

操作系统-第一次实验报告

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1 实验题目

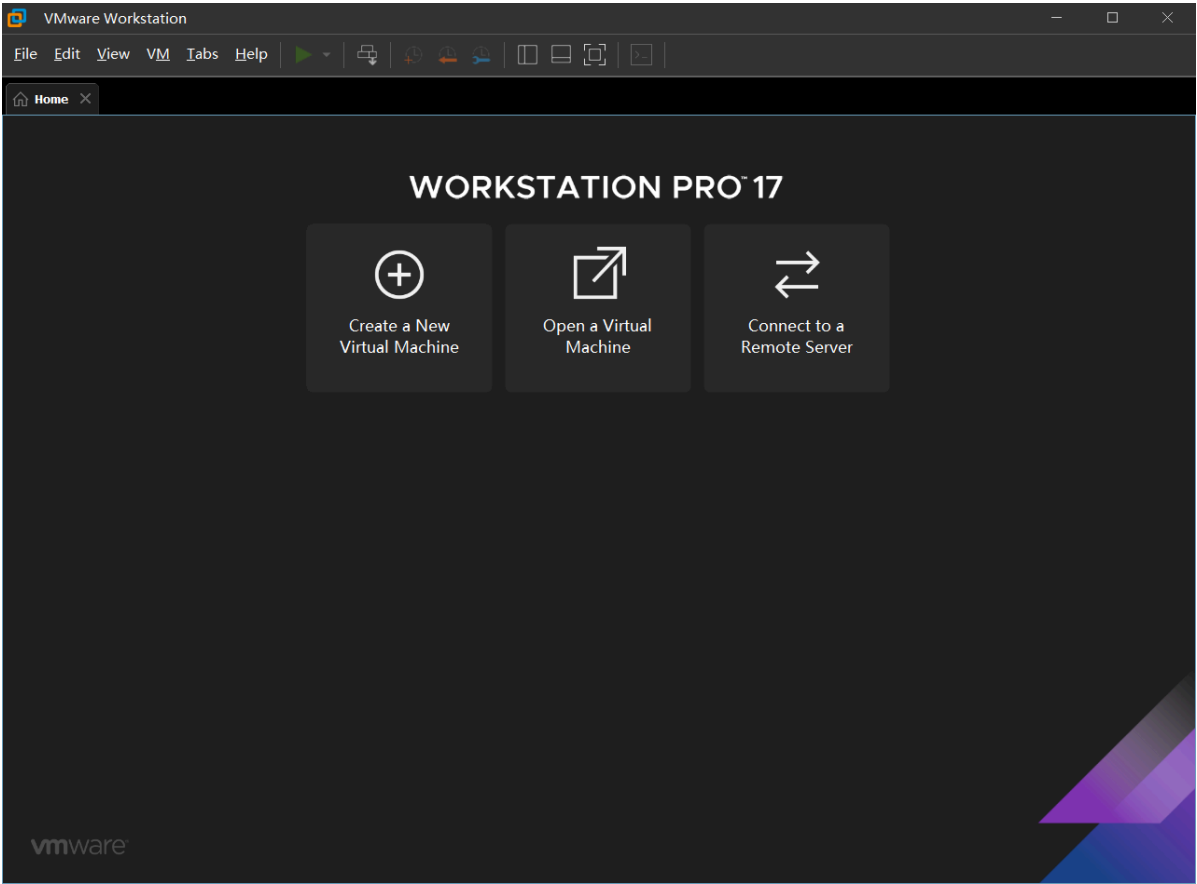
- 安装 Ubuntu/Linux

2 实验目的

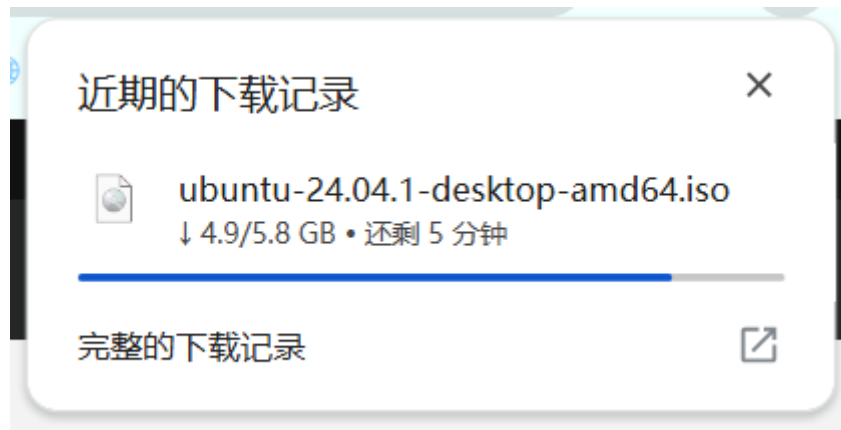
