



**Installing Ubuntu 16.04 On Virtual Machine
Instruction Manual**

Ver.No.:2.0

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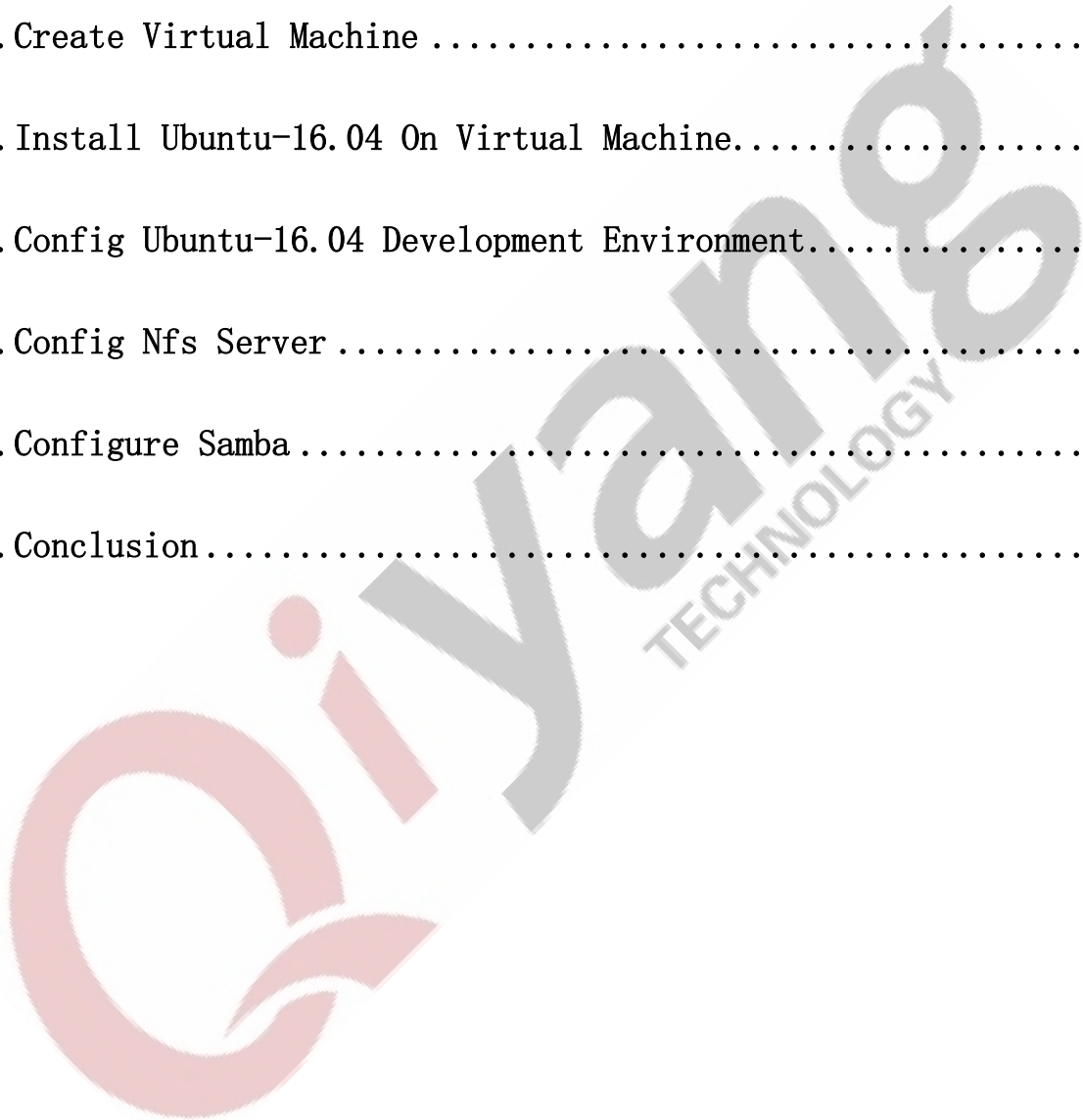
Version Record:

Version No.	Date	Content	Revisor
v1.0	2016-04	Initial Version	wangwx
v2.0	2020-04	Change some pictures (Ubuntu 16.04	wangwx



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I .Preparation

Windows 7/10(64-bit) computer, to make sure the network run normally.

VMware-workstation-full-15.5.0-14665864 installation program.

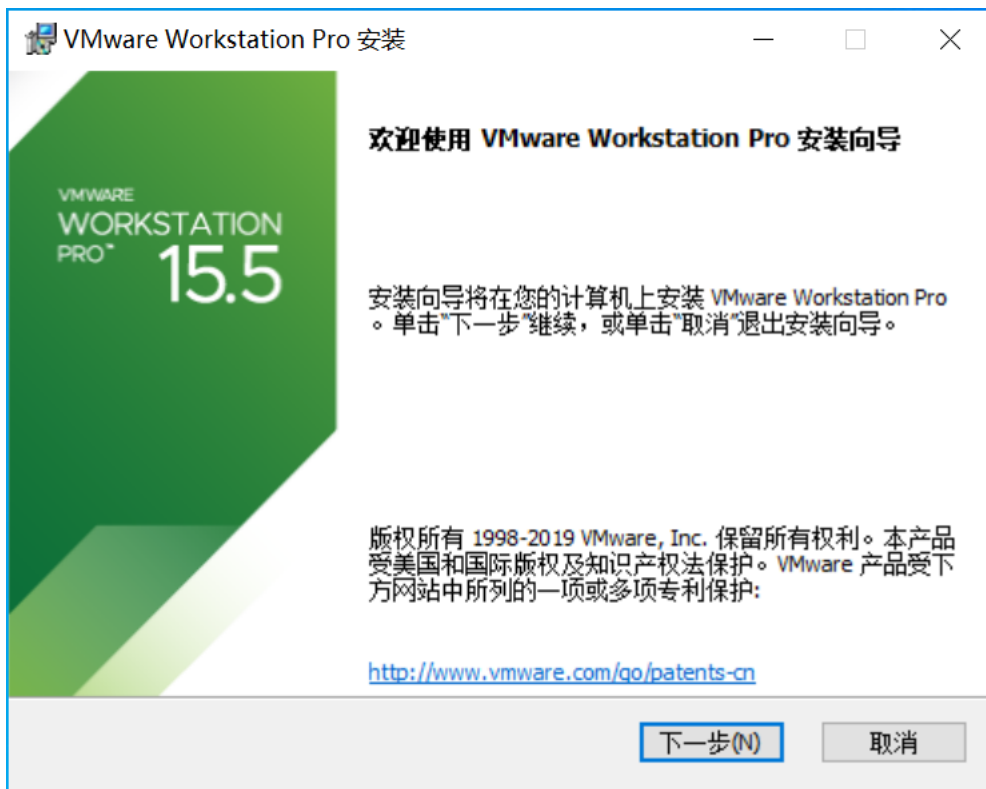
Ubuntu-16.04.6-desktop-adm64.iso system image.

Remark: As the highest version Win10 is conflicted with VMware 15, so we suggest to install VMware 16 on your Win10 computer. The installation is similar.

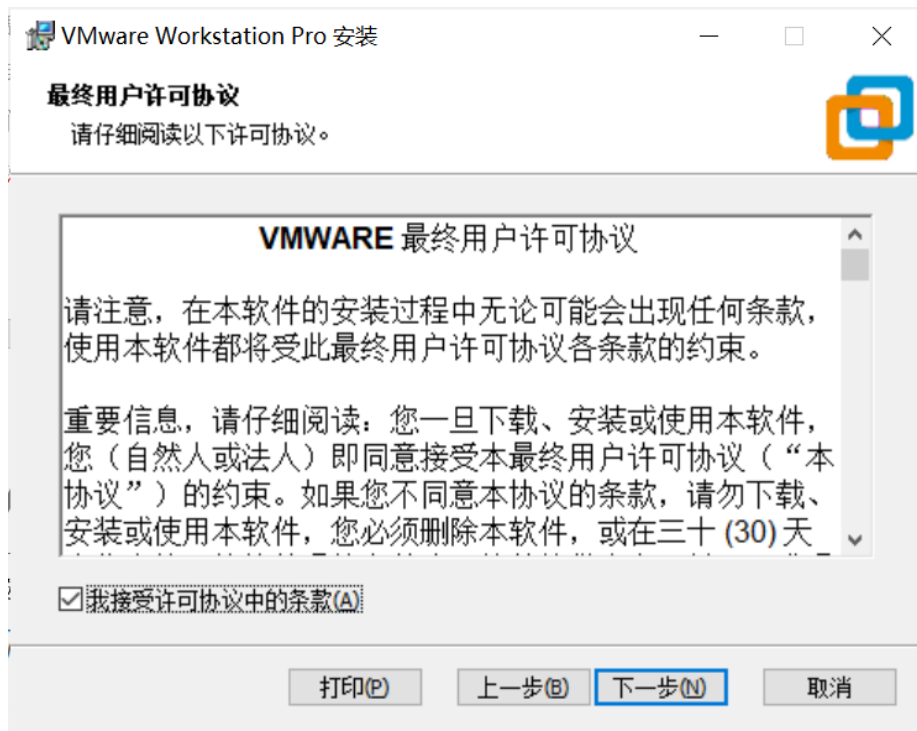
II. Install VMware

VMware-workstation installation is convenient, here is an installation reference for the users which is first time to install virtual machine.

