

主

控

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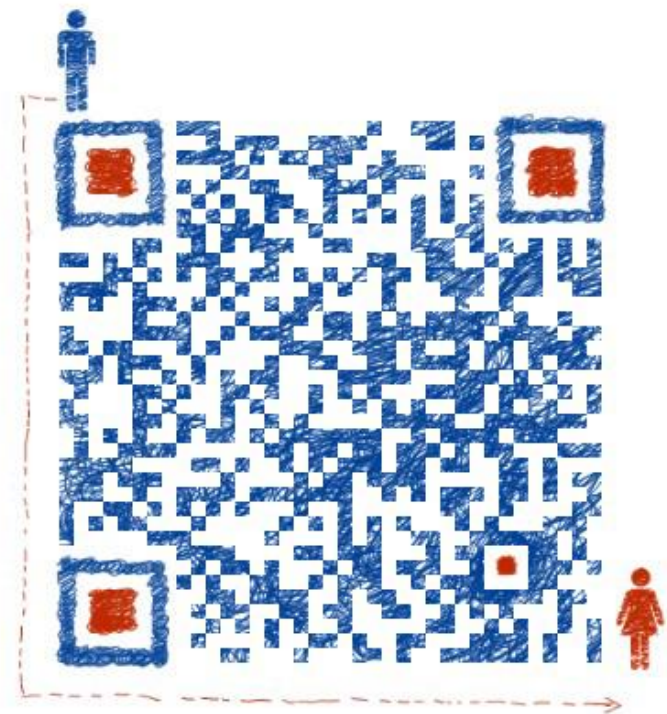
序

— Linux

无线传感器网项目实战



公众号:一口Linux



彭老师个人微信号

# 资料获取

- 公众号回复:无线传感网

- 安装

- 1.虚拟机vmware15.5.rar
- 2. ubuntu16-无线传感网.rar



**01**

**VMware**

# VMware Workstation

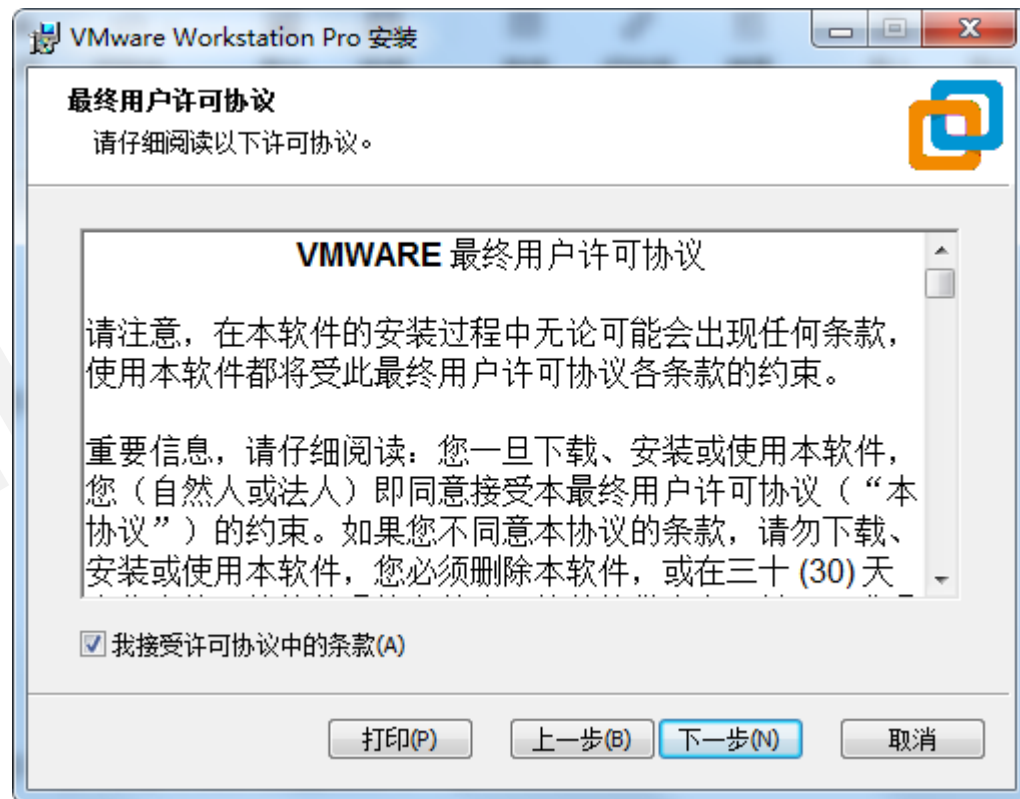


- VMware总部位于美国加州帕洛阿尔托（Palo Alto），是全球云基础架构和移动商务解决方案厂商
- 博通2022年5月，以610亿美元收购
- VMware Workstation（中文名“威睿工作站”）是一款功能强大的桌面虚拟计算机软件
  - 提供用户可在单一的桌面上同时运行不同的操作系统，和进行开发、测试、部署新的应用程序的最佳解决方案。

