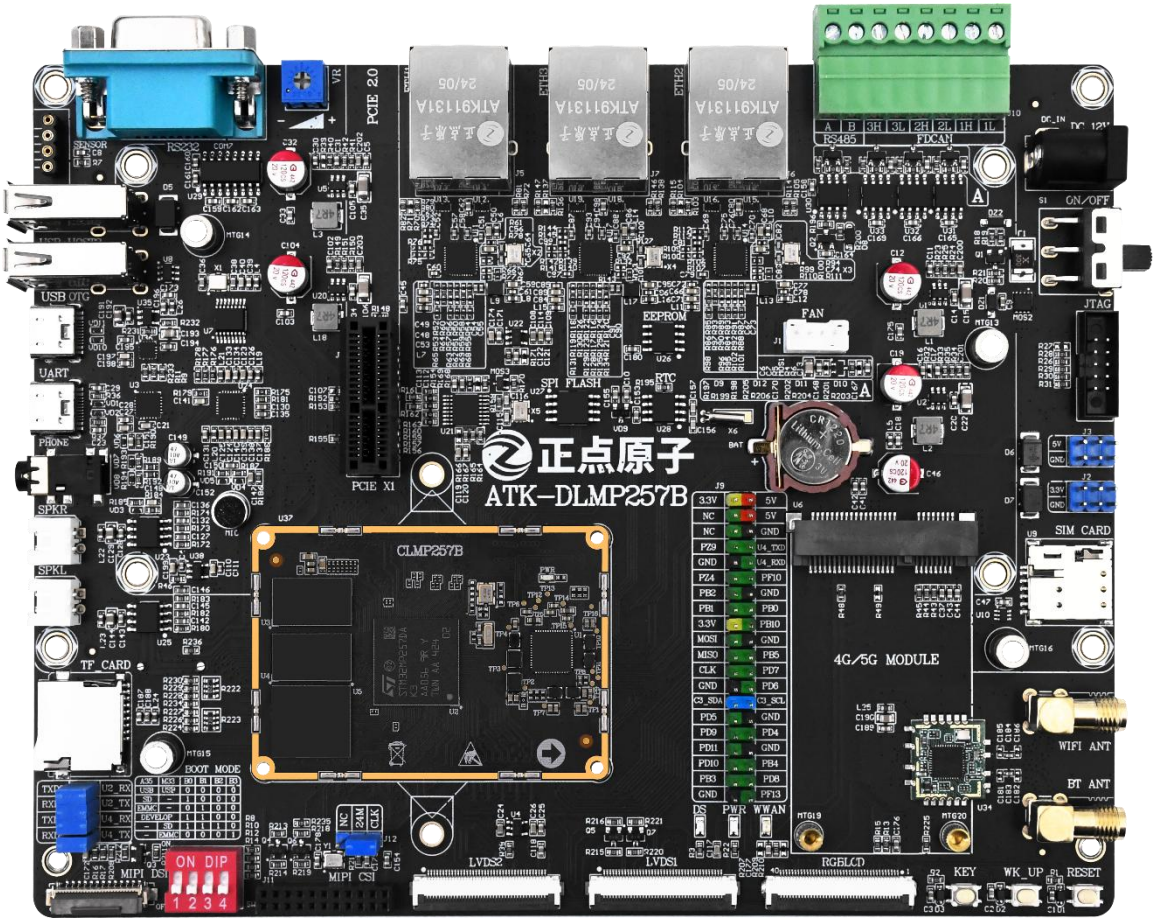
ATK-DLMP257B

Transferring files between Ubuntu&Windows&Linux Development Boards Reference Manual

V1.0



ALIENTEK

1. Shopping:

TMALL: https://zhengdianyuanzi.tmall.com

TAOBAO: https://openedv.taobao.com

2. Download

Address: http://www.openedv.com/docs/index.html

3. FAE

Website : www.alientek.com

Forum : http://www.openedv.com/forum.php

Videos : www.yuanzige.com

Fax : +86 - 20 - 36773971

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In order to get the latest version of product information, please regularly visit the download center or contact the customer service of Taobao ALIENTEK flagship store. Thank you for your tolerance and support.

Revision History:

Version	Version Update Notes	Responsible person	Proofreading	Date
V1.0	release officially	ALIENTEK	ALIENTEK	2025.04.01

Catalogue

Introduction

A common problem for beginners is how to transfer files between Ubuntu, Windows, and Linux development boards. As a result, many operations cannot be carried out, and this manual is written to solve this situation.

Chapter 1. Transferring Files between Ubuntu and Window

To copy files between Ubuntu and Windows, you can usually use the network copy, the traditional method is to copy through the U disk, even if you have installed VMWare Tools (VMWare is installed by default), Files can be dragged and dropped between Ubuntu and Windows.

1.1 Transferring files between FTP clients

1.2 Copy the files to Ubuntu from a USB key

1.3 Graphical Interfaces Drag and drop to copy files from each other

1.4 Transferring files to and from each other via shared folders

1.1 Transferring files between FTP clients

In our daily development process, we often copy files over the network. My favorite is WinSCP (the free Windows file transfer tool), which has a cleaner interface than FileZilla (the open source FTP (file transfer protocol) software). Of course, you can also download FileZilla, download address to https://www.filezilla.cn/download/client. But the author takes WinSCP as an example.