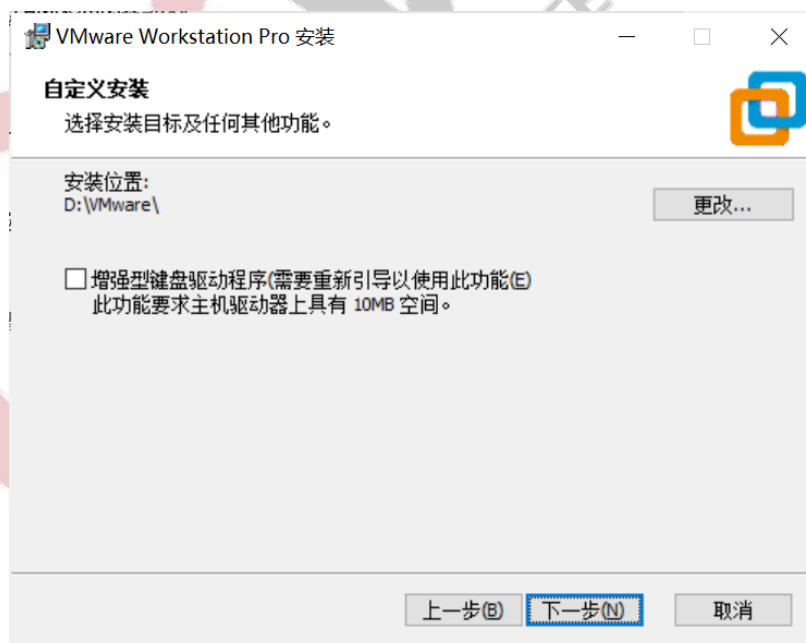
Step 1: Double-click installation file, it will take a while to process it, it will pop-up a Windows as below, click 'next step'.



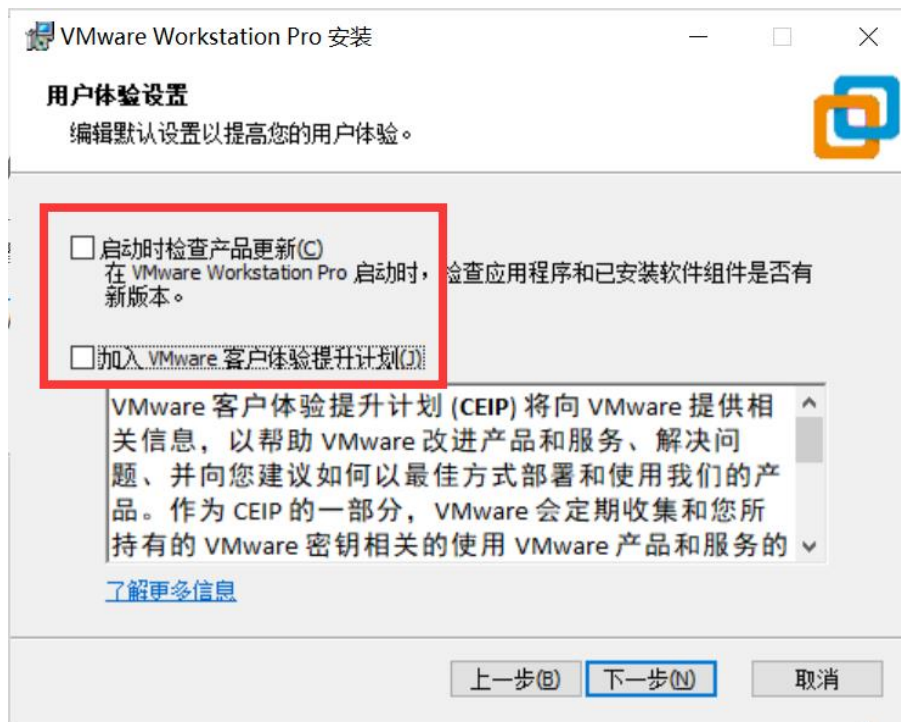
Step 2: Select 'I accept the terms of the license agreement'



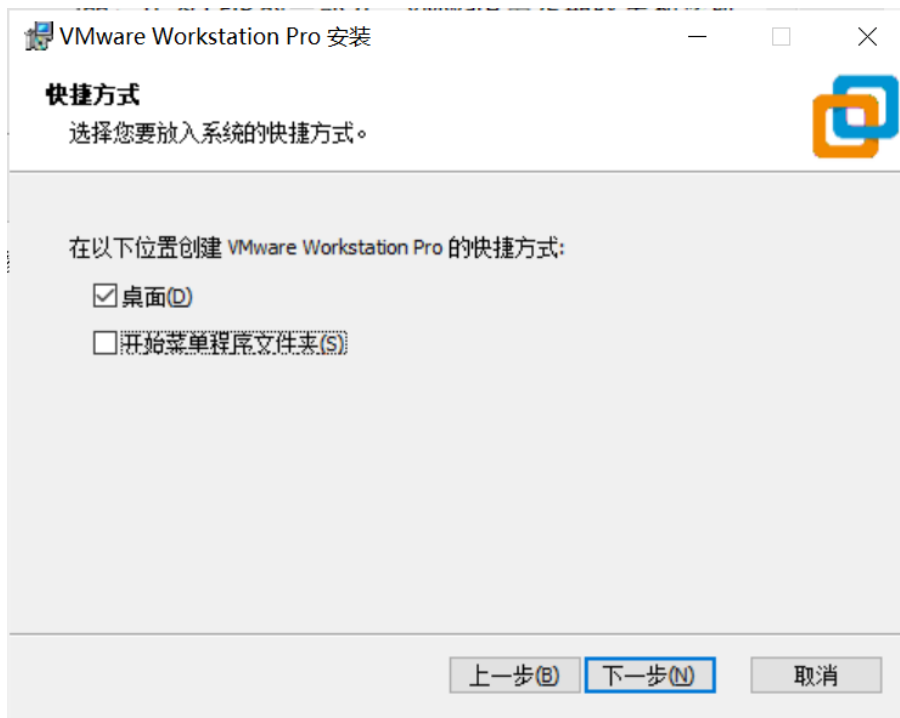
Step 3: Select installation path, 'C' disk is the default path, but you could choose 'D' disk to install:



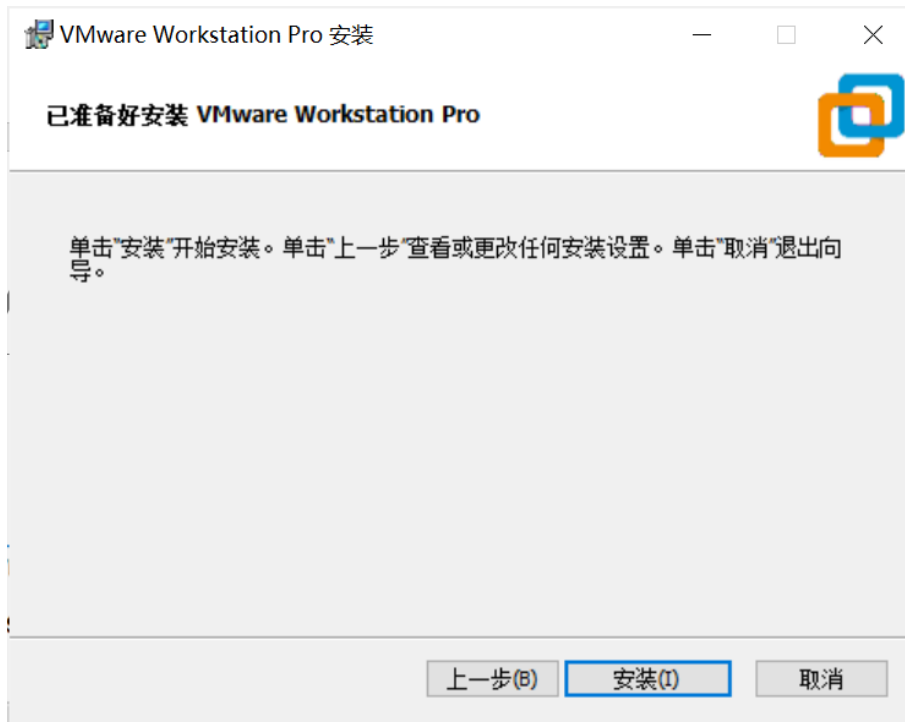
Step 4: Ignore these two options, click 'Next' directly.