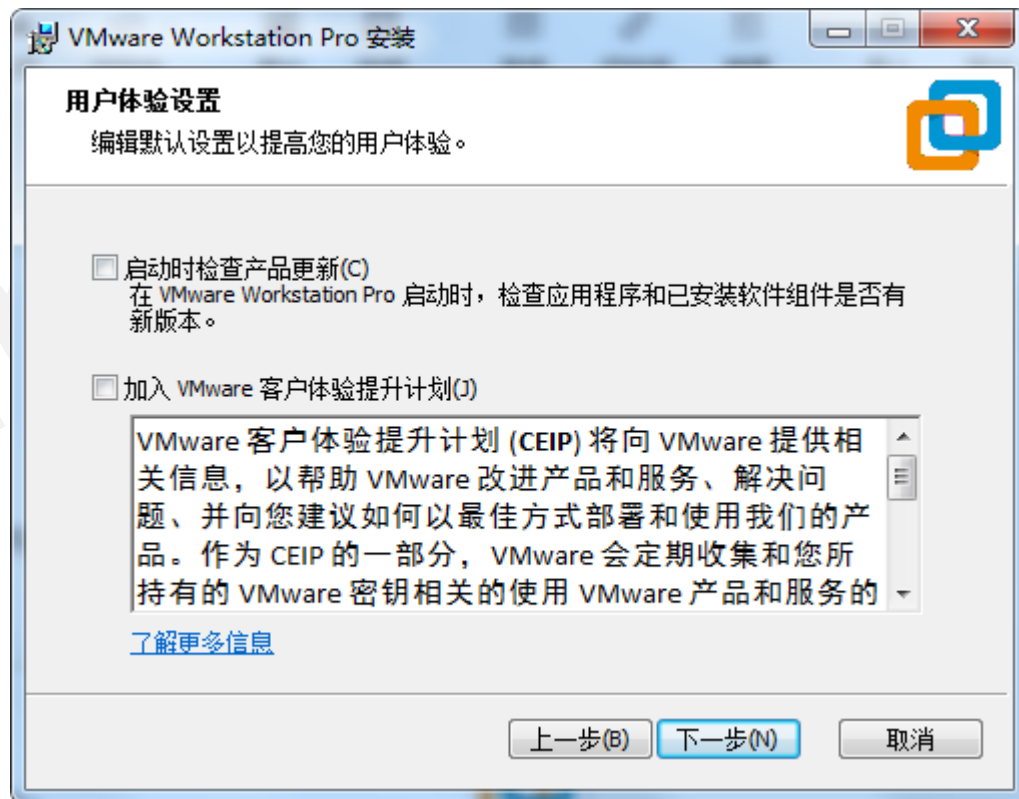
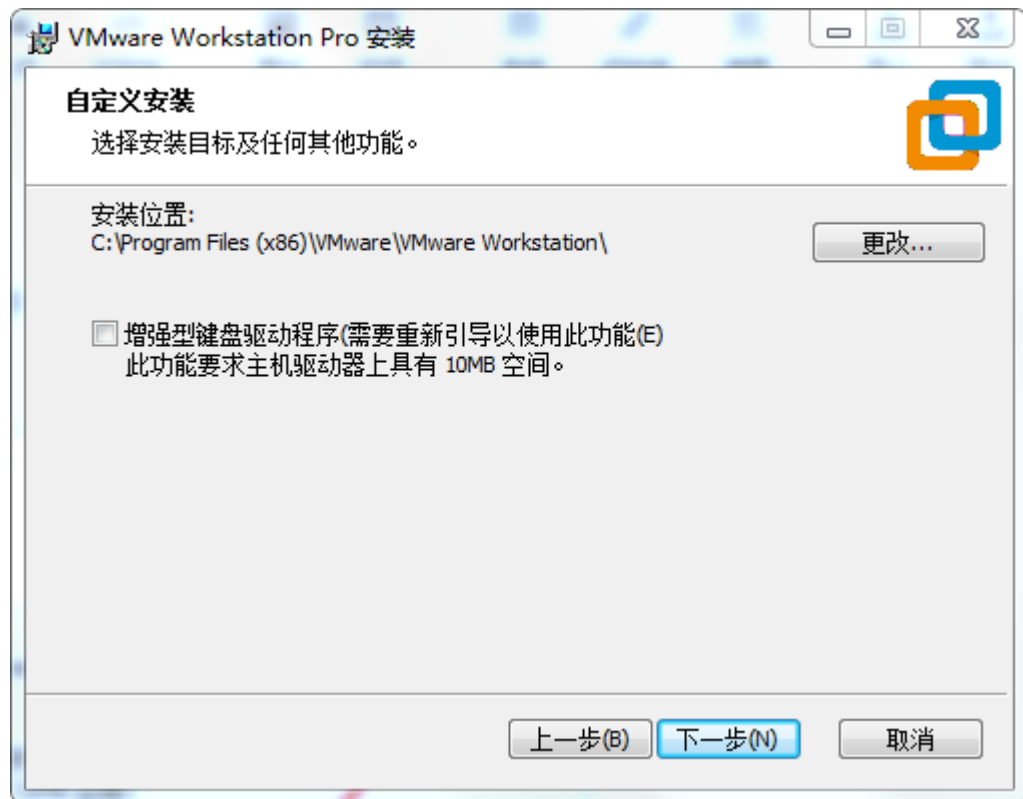
# 安装包