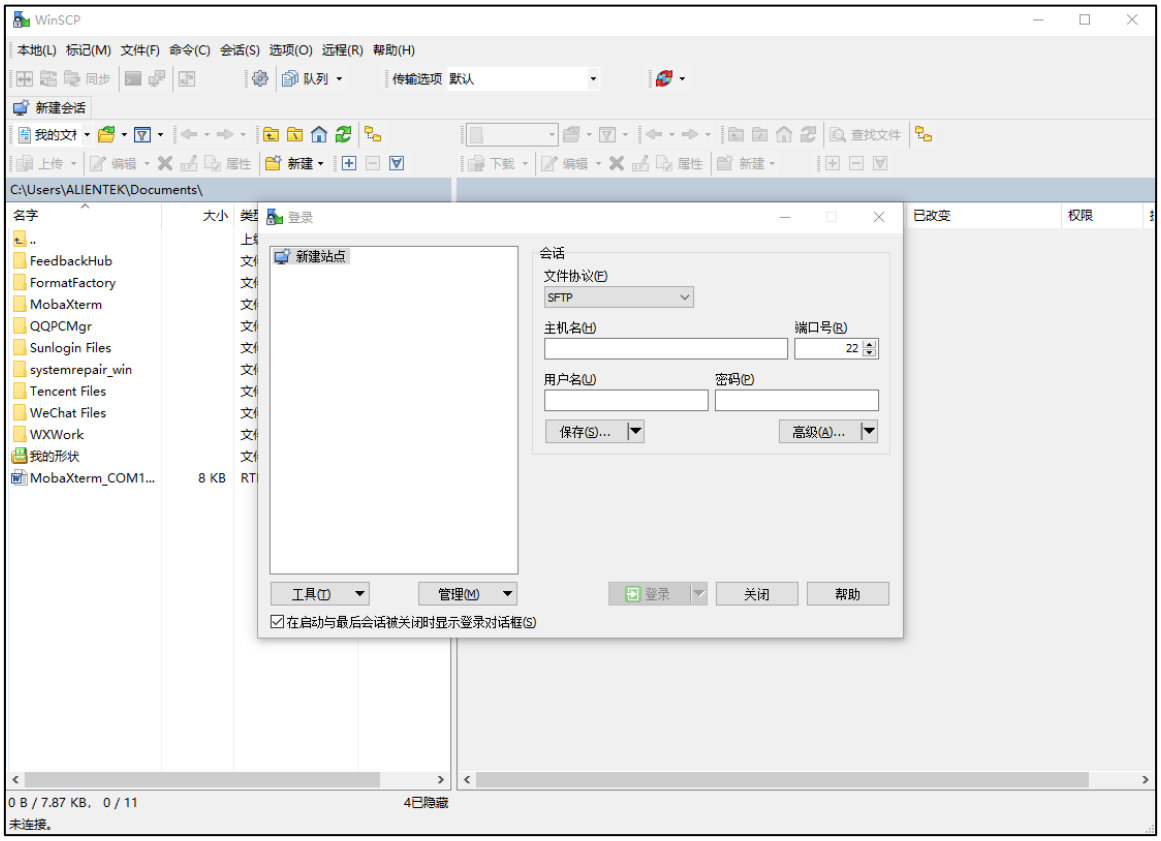
WinSCP to download address tohttps://winscp.net/eng/download.php.

Open the download page, click the red box below to download, and then double-click the downloaded file to install, select the installation location when installing, and all the other defaults until the installation is completed.

Run openssh-server on Ubuntu, which relies on the sshd daemon for file transfers.

```
sudo apt-get install openssh-server
```

After the installation, we open the WinSCP software, and the default interface that pops up is as follows.

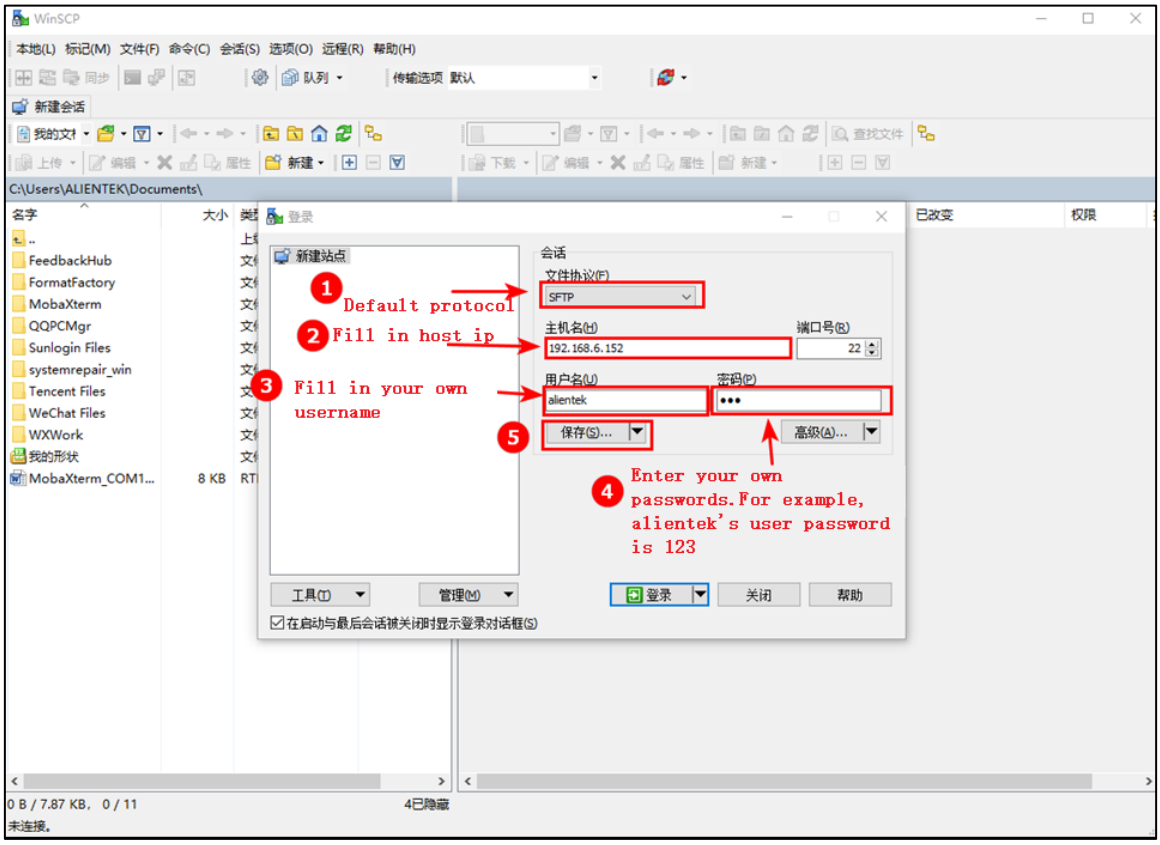


The default interface requires us to create a new session (site), because for example our common file protocol is STFP, which is part of SSH and uses TCP communication. We know that TCP communication requires a connection in order to be able to communicate. So what we mean by creating a new site is to connect first.