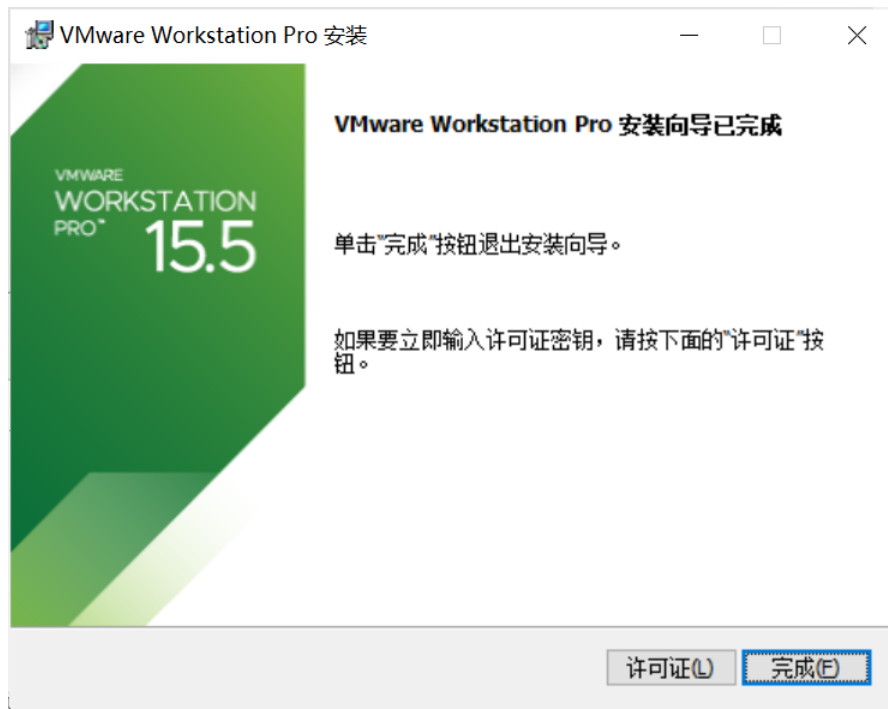
Step 5: Choose to create shortcut on desktop directory, then click 'next'.



Step 6: Click and install the program, it needs some time, please wait for a while.



Step 7: Finish installation, select 'Try'. Remark: Please purchase the password on official website.

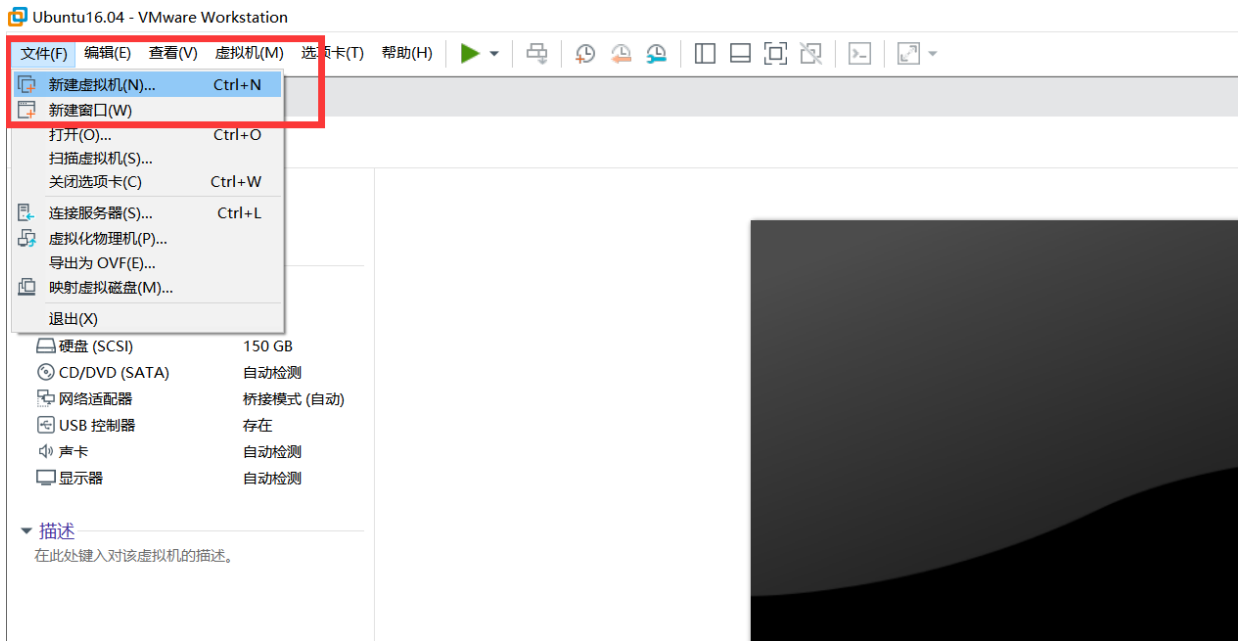




III. Create Virtual Machine

After installing VMware, then you could create a virtual machine.

Step 1: Click the below content in red box: Click 'File' -> Create Virtual Machine



Step 2: Select 'Typical' in dialog box.



Step 3: Select the second option, to find out the Ubuntu 16.04 image, loading,

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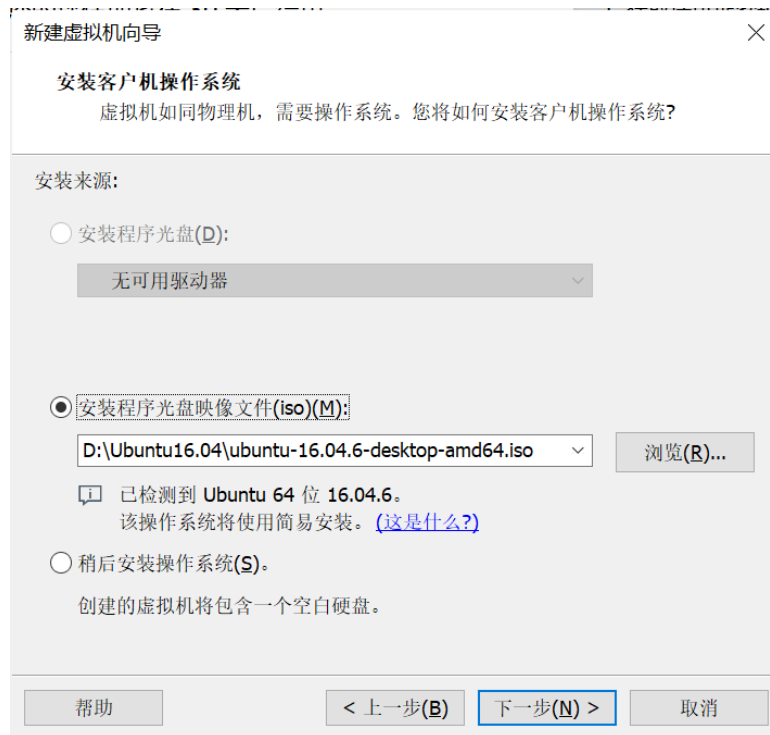
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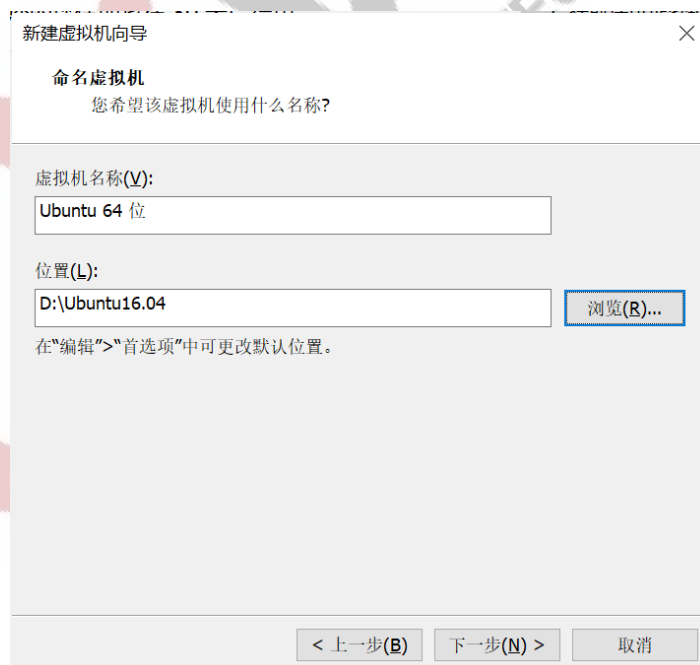
click 'Next'.