1. 在 Vmware 上安装 Ubuntu
2. 在 Ubuntu 上写一个 C 语言 "Hello world"

3 实验具体步骤

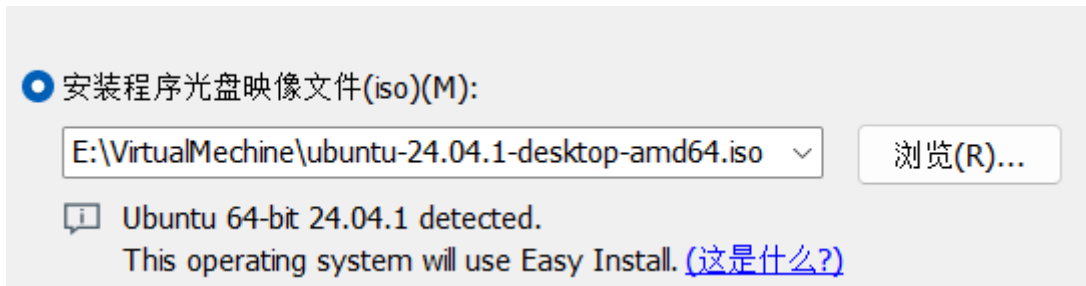
1. 下载安装 Vmware WorkStation Pro，在博通官网下载，之前已经下载安装好，这里不过多展示