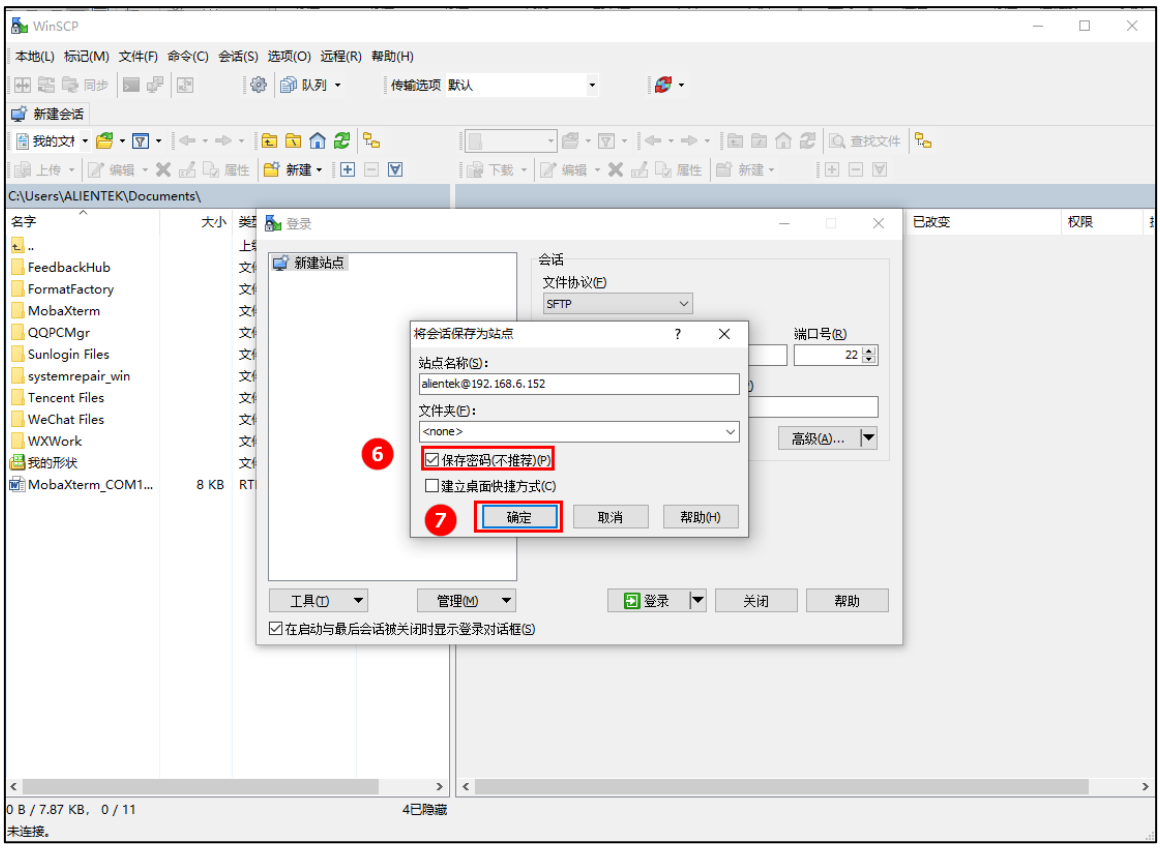
Check the Ubuntu ip address. Note that the Ubuntu virtual machine needs to be set up as a bridge network. Detailed can see our another document [ALIENTEK] Linux network environment setup manual.

```
alientek@ubuntu:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.6.152  netmask 255.255.255.0  broadcast 192.168.6.255
        inet6 fe80::3521:4027:7e42:43f6  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:f1:b3:b6  txqueuelen 1000  (以太网)
        RX packets 5199758  bytes 6549140834 (6.5 GB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 1708147  bytes 168588002 (168.5 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

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  (本地环回)
        RX packets 12366  bytes 1289963 (1.2 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 12366  bytes 1289963 (1.2 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

alientek@ubuntu:~$
```

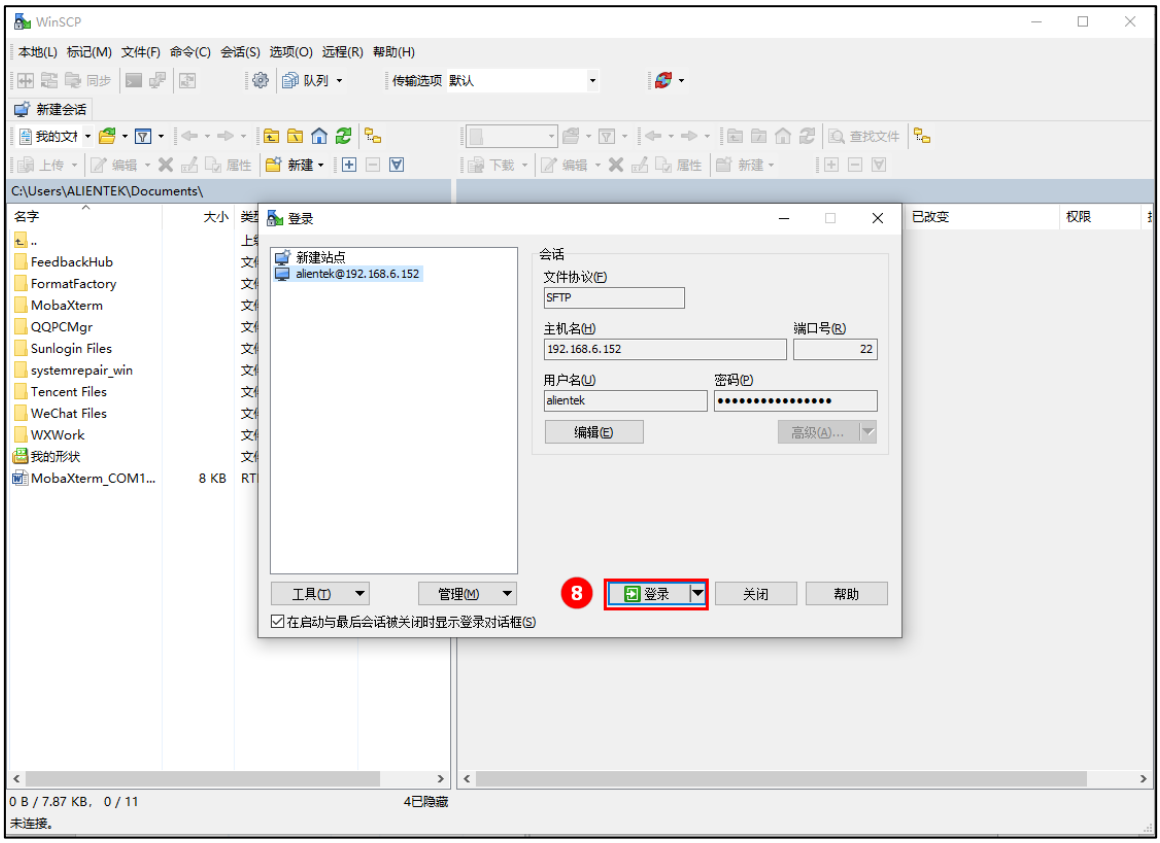
The default port is 22, which is the SSH port. Configuration please click save, next time convenient login, complete please click login.