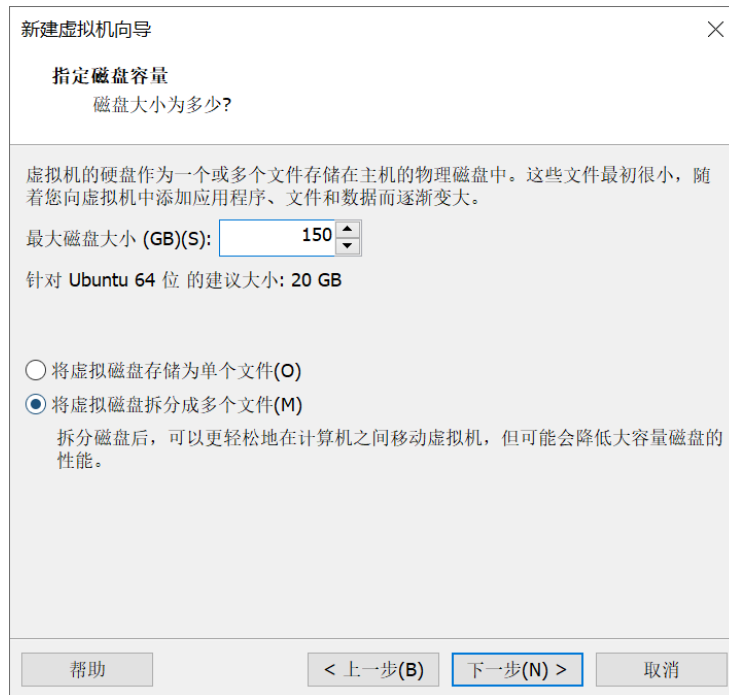
Step 4: Input full name of 'Linux' and Ubuntu user name and password, then click 'Next'.



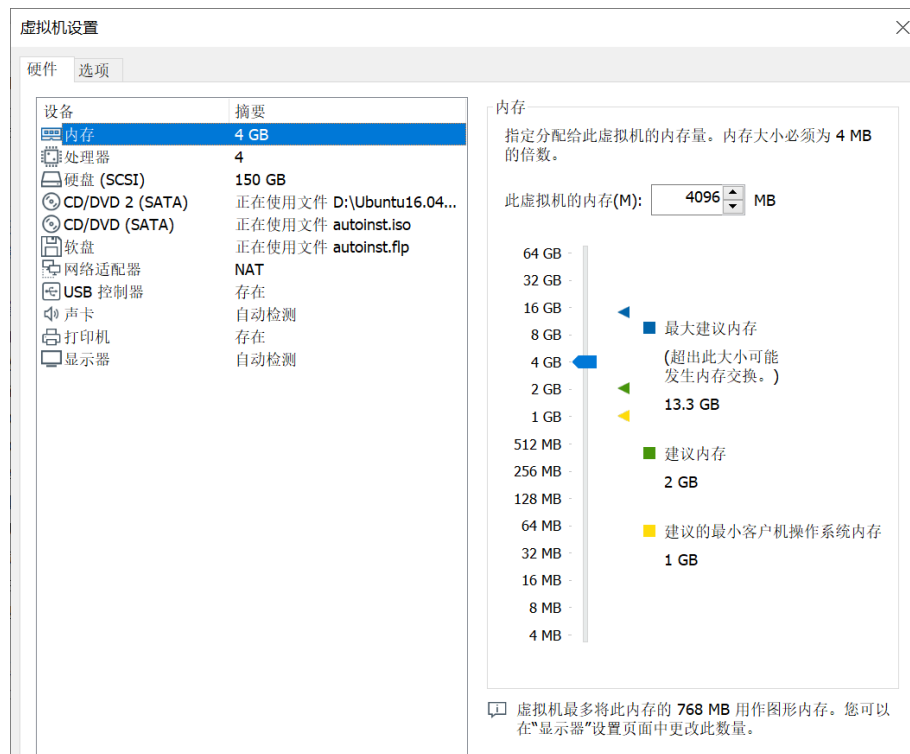
Step 5: Input Virtual Machine's name and choose the path for installing Ubuntu.



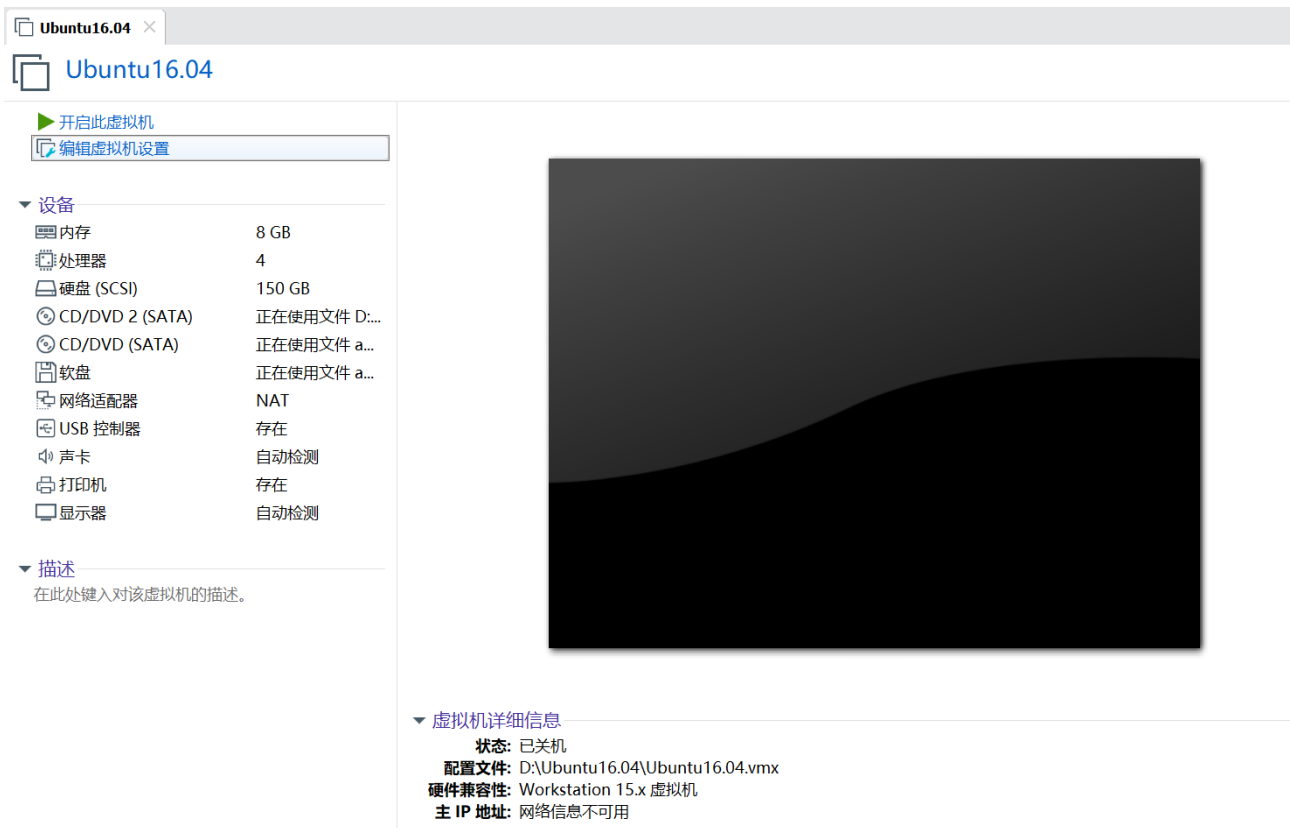
Step 6: At this step, it will assign the space you have allocated to the virtual machine ,if compiling Linux OS, it requires 150G, if compiling Android, it requires 250G.



Step 7: It shows some summary information, click 'Finish' to do configuration on virtual machine hardware. Here, I am using the computer with 16G RAM, eight-core CPU.



Step 8: At this step, the virtual machine creation is finished, go back to main interface, click 'Edit Virtual Machine Setting', to do virtual machine setting.