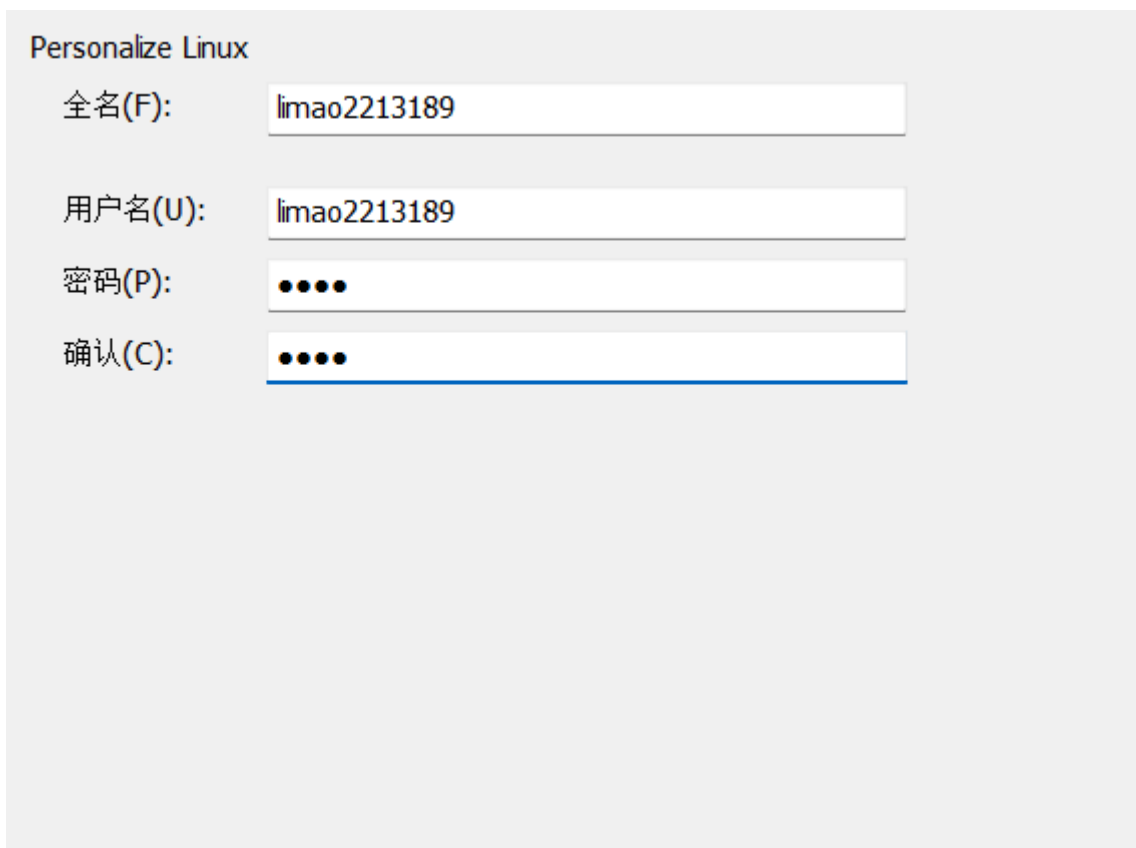
2. 下载 Ubuntu-iso 文件，官网下载，版本24.04.1



3. 创建虚拟机



1. 用户名: limao2213189

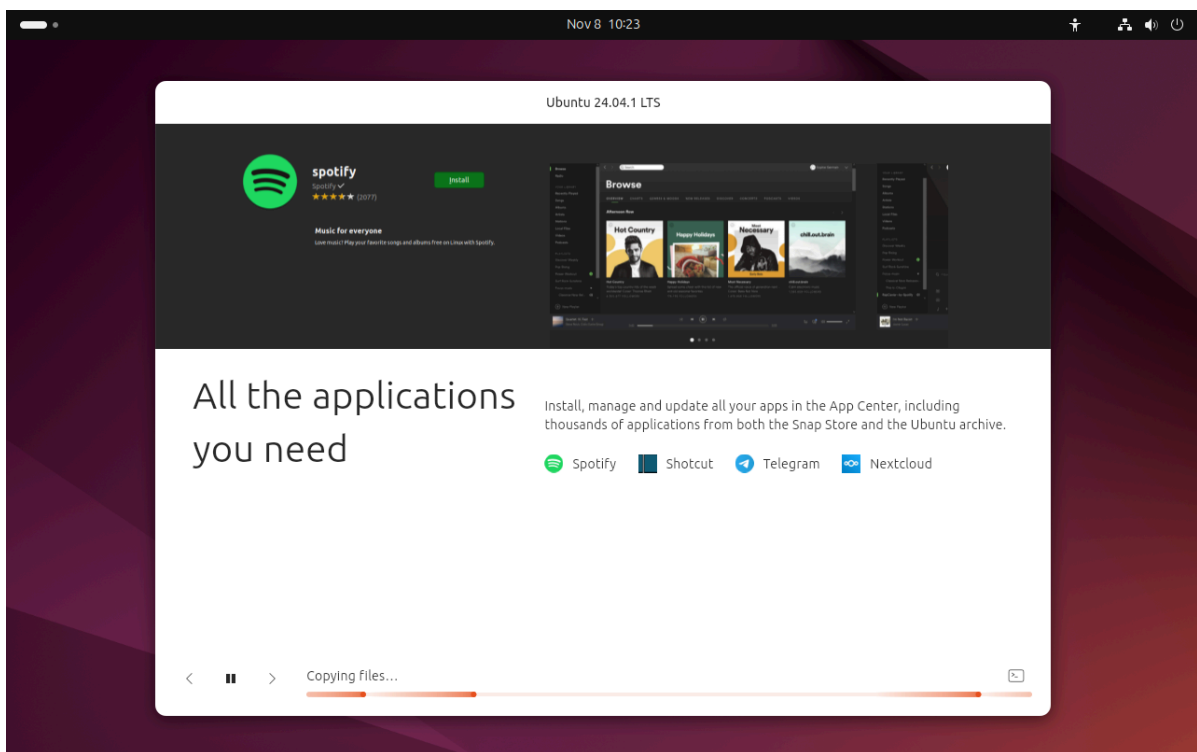


4. 虚拟内存: 4GB

5. 创建虚拟硬盘, 虚拟硬盘文件类型采用VDI (VirtualBox磁盘映像), 动态分配, 虚拟硬盘的大建议的60GB以上

6. 配置虚拟机

7. 安装Ubuntu, 创建账户



8. 更新Ubuntu

```
sudo apt-get update
sudo apt-get upgrade
```

```
limao2213189@limao2213189-VMware-Virtual-Platform:~$ sudo apt-get update
[sudo] password for limao2213189:
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://mirrors.tuna.tsinghua.edu.cn/ubuntu noble InRelease
Hit:3 http://mirrors.tuna.tsinghua.edu.cn/ubuntu noble-updates InRelease
Hit:4 http://mirrors.tuna.tsinghua.edu.cn/ubuntu noble-backports InRelease
Reading package lists... Done
limao2213189@limao2213189-VMware-Virtual-Platform:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following upgrades have been deferred due to phasing:
  gstreamer1.0-pipewire libpipewire-0.3-0t64 libpipewire-0.3-common
  libpipewire-0.3-modules libspa-0.2-bluetooth libspa-0.2-modules mtr-tiny
  openssh-client pipewire pipewire-alsa pipewire-audio pipewire-bin
  pipewire-pulse python3-distupgrade ubuntu-release-upgrader-core
  ubuntu-release-upgrader-gtk
The following packages will be upgraded:
  apparmor cloud-init distro-info-data dmsetup fwupd gir1.2-gtk-3.0
  gir1.2-mutter-14 gnome-initial-setup gnome-shell gnome-shell-common
```

9. 插入客户附加CD映像以安装客户机Ubuntu的增强驱动程序

```