- <https://www.vmware.com/go/getworkstation-win>
- 物联网实训项目所有资料\1.环境工具

# 第1步

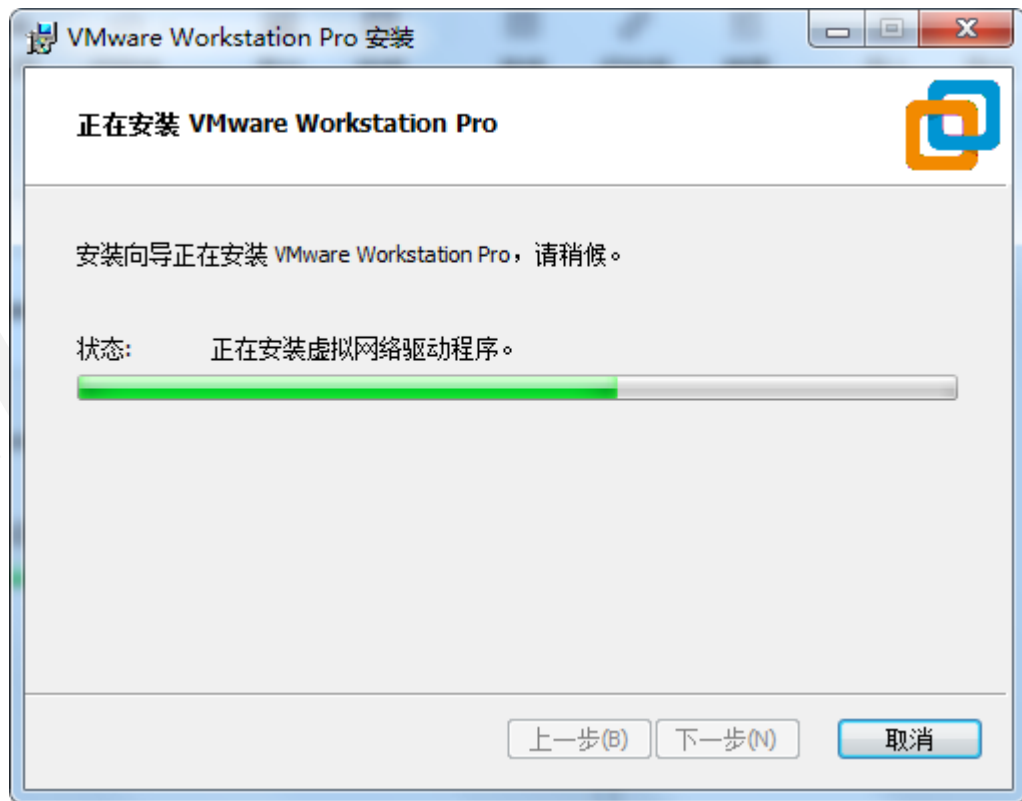
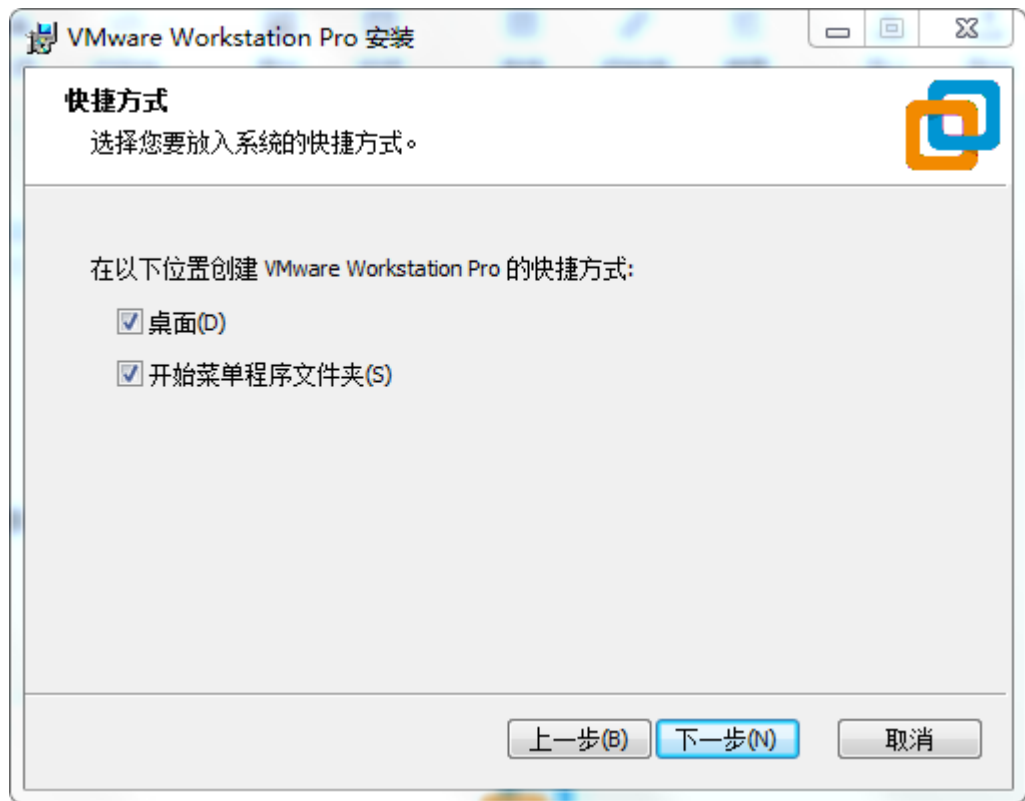