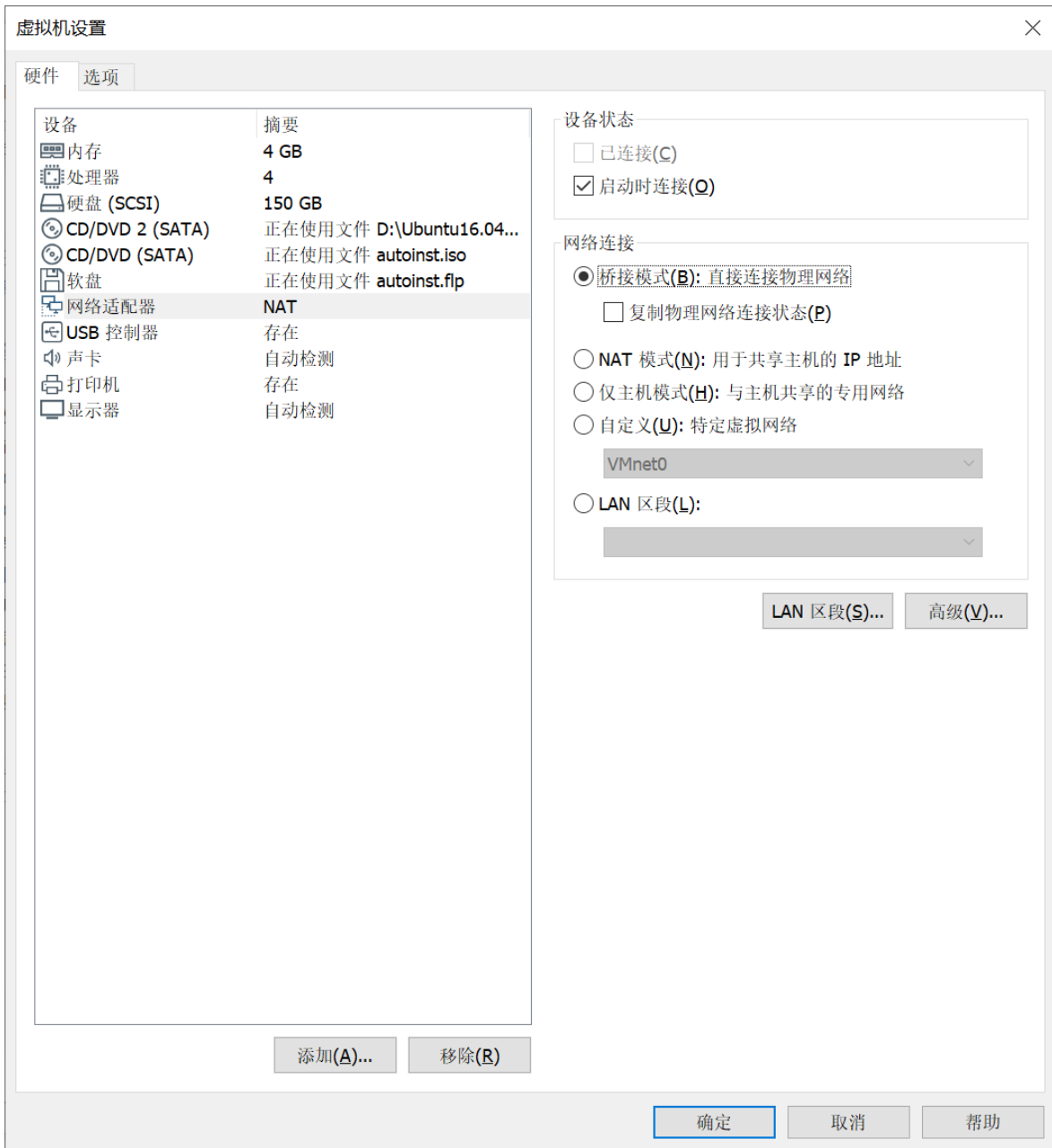


Step 9: Set the network to 'Bridged' mode, so it makes the virtual machine and Windows PC as two equivalent computers. Please set different setting for the various network environments, so you can visit the network smoothly.

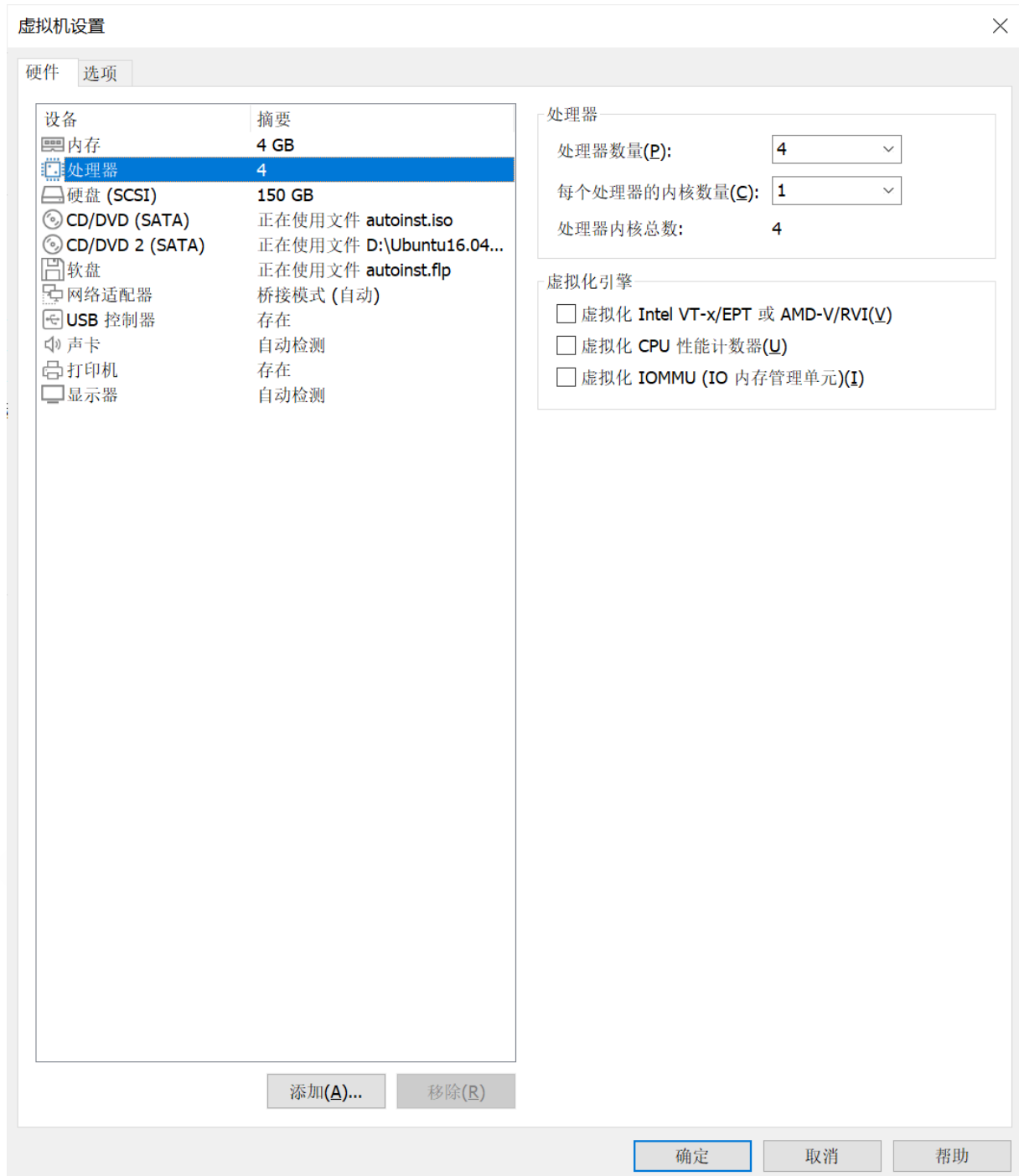
If your PC computer is same as mine, it is mounted on the router, you can visit the network without dialing. And you could obtain IP address through DHCP, and it could be configured as 'Bridge' mode;

If you need to visit the Internet by dialing up on the local machine, you need to set it as NAT mode, it could visit Internet through host machine, it needs to mount into the network file system, and then set it as 'Bridged'

mode.



Step10: After configured well, click 'OK', go back to main interface.