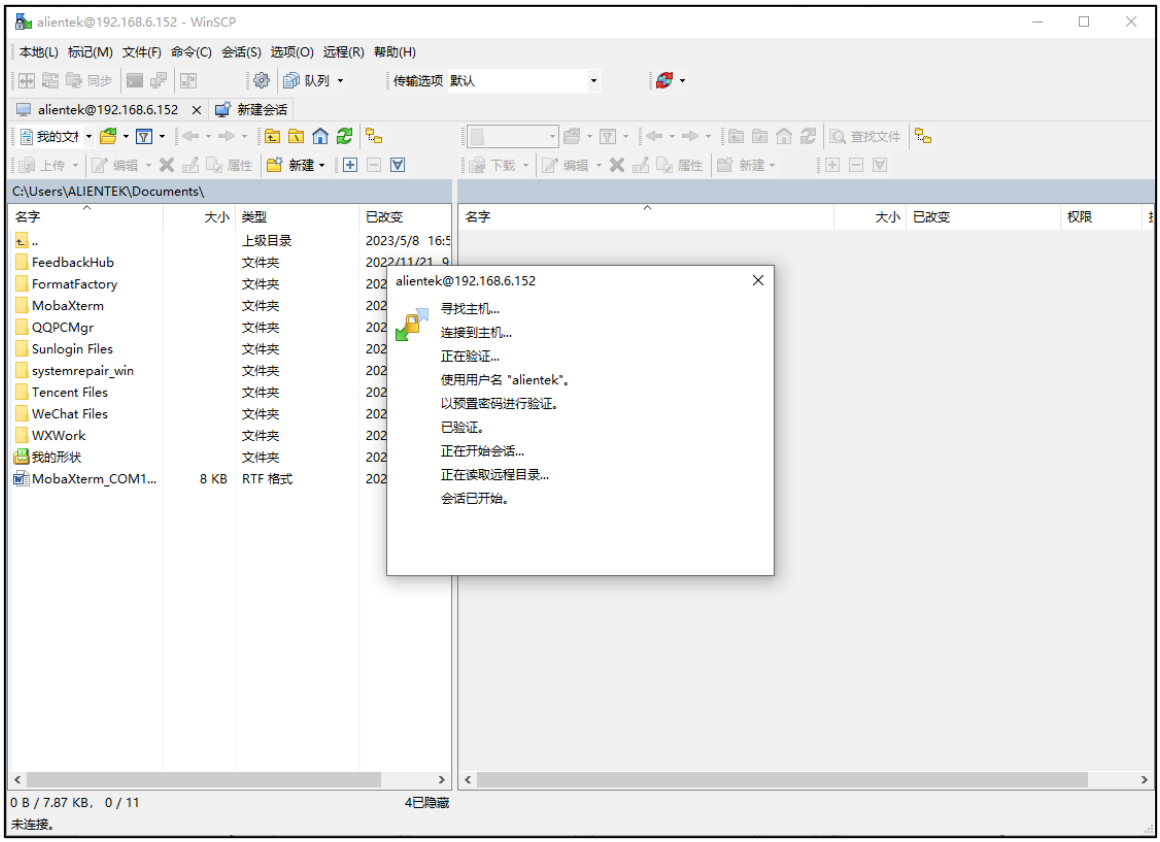
When we save, we choose to save the password, convenient for the next login.



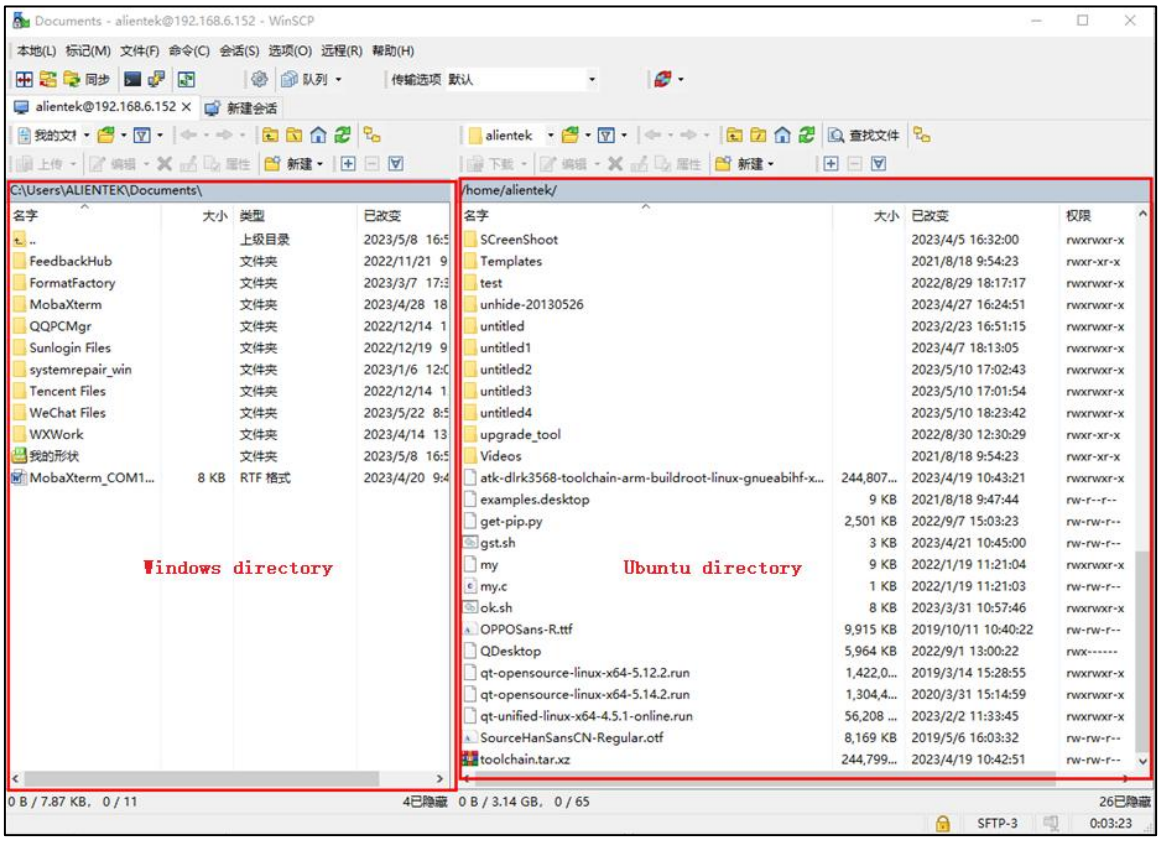
Click Login.



Login to start.



The login is successful and the session begins. Now you can start to transfer files to each other, you can directly drag the windows file to the right window, the right window file can also drag to the left, or right click to download and save to the local.



1.2 Copy the files to Ubuntu from a USB key

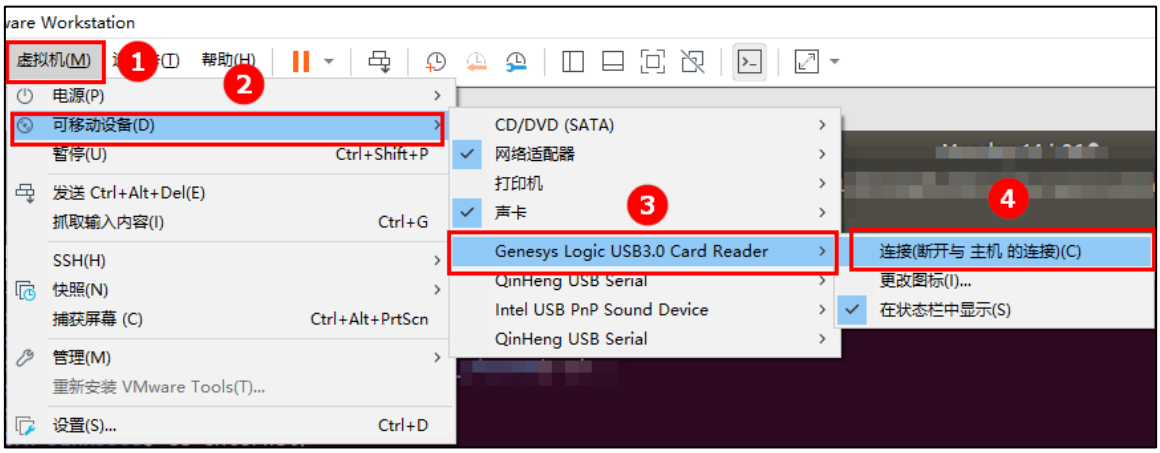
U disk copy, the author does not recommend, this is a time-consuming copy.