# 第2步

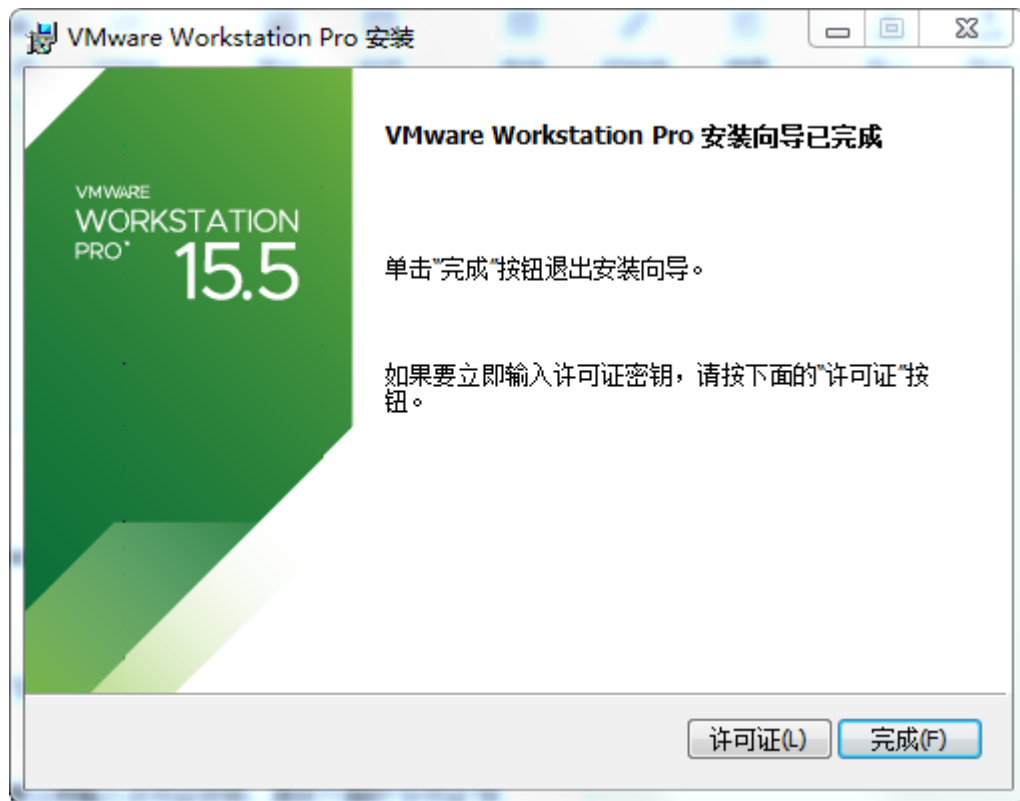




# 第3步

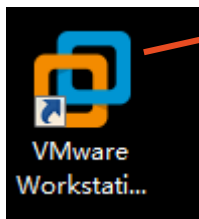


# 第4步-完成



# 输入秘钥

点击桌面图标



UG5J2-0ME12-M89WY-NPWXX-WQH88

GA590-86Y05-4806Y-X4PEE-ZV8E0

YA18K-0WY8P-H85DY-L4NZG-X7RAD

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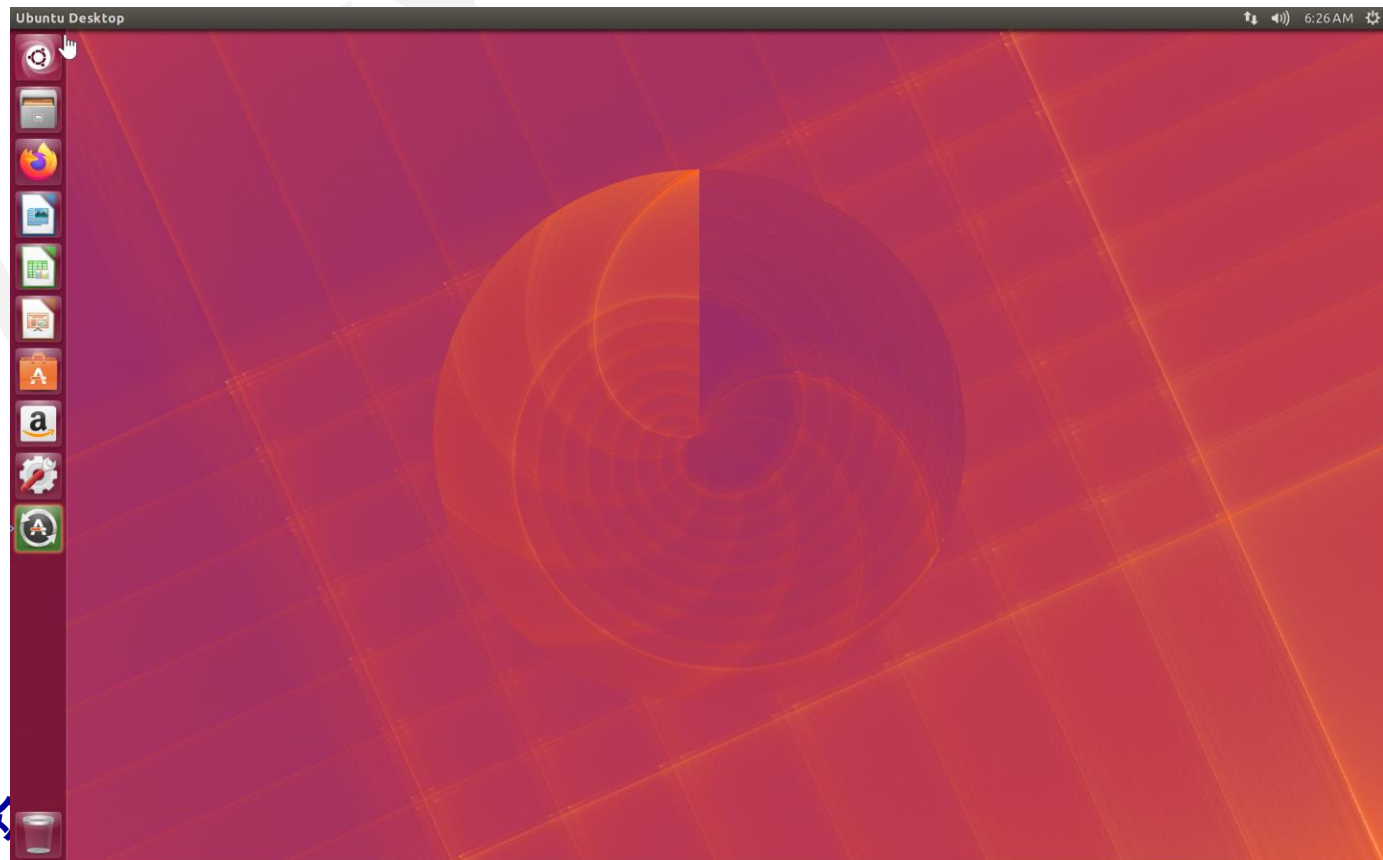


02

ubuntu

# 什么是ubuntu?

- Ubuntu是一个以桌面应用为主的Linux操作系统，其名称来自非洲南部祖鲁语或豪萨语的“ubuntu”一词，意思是“人性”



# Ubuntu安装

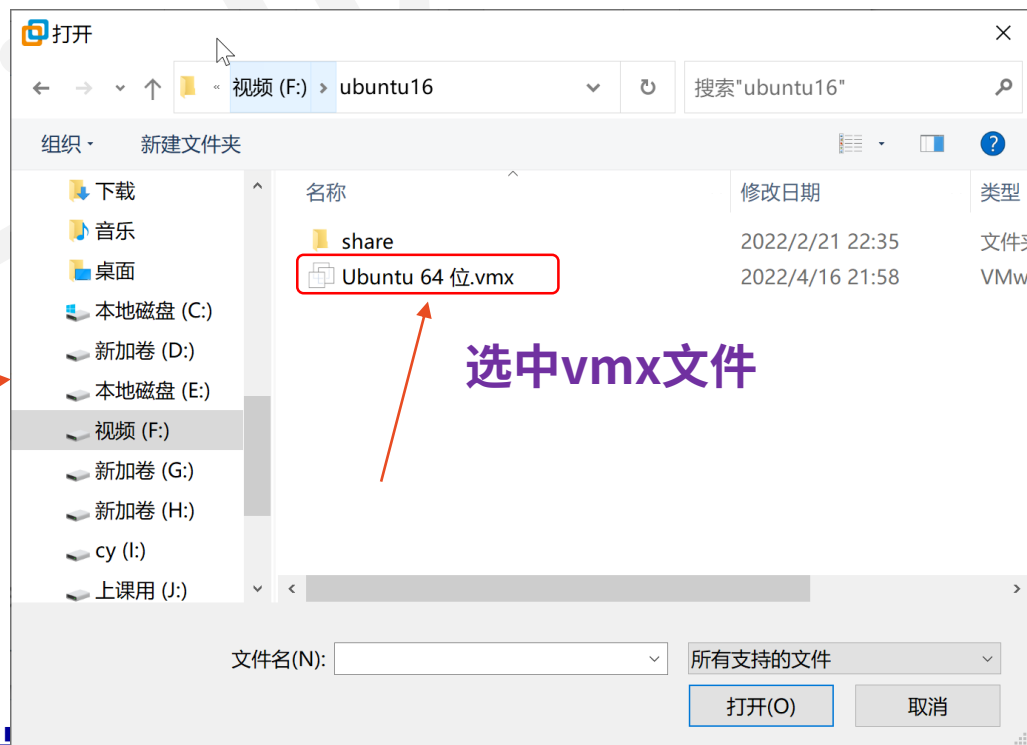
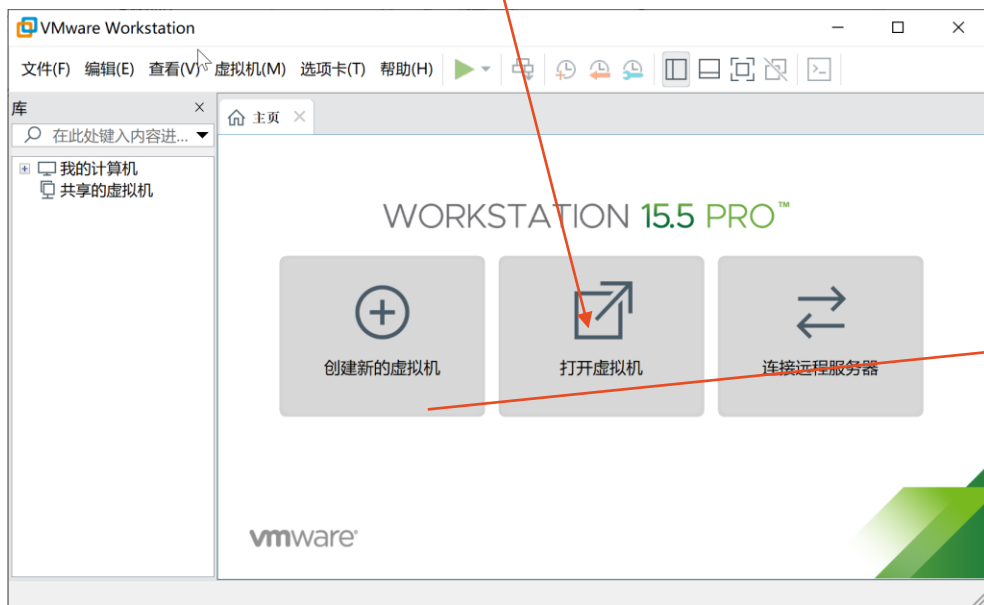
- 安装详细步骤如下：
  - 物联网实训项目所有资料\4.知识点相关资料\4.主控\1.环境安装vmware+ubuntu.pdf
- 本实例请直接使用创建好的虚拟机
  - 物联网实训项目所有资料\1.环境工具\ubuntu16-无线传感网.rar