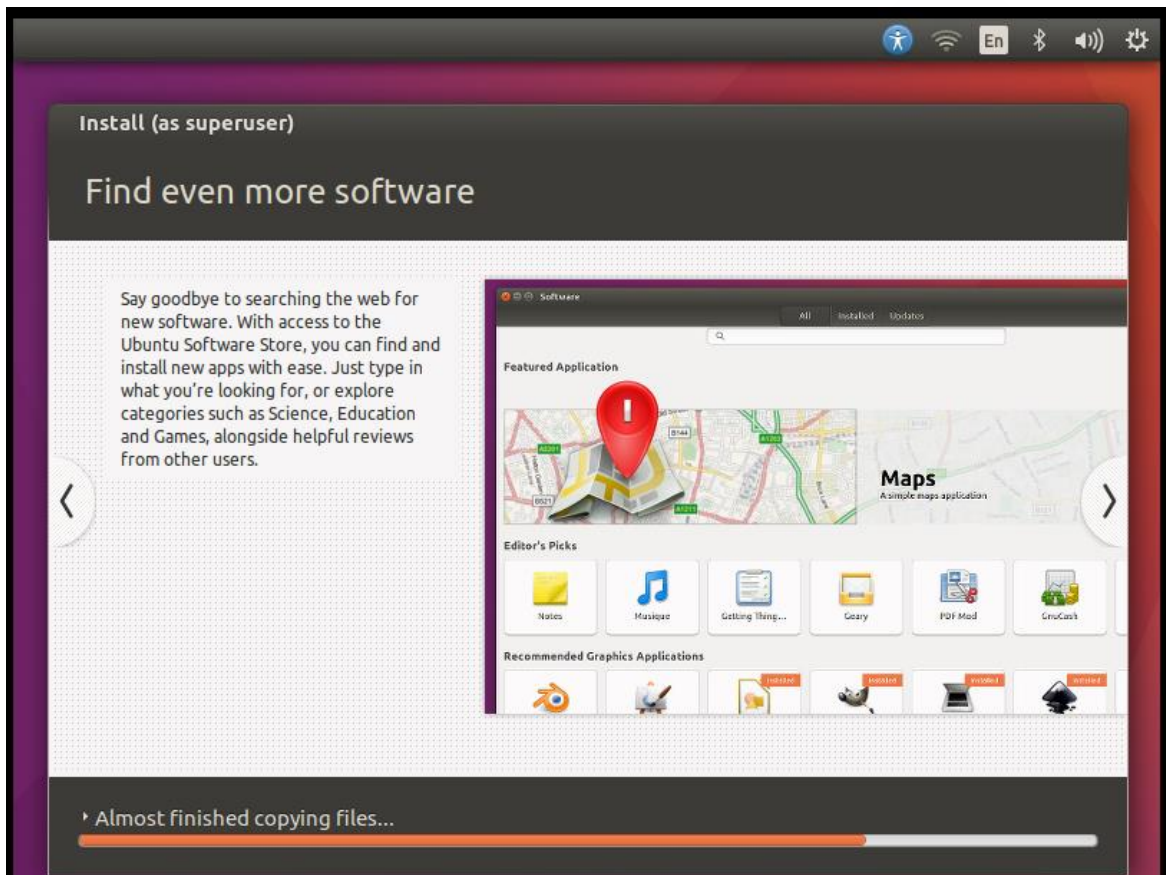


IV. Install Ubuntu-16.04 on Virtual Machine

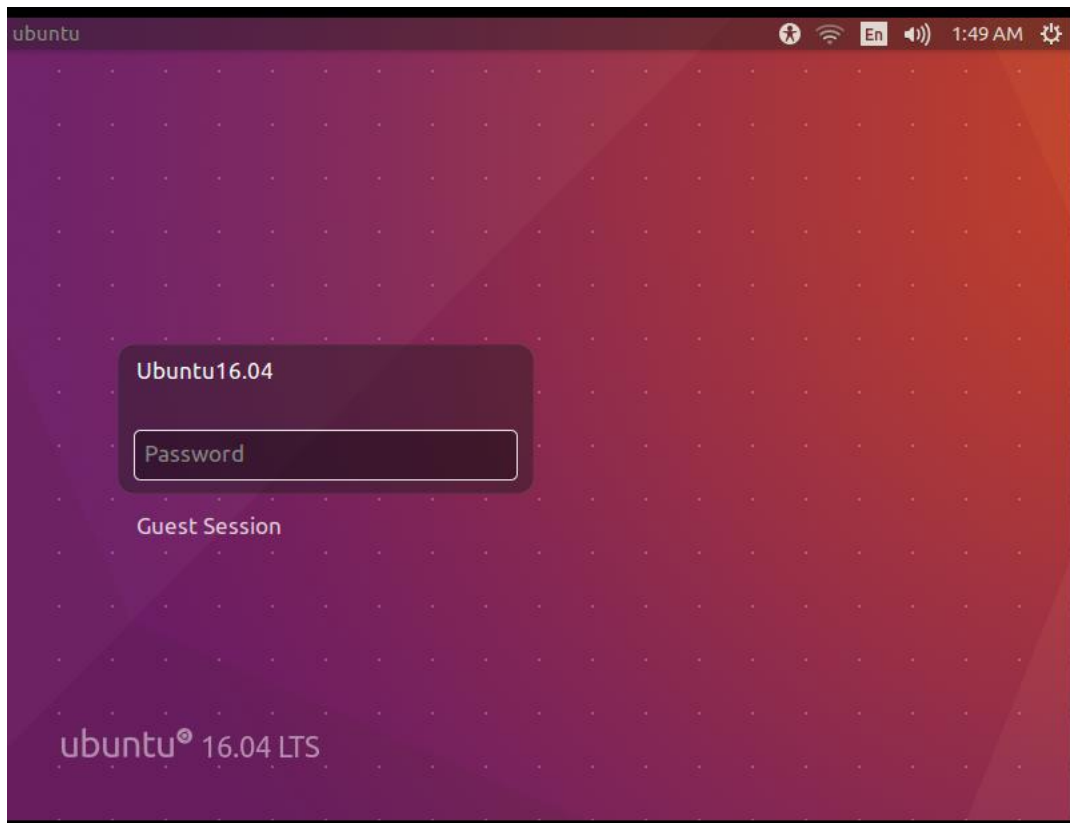
Step 1: Click the first option on left side to start the virtual machine, start 'Virtual Machine', it means press 'power button'



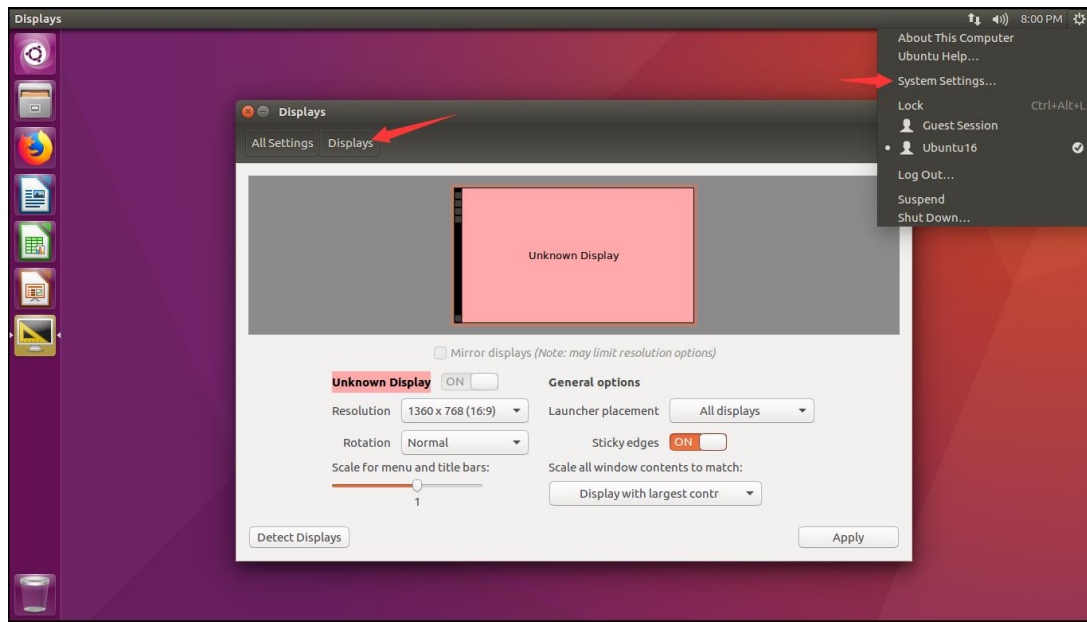
Step 2: After booting, Ubuntu will load the ISO image automatically which deployed on the above path.



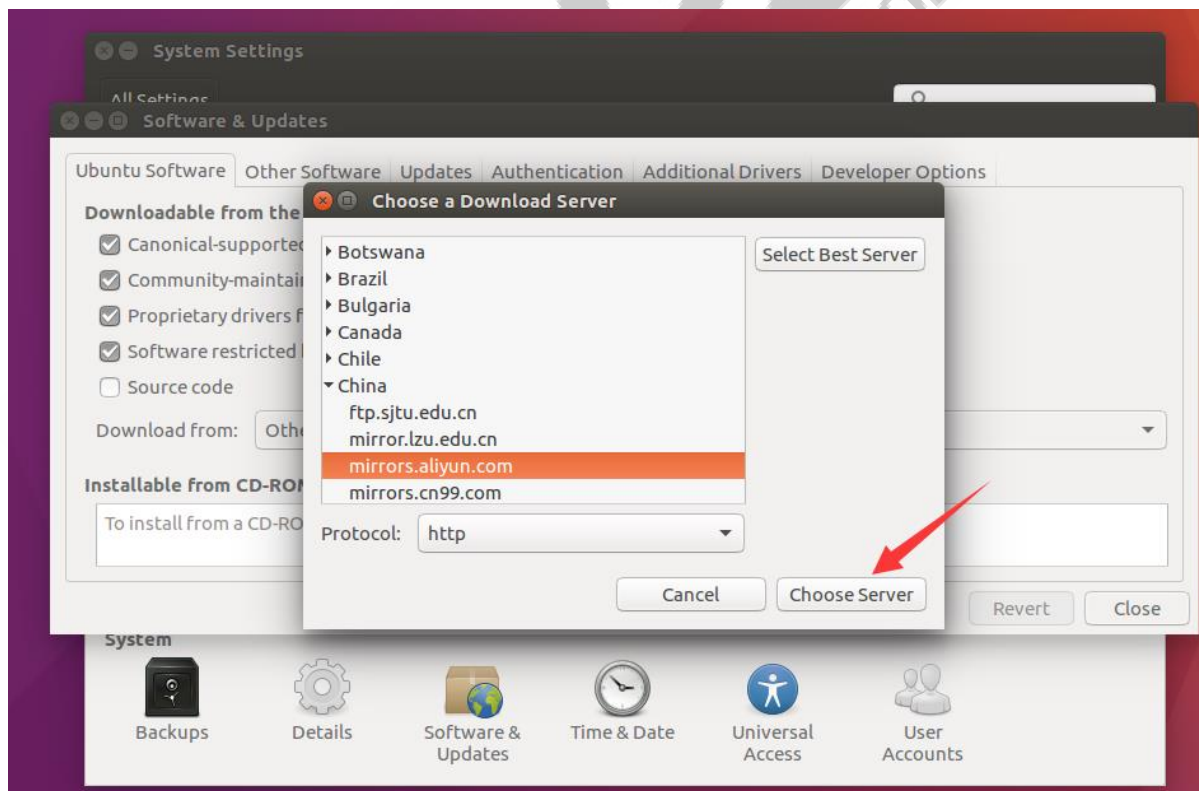
Step 3: Till now, the installation is completed.