This is a traditional way, I believe everyone can. Note that your USB flash drive needs to be in FAT or FAT32 format or another file system format such as ext2/3/4, but the default is a USB flash drive or hard drive that does not support NTFS format (special package is required to support this).

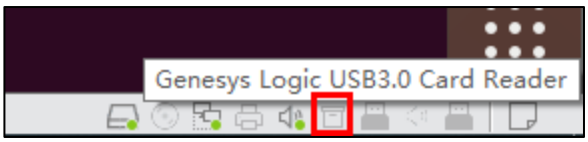
Plug the U disk or card reader into the SD card and plug it into the USB interface of the computer. At this time, if the Ubuntu virtual machine is running, the following prompt box will pop up. Connect through the following steps.

If you have a USB key plugged in and then open the virtual machine, you can connect it as follows:

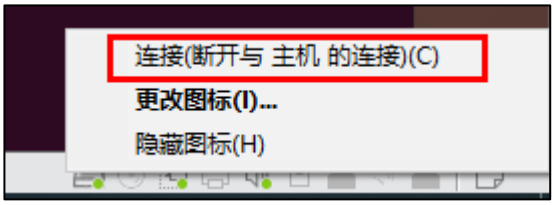
In the top left corner of the Ubuntu virtual machine find the virtual machine "Removable Device" XXX Device name "Connect/disconnect from the host.



Or in the bottom right corner of the Ubuntu virtual machine, the USB key is usually the icon below to confirm the name of the device.



Right click on the icon to connect or disconnect from Ubuntu.



Connect the USB key, on Ubuntu the USB key will automatically mount at /media/ your username /XXXX. For example, I mounted Ubuntu at /media/alientek/B47F-B91F/. Finally, B47F-B91F, if your device does not have a Label set, then the name is randomly generated.

```
alientek@ubuntu:~$ ls /media/alientek/B47F-B91F/
 rksdfw.tag    sd_boot_config.config    sdupdate.img  'System Volume Information'
alientek@ubuntu:~$
```

1.3 Graphical Interfaces Drag and drop to copy files from each other

Graphical interface to drag each other way here the author does not recommend, there may be copy error.

That is if we have VMware Tools installed. Check if we have VMware Tools installed. You'll see that the image below is already grayed out, and you'll be prompted to reinstall that it was already installed.

Files from the left Window can be dragged directly to the right, and files from the right can be dragged to the left. Note that this drag-and-drop is only for Ubuntu desktop paths. The Ubuntu Desktop path is /home/your username /Desktop/, and you can access your files from there.

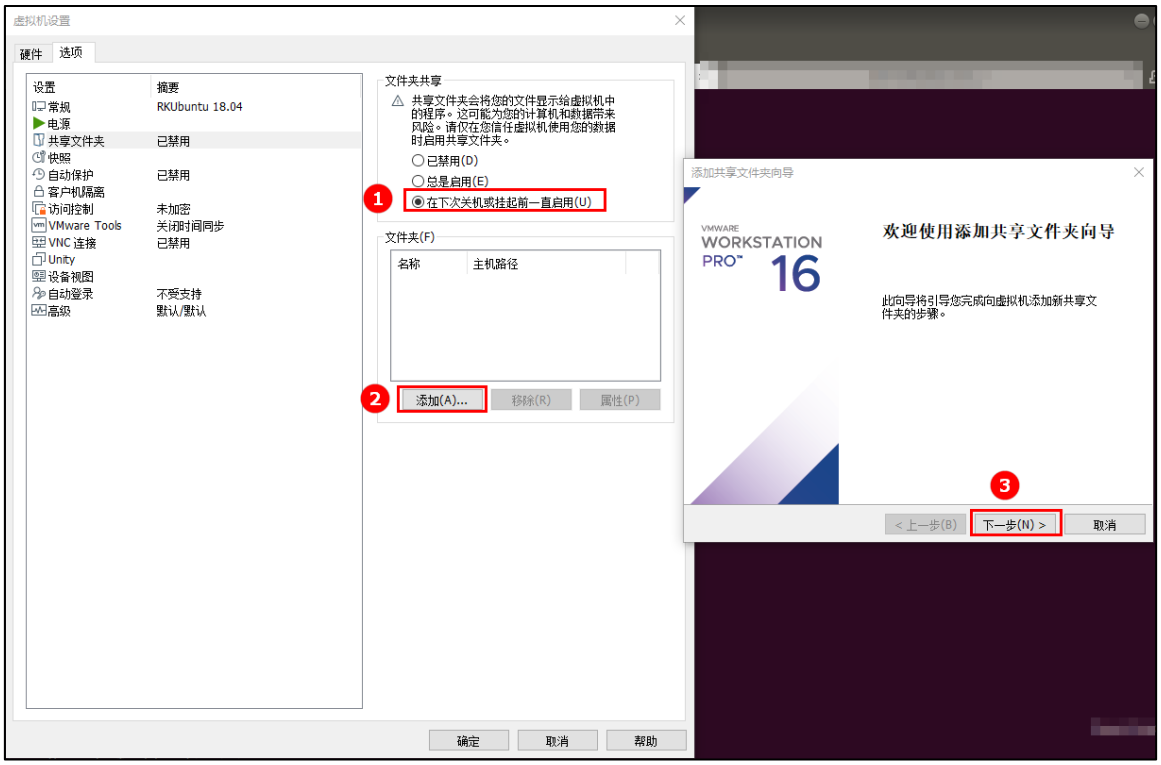
1.4 Transferring files to and from each other via shared folders

In the traditional way of sharing folders, you may have heard of samba sharing, even many companies are using samba to share the internal network disk, but samba configuration in Ubuntu is a bit troublesome, here is not recommended for beginners to use. In fact, VMware Tools already provides us with a file sharing feature to share files and folders between virtual machines and the host machine.

In the "Virtual Machine" Settings options as shown below

By default, the shared Window folder of the virtual machine is disabled and needs to be enabled manually.