limao2213189@limao2213189-VMware-Virtual-Platform:~$ sudo groupadd vboxsf && sudo usermod -aG vboxsf limao2213189
```

10. 重启

```
sudo reboot
```

10. 安装GCC

```
limao2213189@limao2213189-VMware-Virtual-Platform:~$ sudo apt-get install build-essential
[sudo] password for limao2213189:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu bzip2 dpkg-dev fakeroot
  g++ g++-13 g++-13-x86-64-linux-gnu g++-x86-64-linux-gnu gcc gcc-13
  gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libalgorithm-diff-perl
  libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan8 libbinutils
  libbcc1-0 libctf-nobfd0 libctf0 libdpkg-perl libfakeroot
  libfile-fcntllock-perl libgcc-13-dev libgprofng0 libhwasan0 libitm1 liblsan0
  libquadmath0 libsframe1 libstdc++-13-dev libtsan2 libubsan1
  lto-disabled-list make
Suggested packages:
  binutils-doc gprofng-gui bzip2-doc debian-keyring g++-multilib
  g++-13-multilib gcc-13-doc gcc-multilib autoconf automake libtool flex bison
  gcc-doc gcc-13-multilib gcc-13-locales gdb-x86-64-linux-gnu git bzr
  libstdc++-13-doc make-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential bzip2
  dpkg-dev fakeroot g++ g++-13 g++-13-x86-64-linux-gnu g++-x86-64-linux-gnu
  gcc gcc-13 gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu
```

11. C语言编写helloworld程序

1. 下载vim
2. 编写程序 vim hello.c
3. 输入 i, 开始编辑
4. 写C语言程序
5. :wq 退出
6. gcc hello.c -o hello
7. ./hello 执行