Step 4: Input the previously configured password into the system, set the suitable pixel.



Step 5: As Ubuntu default downloading site is abroad, it is quite slow for downloading in domestic.



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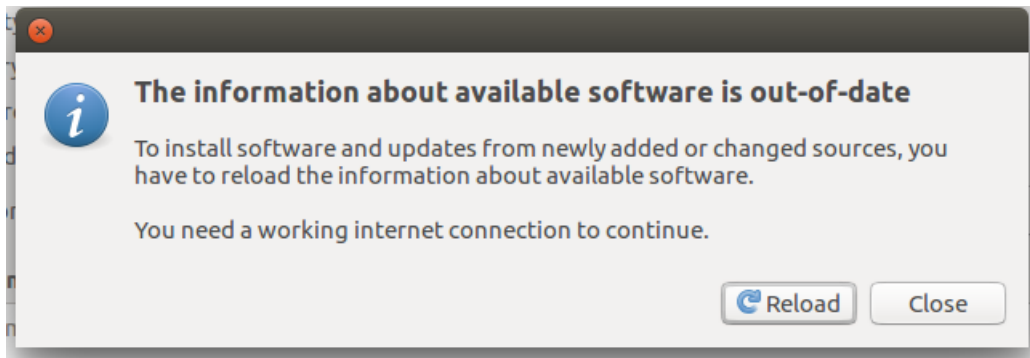
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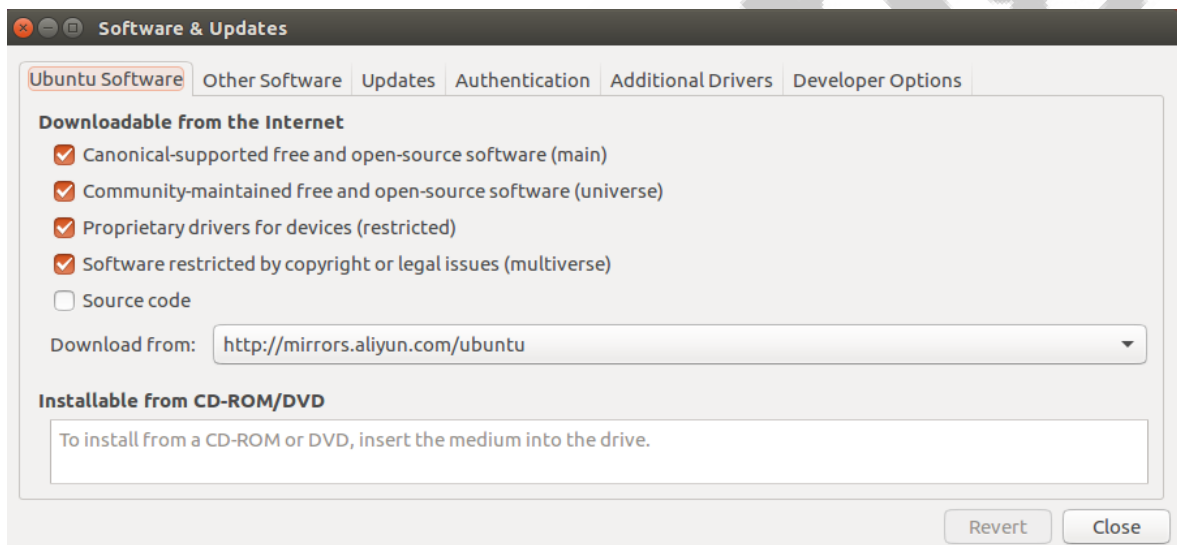
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Click 'Reload' after completion.



At last, please set it as below picture shown:



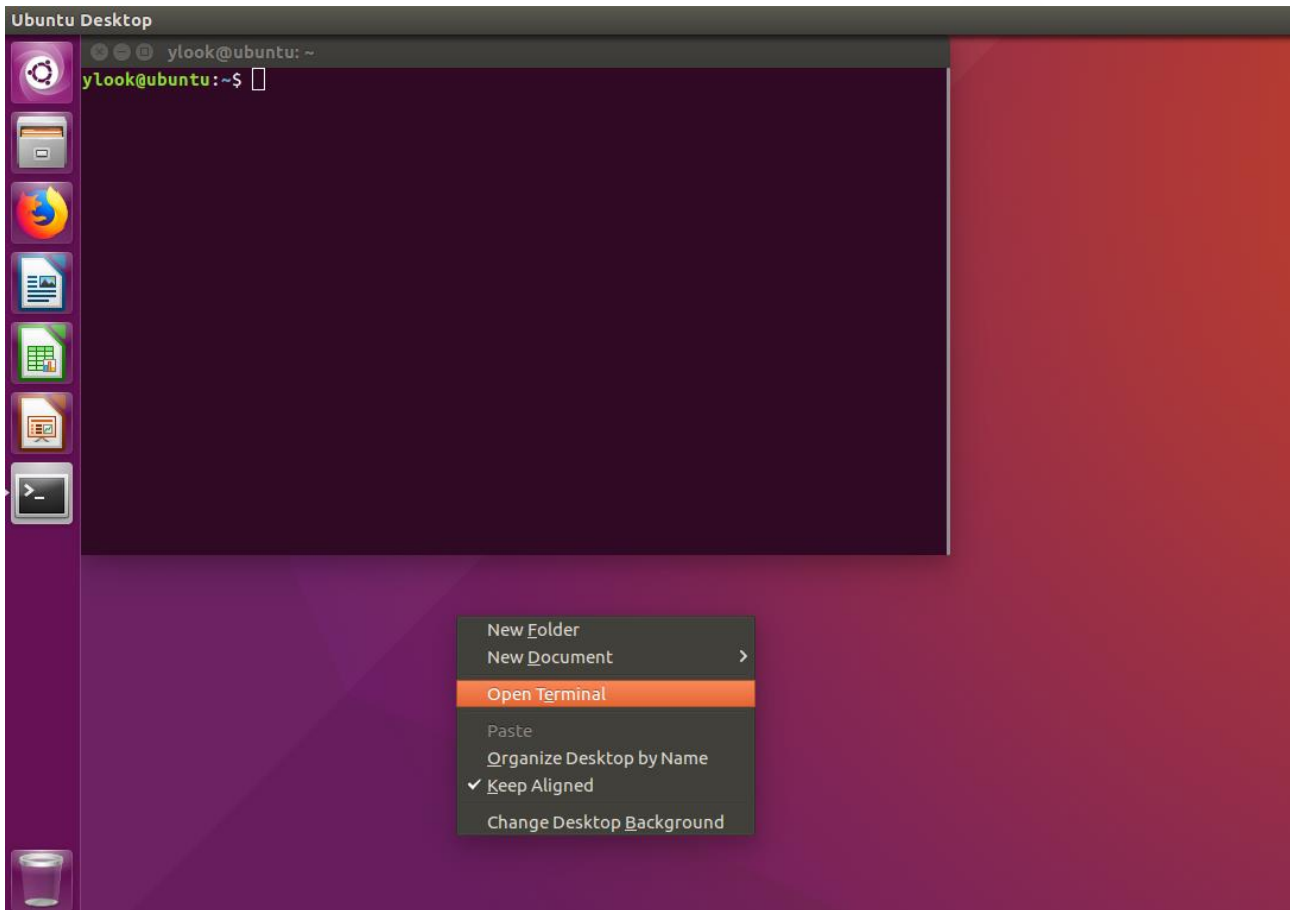
Step 6: Add a root user, input root user password by three time.

```
ylook@ubuntu: ~  
File Edit View Search Terminal Help  
ylook@ubuntu:~$ sudo passwd  
[sudo] password for ylook:  
ylook@ubuntu:~$ sudo passwd  
[sudo] password for ylook:  
Enter new UNIX password:  
Retype new UNIX password:  
passwd: password updated successfully  
ylook@ubuntu:~$
```

Step7: The VMware15 and the higher version has installed Tools automatically, it could share the clipboard, windows file drag, etc.

VI. Config Ubuntu-16.04 Development Environment

Step1: Open terminal, then 'Open Terminal' through right button on mouser, or you can use the shortcut key 'Ctrl+Alt+T'



Step2: After upgradation, please install the essential software, to install the essential software package.

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install vim
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install build-essential
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install libncurses5-dev
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install bison
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install flex
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install gettext
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install texinfo
```

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install subversion
```

VII. Config NFS Server

Network File System (NFS) can share directories of different hosts (different OS) over the Network -- you can mount a directory of a remote host using NFS, and access the directory as if it were a local directory! (Perform the following operations as user root.)