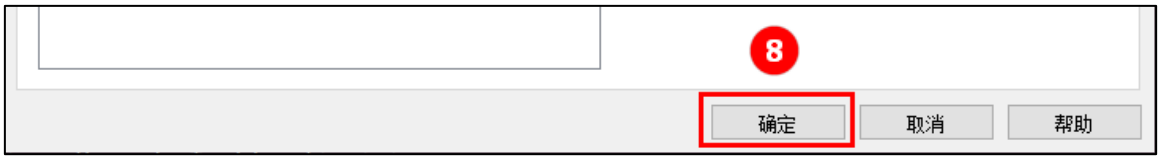
Select as shown below. It's also fine to keep it enabled until the next shutdown or shutdown, or if you prefer the always enabled option.



In step 4, select the folder in Windows to share with the Ubuntu virtual machine. The author just demonstrates the desktop folder as a shared folder, the actual folder should not be set to the desktop, to prevent beginners in Ubuntu will destroy this folder. Please choose a different directory or create a new one.

This sharing is enabled by default. Click Finish.

When the configuration is complete, click OK.



By default, after clicking OK, the Ubuntu virtual machine has mounted this folder to the /mnt/hgfs path. Now you can access folders under Windows.

```
alientek@ubuntu:~$ ls /mnt/hgfs/
Desktop
alientek@ubuntu:~$
```

Chapter 2. Transfer files between Windows and Linux development board

In the daily development process, you often need to copy files from windows to the development board, or you need to copy files from the Linux development board to Windows.

In this chapter, we will:

2.1 Copying files over the network

2.2 Copy the file to the Linux development board through the USB key

2.1 Copying files over the network

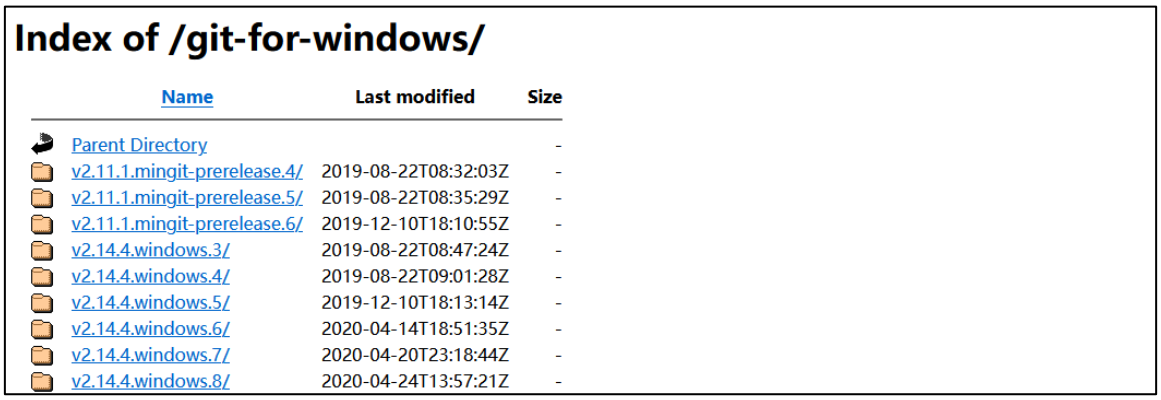
Copy files through the network. Similarly, as in Section 1.1, SSH is supported on all Linux systems provided by the ALIENTEK Linux development board (except for the special simple file system). We can use the FTP client on Windows to transfer files to and from the Linux development board. Also in daily use is the SCP command to send files to the Linux development board.

2.1.1 Copying files via the SCP command

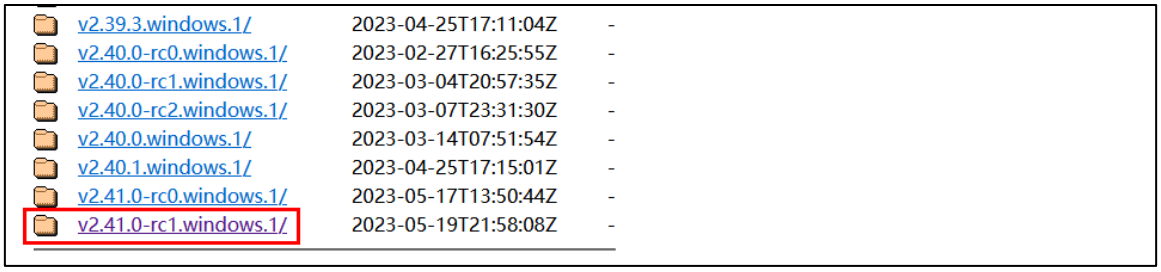
In the daily development process, sometimes we need to copy files to the development board, usually we use the SCP command to copy files to the development board. The prerequisite is that your Window needs to have Window Git installed. The Git software provides a Shell window to send files to the development board using the SCP command.

Windows install Git, can be downloaded directly to Git website, https://gitforwindows.org/. Note that this address is often slower to access. Recommend domestic address: https://npm.taobao.org/mirrors/git-for-windows/. If this download link is invalid, please download it from Baidu Windows Git.

Open the https://npm.taobao.org/mirrors/git-for-windows/, as follows.



I choose one of the latest exe versions to download as follows.



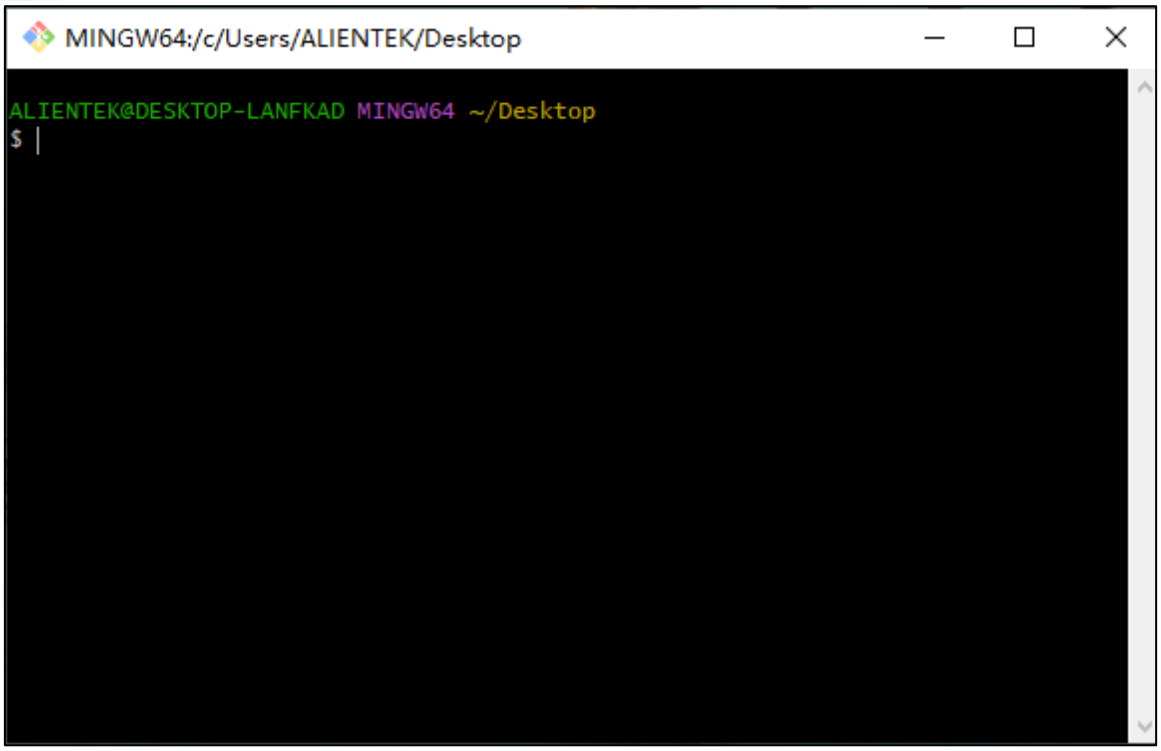
Index of /git-for-windows/v2.41.0-rc1.windows.1/