# 打开ubuntu

- 1. 将压缩包拷贝到F:盘下
- 2. 打开Vmware station
- 点击打开虚拟机



选中刚才解压的目录



选中vmx文件

# 打开ubuntu

1

点击启动

Ubuntu 64 位 - VMware Workstation

文件(E) 编辑(E) 查看(V) 虚拟机(M) 选项卡(T) 帮助(H)

库

在此处键入内容进...

我的计算机

共享的虚拟机

Ubuntu 64 位

开启此虚拟机

编辑虚拟机设置

设备

内存2 GB

处理器1

硬盘 (SCSI)500 GB

CD/DVD (SATA)自动检测

网络适配器桥接模式 (自动)

USB 控制器存在

声卡自动检测

打印机存在

显示器自动检测

描述

在此处键入对该虚拟机的描述。

虚拟机详细信息

状态: 已关机

配置文件: F:\ubuntu16\Ubuntu 64 位.vmx

硬件兼容性: Workstation 15.x 虚拟机

主 IP 地址: 网络信息不可用

3

```
] Started Unattended Upgrades Shutdown.
Starting Network Manager Wait Online...
Starting Authenticate and Authorize Users to Run Privileged Tasks...
[ OK ] Started Network Manager Script Dispatcher Service.
[ OK ] Started Authenticate and Authorize Users to Run Privileged Tasks.
[ OK ] Started Accounts Service.
[ OK ] Started NFS Mount Daemon.
Starting NFS server and services...
[ OK ] Started NFS server and services.
[ OK ] Reached target Remote File Systems (Pre).
[ OK ] Reached target Remote File Systems.
Starting LSB: automatic crash report generation...
Starting LSB: daemon to balance interrupts for SMP systems...
Starting LSB: Set the CPU Frequency Scaling governor to "ondemand"...
Starting LSB: Start/stop sysstat's sadc...
Starting LSB: Speech Dispatcher...
Starting Permit User Sessions...
Starting Hostname Service...
[ OK ] Started LSB: Set the CPU Frequency Scaling governor to "ondemand".
[ OK ] Started LSB: Speech Dispatcher.
[ OK ] Started Permit User Sessions.
Starting Light Display Manager...
Starting Hold until boot process finishes up...
Starting Set console scheme...
[ OK ] Started Getty on tty1.
[ OK ] Reached target Login Prompts.
[ OK ] Started Set console scheme.
[ OK ] Started LSB: daemon to balance interrupts for SMP systems.
[ OK ] Started Hostname: Start/stop sysstat's sadc.
[ OK ] Started Hostname Service.
[ OK ] Started LSB: automatic crash report generation.
[ OK ] Started Light Display Manager.
[ OK ] Started Snap Daemon.
Starting Wait until snapd is fully seeded...
[ OK ] Started Wait until snapd is fully seeded.
```

2

Ubuntu 64 位 - VMware Workstation

此虚拟机可能已被移动或复制。

为了配置特定的管理和网络功能，VMware Workstation 需要知道是否已移动或复制了此虚拟机。

如果您不知道，请回答“我已复制该虚拟机(P)”。

我已移动该虚拟机(M)