1. Install NFS server terminal and NFS client terminal

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install nfs-kernel-server
```

```
nfs-common rpcbind
```

It will hint 'Do you want to continue [Y/n]? Y '

The purpose for installing the client terminal is to do NFS test locally.

2. Config mounting directory and permission

Firstly, create 'NFS' shared directory

```
ubuntu@ubuntu-virtual-machine:~$ cd ~
```

```
ubuntu@ubuntu-virtual-machine:~$ mkdir work
```

Then modify 'nfs' configuration

```
ubuntu@ubuntu-virtual-machine:~$ sudo gedit /etc/exports
```

Add the below content at end:

```
/home/ubuntu/work *(rw, sync, no_root_squash) // 'work' is the directory
```

which needs to share, please check the path carefully.

3. Restart NFS service

```
ubuntu@ubuntu-virtual-machine:~$ sudo /etc/init.d/nfs-kernel-server restart
```

4. Test NFS

Try to mount local disk, mount '/nfs' to '/mnt'

```
ubuntu@ubuntu-virtual-machine:~$ sudo mount -t nfs
```

```
192.168.1.184:/home/ubuntu/work /mnt/ /*192.168.1.184 is  
your IP*/
```

Running [df] to check result:

```
ubuntu@ubuntu-virtual-machine:~$ df
```

```
192.168.1.184:/work 51275648 3691008 45015552 8% /mnt
```

If the mounting is successful, it means the test is successful, then please uninstall it.

```
ubuntu@ubuntu-virtual-machine:~$ umount /mnt
```

Next step, you can test the development board's ubuntu server mounting, normally, it could mount locally

It has no limitation for IP, the development board's mounting will be also successful, if the issue still exists, please check Ubuntu firewall, and use the below command to close firewall, then mount:

```
ubuntu@ubuntu-virtual-machine:~$ sudo ufw disable
```

If the development board can't mount ubuntu server,

1. The development board can't mount virtual machine ubuntu NFS

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a. Confirm if the network is ping well

b. Confirm, if the virtual machine Ubuntu could support mounting locally: 'mount -t nfs'

192.168.1.184:/home/ubunut/work /mnt / Here, '192.168.1.184 ' means Ubuntu IP address; '/nfs' is NFS absolute path, if mounting well, you can use 'df' command to check, you can see the '/mnt' directory.

c. If there is no problem on a and b, it means the firewall has not closed yet: 'sudo ufw disable'

d. Close firewall, then mount 'mount -o nolock' on development kit.

192.168.1.184:/home/ubuntu/work /mnt

VIII. Configure samba

1. Install samba

```
ubuntu@ubuntu-virtual-machine:~$ sudo apt-get install samba
```

2. Edit '/etc/samba/smb.conf' configuration file

```
ubuntu@ubuntu-virtual-machine:~$ sudo vi /etc/samba/smb.conf
```

(1) Add below command at the end of file

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[share]

comment = Home Directories

path = /home/ubuntu/samba

available = yes

browseable = yes

read only = no

public = yes

Remark: Please pay attention at the red content, it should use absolute path.

3.Create a user in system, the user name: 'samba'

Modify samba user to samba account, and set permission

```
ubuntu@ubuntu-virtual-machine:~$ sudo smbpasswd -a samba
```

```
ubuntu@ubuntu-virtual-machine:~$ mkdir ~/samba
```

```
ubuntu@ubuntu-virtual-machine:~$ chmod 777 ~/samba
```

Remark: Give yourself permission to share folder 777

4.Restart Ubuntu samba server

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```
ubuntu@ubuntu-virtual-machine:~$ sudo /etc/init.d/smbd restart
```

Or you can use the below command:

```
ubuntu@ubuntu-virtual-machine:~$ sudo service smb stop
```

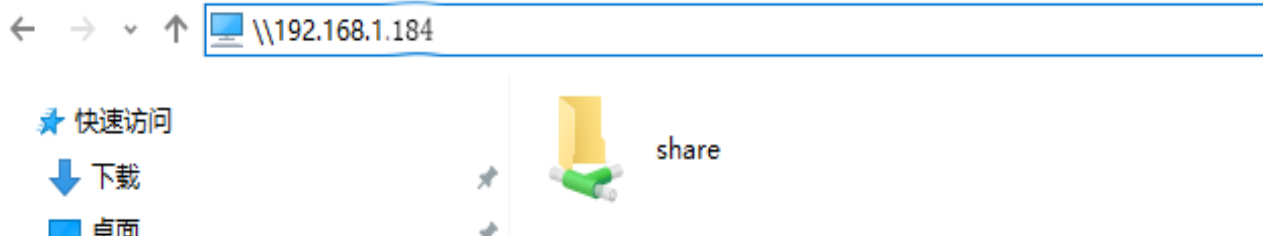
```
ubuntu@ubuntu-virtual-machine:~$ sudo service smb restart
```

5. Visit ubuntu samba server

Input '\\+ Ubuntu IP' in Windows folder, for example: [\\192.168.1.184](http://192.168.1.184)

After entering, you could see the shared directory 'share', thus, you can share the files between PC and virtual machine.

As below picture shown:

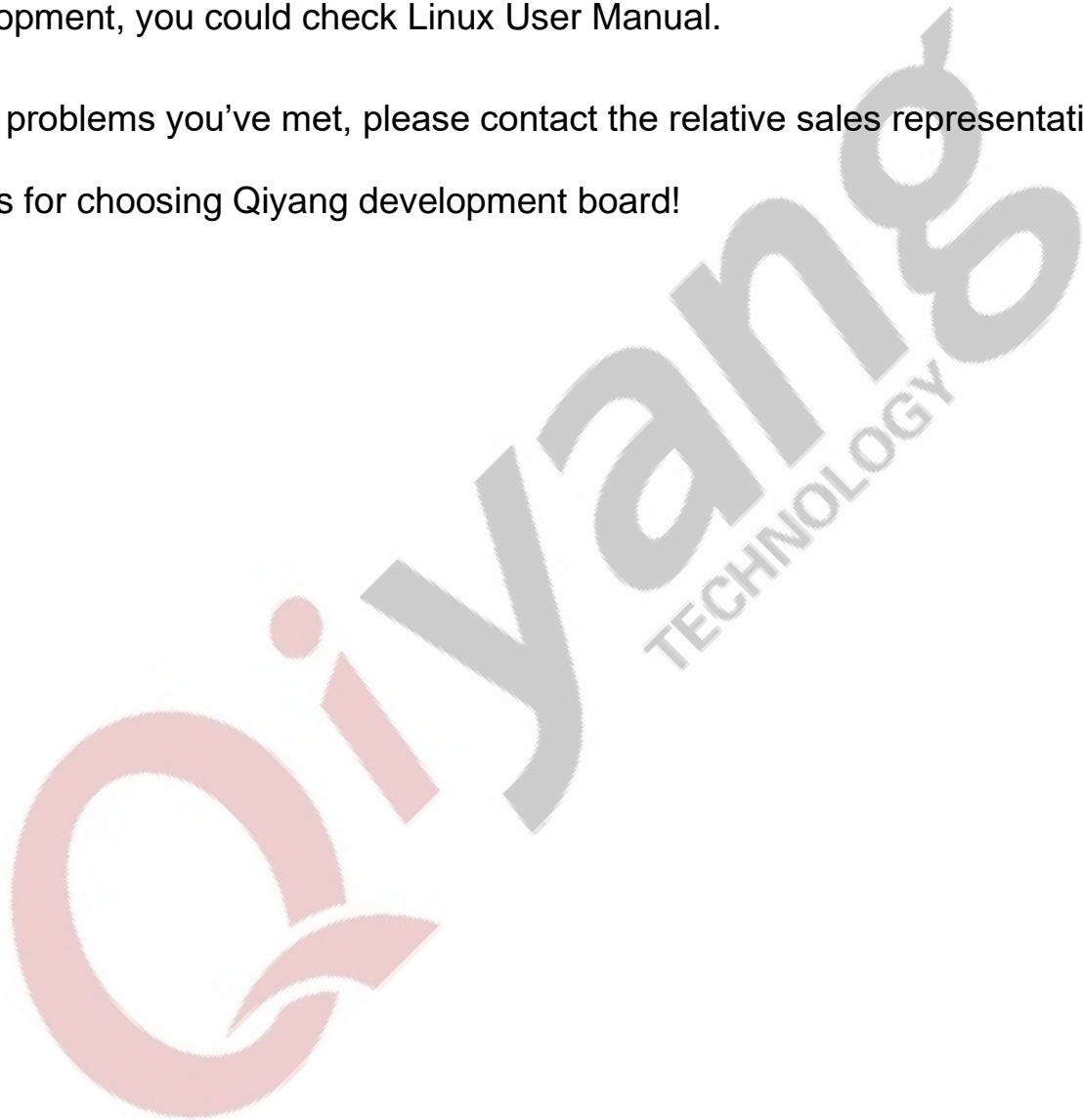


'Share' is the shared directory for samba.

IX. Conclusion

Till now, the development environment's server is setup well, the specific development, you could check Linux User Manual.

If any problems you've met, please contact the relative sales representative, thanks for choosing Qiyang development board!



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