Name	Last modified	Size
Parent Directory		-
Git-2.41.0-rc1-32-bit.exe	2023-05-19T21:57:32Z	58.30MB
Git-2.41.0-rc1-32-bit.tar.bz2	2023-05-19T21:57:44Z	103.76MB
Git-2.41.0-rc1-64-bit.exe	2023-05-19T21:57:13Z	57.80MB
Git-2.41.0-rc1-64-bit.tar.bz2	2023-05-19T21:57:29Z	103.27MB
MinGit-2.41.0-rc1-32-bit.zip	2023-05-19T21:57:38Z	38.45MB
MinGit-2.41.0-rc1-64-bit.zip	2023-05-19T21:57:22Z	36.70MB
MinGit-2.41.0-rc1-busybox-32-bit.zip	2023-05-19T21:57:40Z	32.58MB
MinGit-2.41.0-rc1-busybox-64-bit.zip	2023-05-19T21:57:24Z	32.56MB
pdbs-for-git-32-bit-2.41.0.rc1.windows.1-1.zip	2023-05-19T21:57:34Z	17.72MB
pdbs-for-git-64-bit-2.41.0.rc1.windows.1-1.zip	2023-05-19T21:57:17Z	15.51MB
PortableGit-2.41.0-rc1-32-bit.7z.exe	2023-05-19T21:57:36Z	54.37MB
PortableGit-2.41.0-rc1-64-bit.7z.exe	2023-05-19T21:57:20Z	53.58MB
v2.41.0-rc1.windows.1.tar.gz	2023-05-19T21:58:08Z	10.35MB
v2.41.0-rc1.windows.1.zip	2023-05-19T21:58:08Z	12.27MB

After downloading, double-click to install, in addition to choose the installation location, all the other way to install the default.

Right click on the Windows desktop and select "Git Bash Here"

A Bash window will pop up, similar to Ubuntu's Terminal, as shown below.



We need to know the ip address of the development board before copying the files.

After starting the development board and connecting the serial port, use the ifconfig command to view the ip address of the development board, as shown below. The ip address is 192.168.6.214.

```
root@正点原子Linux开发板:/# ifconfig
eth0      Link encap:Ethernet  HWaddr A2:2E:4D:67:C8:80
          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)
          Interrupt:38

eth1      Link encap:Ethernet  HWaddr 9E:2E:4D:67:C8:80
          inet addr:192.168.6.214  Bcast:192.168.6.255  Mask:255.255.255.0
          inet6 addr: fe80::9c2e:4dff:fe67:c880/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:235 errors:0 dropped:0 overruns:0 frame:0
          TX packets:134 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:154370 (150.7 KiB)  TX bytes:13958 (13.6 KiB)
          Interrupt:50

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:120 errors:0 dropped:0 overruns:0 frame:0
          TX packets:120 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:9441 (9.2 KiB)  TX bytes:9441 (9.2 KiB)

root@正点原子Linux开发板:/#
```

The Linux systems provided by ALIENTEK are generally Yocto/Buildroot/Debian Linux systems. These linux systems are logged in as root by default. Let's take a closer look at their SSH user profile.

Yocto system: SSH user root, no password by default.

Buildroot system: SSH user is root, the default ALIENTEK set password is root.

Debian: SSH user is linaro, default password is linaro

The Buildroot Linux system is used as a demonstration.

2.1.1.1 Copy files from Windows to Linux development board

SCP copy instructions:

Copying files

scp file username @ip address: path

Copying folders

scp-r folder username @ip address: Path

Example: scp test root@192.168.6.214:/

Instruction format analysis:

test the file to transfer

root is the user name, the default development board is the root user, has the highest privileges

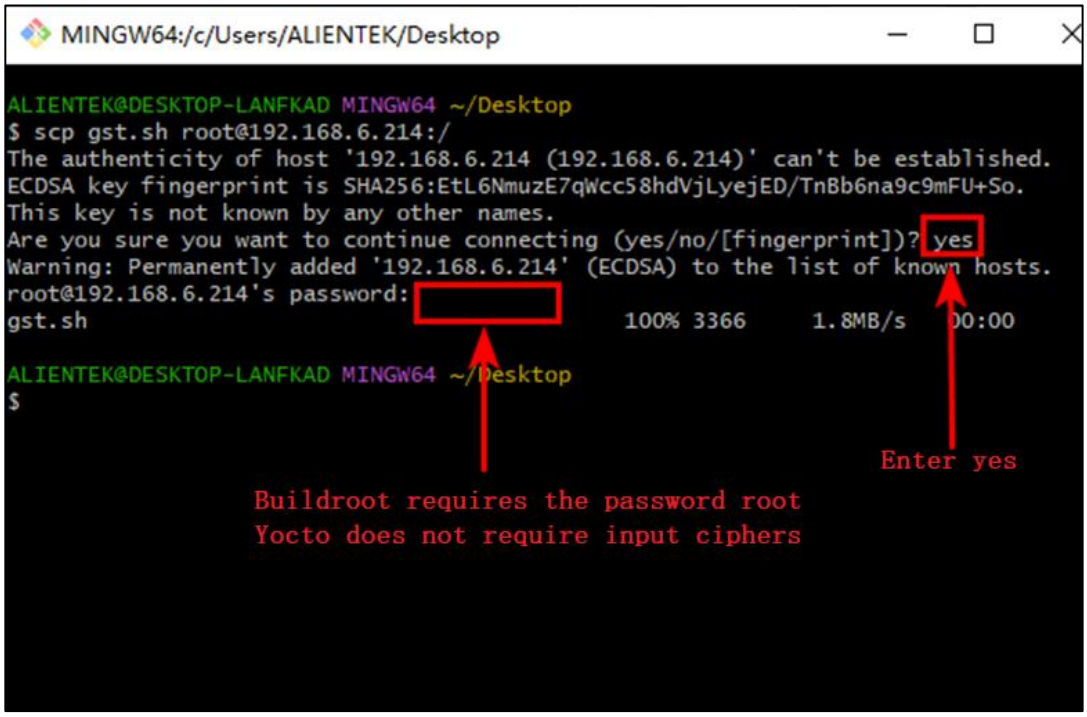
@ A symbol

192.168.6.214 Development board ip

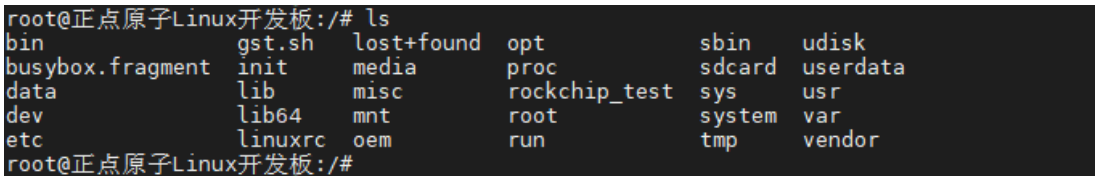
: Here to add an English character ":", don't forget!