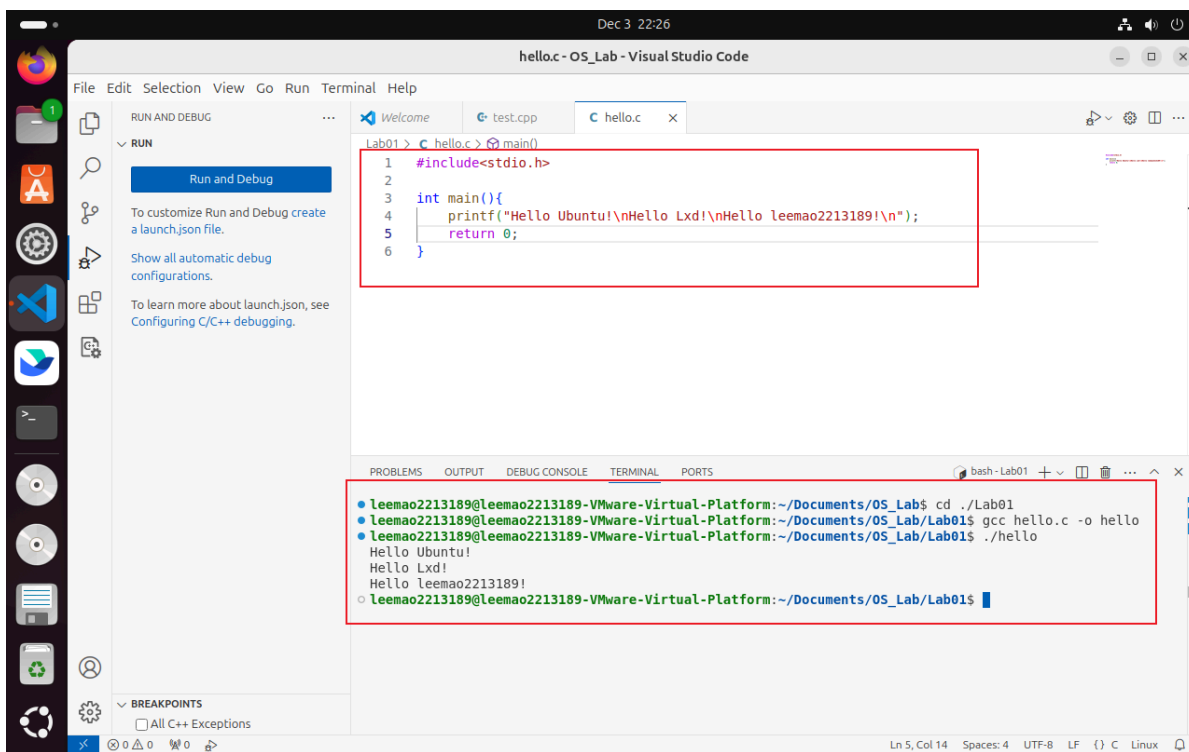
```
limao2213189@limao2213189-VMware-Virtual-Platform:~$ sudo apt install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  vim-runtime
Suggested packages:
  ctags vim-doc vim-scripts
The following NEW packages will be installed:
  vim vim-runtime
0 upgraded, 2 newly installed, 0 to remove and 16 not upgraded.
```

```
#include<stdio.h>

int main(){
    printf("hello OS!\nhello limao!\nhello lxd\n^S^S");
    return 0;
}
```

```
limao2213189@limao2213189-VMware-Virtual-Platform:~$ vim hello.c
limao2213189@limao2213189-VMware-Virtual-Platform:~$ gcc hello.c -o hello
limao2213189@limao2213189-VMware-Virtual-Platform:~$ ./hello
hello OS!
hello limao!
hello lxd
```

- 后续装上vscode后，更直观习惯于这种方式



4 实验总结

1. 初次接触虚拟机，遇到了很多麻烦，需要沉下心，一点一点的去弄
2. 多加练习，熟悉各种shell命令
3. 学一下vim