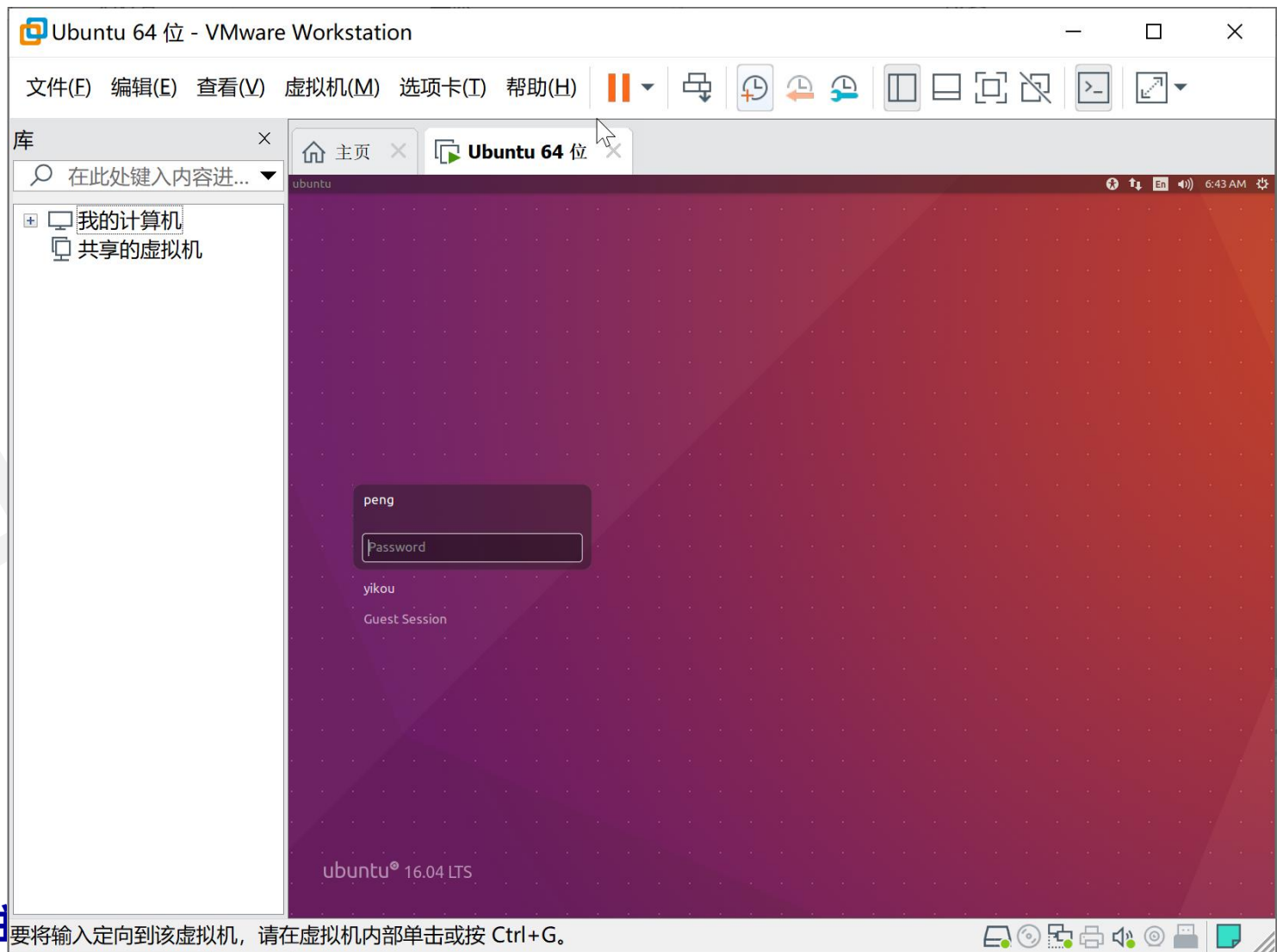
我已复制该虚拟机(P)