/ The path to be transferred to the development board, denoted by "/" root for the sake of uniformity. On a Debian system, the default SSH user is linaro, which does not have permission to write to the "/" root. You can change the "/" directory to the "/home/linaro" directory.

In the following figure, the author copies a file gst.sh under the Windows desktop path to the Linux development board "/" path.



At this time, there will be a gst.sh file in the root directory of the development board "/", as shown below.



2.1.1.2 Copy files from the Linux development board to Windows

As in Section 2.1.1.1, reverse copy only requires a slight change in instructions.

SCP copy instructions:

Copying files

scp username @ip address: File path

Copying folders

scp-r folder username @ip address: File

Example: scp root@192.168.6.214:/test path

Instruction format analysis:

test the file to transfer

root is the user name, the default development board is the root user, has the highest privileges

@ A symbol

192.168.6.214 Development board ip

: Here to add an English character ":", don't forget!

Path refers to the path under Windows.

As shown below, the root directory has a gst.sh.

```
root@正点原子Linux开发板:/# ls
bin              gst.sh  lost+found  opt           sbin    udisk
busybox.fragment  init    media       proc          sdcard  userdata
data             lib     misc        rockchip_test  sys     usr
dev              lib64   mnt         root          system  var
etc              linuxrc  oem         run           tmp     vendor
root@正点原子Linux开发板:/#
```

The author demonstrates to copy this gst.sh to the Windows desktop path, execute the following command. "." Represents the current path.

scp root@192.168.6.214:/gst.sh.

```
ALIENTEK@DESKTOP-LANFKAD MINGW64 ~/Desktop
$ scp root@192.168.6.214:/gst.sh .
root@192.168.6.214's password:
gst.sh                                        100% 3366     1.5MB/s   00:00

ALIENTEK@DESKTOP-LANFKAD MINGW64 ~/Desktop
$ ls gst.sh
gst.sh

ALIENTEK@DESKTOP-LANFKAD MINGW64 ~/Desktop
```

2.1.2 Transfer files between ftp clients

We can refer to section 1.1, and the SSH user and password of Linux system provided by default are as follows. Please follow section 1.1 to create a new session and fill in the ip of the linux development board, and the user name and password are as follows.

Yocto system: SSH user root, no password by default.

Buildroot system: SSH user is root, the default ALIENTEK set password is root.

Debian: SSH user is linaro, default password is linaro

2.2 Copy the file to the Linux development board via a USB key

In the ALIENTEK Linux development board, in the USB interface connected to a U disk, this is a traditional way, I believe everyone will. Note that your USB key should be in FAT or FAT32 format or another file system format such as ext2/3/4.

When you plug in a USB key, it will print a similar message.

```
[ 3078.970291] usb 1-1: new high-speed USB device number 3 using ehci-platform
[ 3079.121750] usb 1-1: New USB device found, idVendor=05e3, idProduct=0749, bcdDevice=15.32
[ 3079.121831] usb 1-1: New USB device strings: Mfr=3, Product=4, SerialNumber=2
[ 3079.121862] usb 1-1: Product: USB3.0 Card Reader
[ 3079.121888] usb 1-1: Manufacturer: Generic
[ 3079.121913] usb 1-1: SerialNumber: 000000001532
[ 3079.125565] usb-storage 1-1:1.0: USB Mass Storage device detected
[ 3079.130495] usb-storage 1-1:1.0: Quirks match for vid 05e3 pid 0749: 520
[ 3079.130850] scsi host1: usb-storage 1-1:1.0
[ 3079.764315] ffs_data_put(): freeing
[ 3079.782294] read descriptors
[ 3079.782415] read strings
[ 3080.136492] scsi 1:0:0:0: Direct-Access     Generic  STORAGE DEVICE   1532 PQ: 0 ANSI: 6
[ 3080.332892] sd 1:0:0:0: [sda] 61120512 512-byte logical blocks: (31.3 GB/29.1 GiB)
[ 3080.335116] sd 1:0:0:0: [sda] Write Protect is off
[ 3080.337456] sd 1:0:0:0: [sda] Write cache: disabled, read cache: enabled, doesn't support DPO or FUA
[ 3080.348208]  sda: sda1
[ 3080.354152] sd 1:0:0:0: [sda] Attached SCSI removable disk
[ 3080.632432] FAT-fs (sda1): utf8 is not a recommended IO charset for FAT filesystems, filesystem will be case sensitive!
[ 3080.637290] FAT-fs (sda1): Volume was not properly unmounted. Some data may be corrupt. Please run fsck.
```

Use df instruction to check the path of your U mount, usually under /media/ path, or /run/meida/. You can use df instruction to check before pluging in the U disk, and check again after pluging in the U disk. The path of the U disk mount is more.

```
root@正点原子Linux开发板:/# df
Filesystem     1K-blocks    Used Available Use% Mounted on
/dev/root        6127168  514164   5338824   9% /
devtmpfs         1989884       0   1989884   0% /dev
tmpfs            1998844       0   1998844   0% /dev/shm
tmpfs            1998844    1060   1997784   1% /tmp
tmpfs            1998844     388   1998456   1% /run
/dev/mmcblk0p8  53803957 3473261  48570567   7% /userdata
/dev/mmcblk0p7    129861   16892    108932  14% /oem
/dev/sda1       30391296 1052736  29338560   4% /media/udisk0
root@正点原子Linux开发板:/# ls /media/udisk0
 rksdfw.tag   sd_boot_config.config   sdupdate.img  'System Volume Information'
root@正点原子Linux开发板:/#
```

Chapter 3. Transfer files between Ubuntu and Linux development boards

During the course of daily development, it is often necessary to copy files from Ubuntu to the development board, or from the Linux development board to Ubuntu.

In this chapter, we will:

3.1Copying files via the SCP command

3.1 Copy files via the SCP command

As you can see in "Git Bash", the Git Bash Terminal is the Ubuntu terminal.