取消

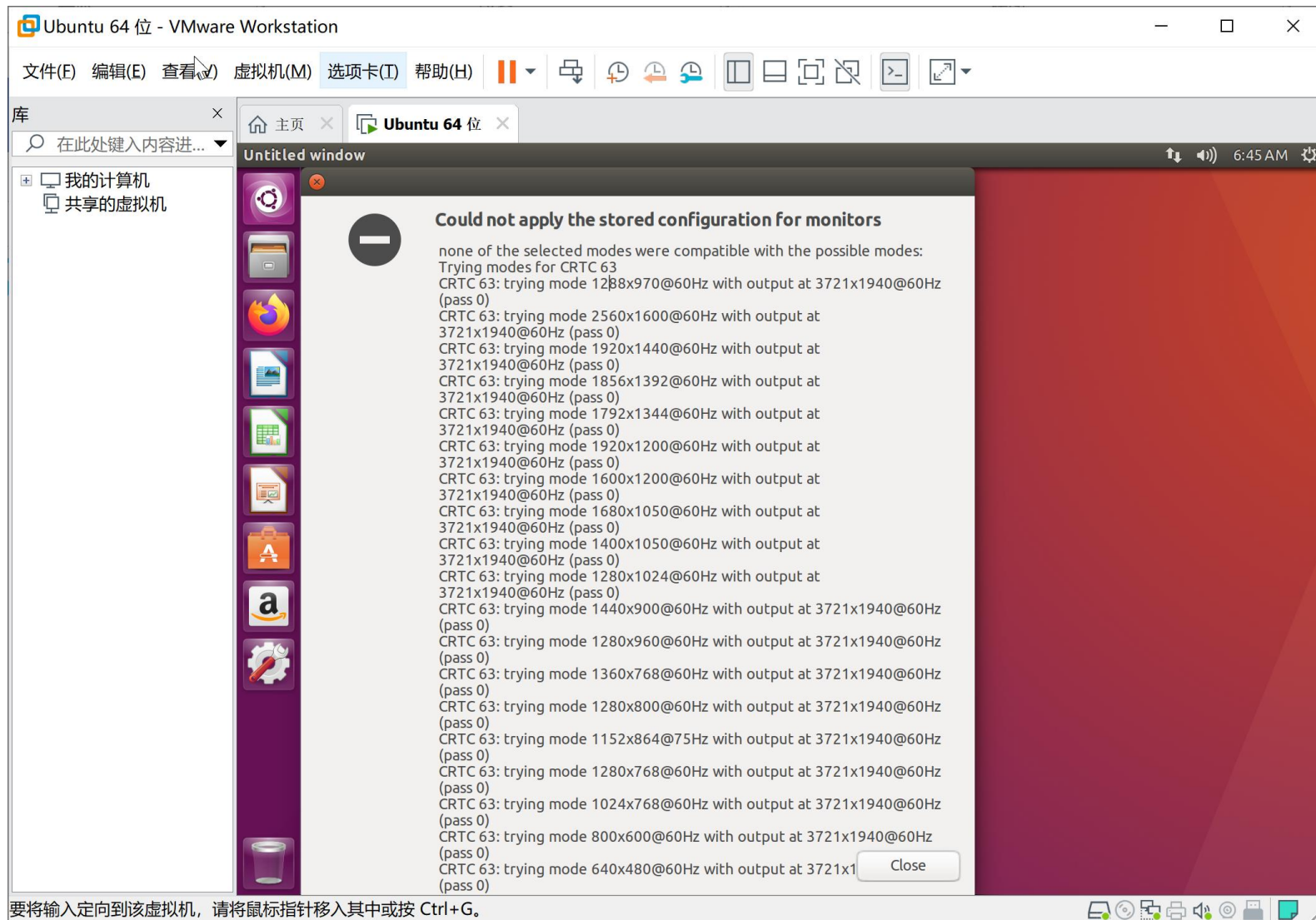


# 登录

- 选择用户: peng
- 输入密码: 1

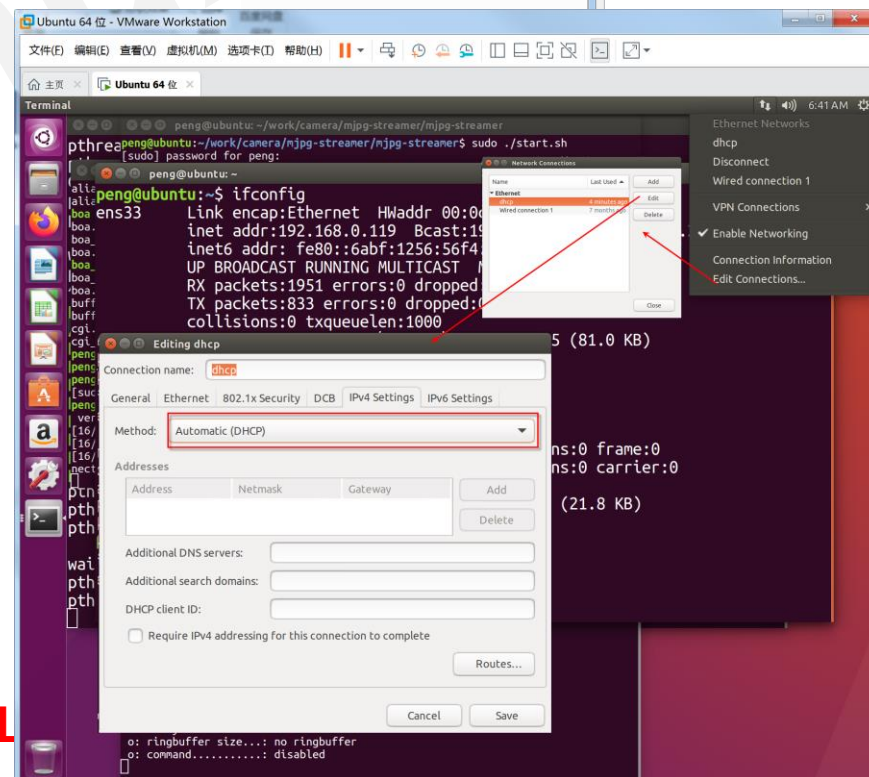
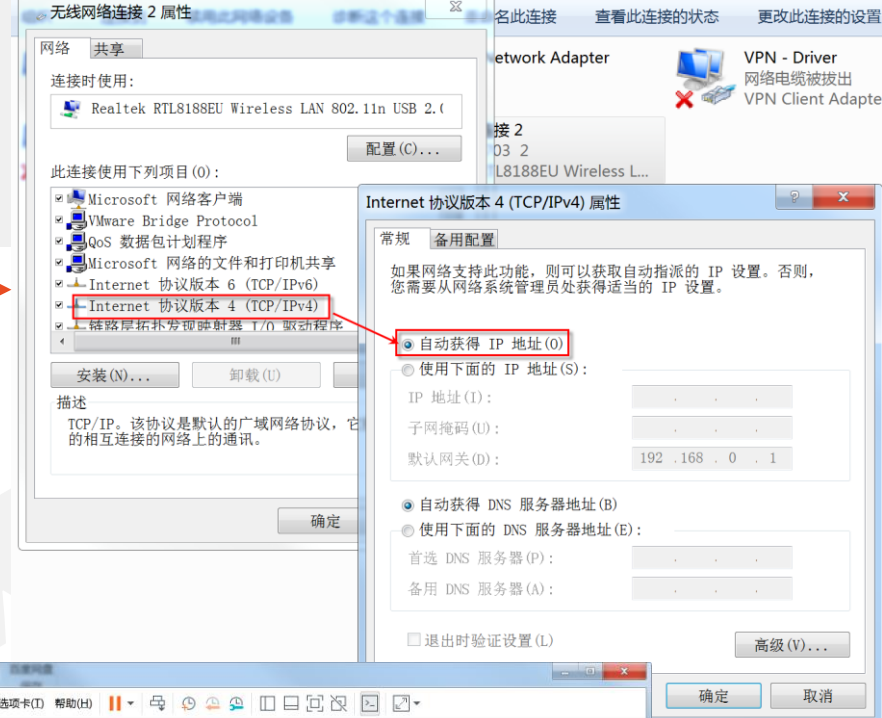
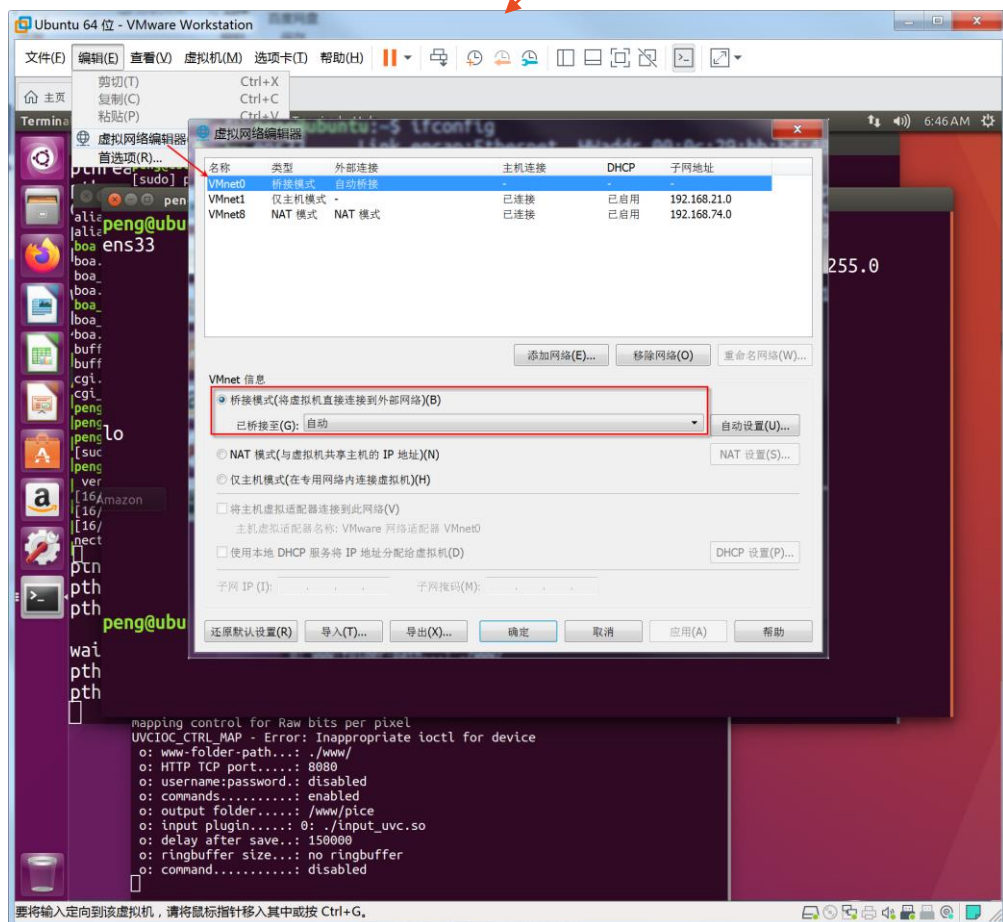


# 正式进入ubuntu



# 网络配置1

- Windows网卡动态获取ip地址
- 我的网络配置是
- vmware桥接模式+ubuntu网卡动态获取IP地址



关注公众号：一口

# 网络配置2

- 1. 查看Ubuntu ip地址:
- 192.168.0.119
- Windows上
- ping 192.168.0.119

The image shows two terminal windows. The left window is an Ubuntu terminal with the command `ifconfig` executed, showing the IP address `192.168.0.119` for the `ens33` interface. The right window is a Windows command prompt running `ping 192.168.0.119`, showing successful ping results with 0% loss. Red boxes highlight the IP address in both windows, and red arrows point from the list items to these boxes. A red text label '说明是通的' (indicating it is connected) is placed next to the Windows ping results.

```
peng@ubuntu:~$ ifconfig
ens33  Link encap:Ethernet  HWaddr 00:0c:29:bb:bd:40
       inet addr:192.168.0.119  Bcast:192.168.0.255  Mask:255.255.255.0
       inet6 addr: fe80::6abf:1256:56f4:c740/64  Scope:Link
       UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
       RX packets:1951  errors:0  dropped:0  overruns:0  frame:0
       TX packets:833  errors:0  dropped:0  overruns:0  carrier:0
       collisions:0 txqueuelen:1000
       RX bytes:1329170 (12.7 KiB)
       TX bytes:1329170 (12.7 KiB)

lo      Link encap:Local Loopback
       inet addr:127.0.0.1  Bcast:127.0.0.1  Mask:255.255.255.255
       inet6 addr: ::1/128  Scope:Host
       UP LOOPBACK RUNNING  MTU:65536  Metric:0
       RX packets:280  errors:0  dropped:0  overruns:0  frame:0
       TX packets:280  errors:0  dropped:0  overruns:0  carrier:0
       collisions:0 txqueuelen:1
       RX bytes:21828 (21.4 KiB)
       TX bytes:21828 (21.4 KiB)
```

```
管理员: C:\windows\system32\cmd.exe
Microsoft Windows [版本 6.1.7601]
版权所有 (c) 2009 Microsoft Corporation. 保留所有权利。

C:\Users\Administrator.RFCV2PSJXFY55QG>ping 192.168.0.119

正在 Ping 192.168.0.119 具有 32 字节的数据:
来自 192.168.0.119 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.0.119 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.0.119 的回复: 字节=32 时间<1ms TTL=64
来自 192.168.0.119 的回复: 字节=32 时间<1ms TTL=64

192.168.0.119 的 Ping 统计信息:
    数据包: 已发送 = 4, 已接收 = 4, 丢失 = 0 (0% 丢失),
    往返行程的估计时间(以毫秒为单位):
        最短 = 0ms, 最长 = 0ms, 平均 = 0ms

C:\Users\Administrator.RFCV2PSJXFY55QG>
```

说明是通的

# 关于linux基本命令

- 请学习以下文档:
  - 物联网实训项目所有资料\4.知识点相关资料\1.基础知识点\2.Linux基础命令.pdf



03



samba

# 一、什么是samba?

- 搭建Samba服务器是为了实现Linux共享目录之后，在Windows可以直接访问该共享目录。



## 二、samba安装

### 安装命令

```
sudo apt-get install samba samba-common
```

### 操作界面

```
peng@ubuntu:~$ sudo apt-get install samba samba-common
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  attr libaio1 python-crypto python-dnspython python-ldb python-samba
  python-tdb samba-common-bin samba-dsdb-modules samba-vfs-modules tdb-tools
Suggested packages:
  python-crypto-dbg python-crypto-doc bind9 bind9utils ctdb ldb-tools ntp
  smbldap-tools winbind heimdal-clients
The following NEW packages will be installed:
  attr libaio1 python-crypto python-dnspython python-ldb python-samba
  python-tdb samba samba-common samba-common-bin samba-dsdb-modules
  samba-vfs-modules tdb-tools
```



# 三、配置-ubuntu侧

## • 1. 为samba服务器创建一个共享目录

```
peng@ubuntu:~$ mkdir work
peng@ubuntu:~$ sudo chmod 777 work
peng@ubuntu:~$ cd work/
peng@ubuntu:~/work$ pwd
/home/peng/work
```

创建目录

修改访问权限

进入work目录

显示当前目录

当前工作路径

## • 2. 创建使用该共享文件夹的账号

```
sudo smbpasswd -a yikou
```

添加samba用户：yikou，密码设置为：1

若上一步失败：Failed to add entry for user phinecos  
输入如下命令，增加相应的系统账号：

```
sudo groupadd yikou -g 6000
sudo useradd yikou -u 6000 -g 6000 -s /sbin/nologin -d /dev/null
```

Linux

```
peng@ubuntu:~/work$ sudo smbpasswd -a yikou
New SMB password:
Retype new SMB password:
Failed to add entry for user yikou.
peng@ubuntu:~/work$
peng@ubuntu:~/work$
peng@ubuntu:~/work$
peng@ubuntu:~/work$ groupadd yikou -g 6000
groupadd: Permission denied.
groupadd: cannot lock /etc/group; try again later.
peng@ubuntu:~/work$ sudo groupadd yikou -g 6000
peng@ubuntu:~/work$ sudo useradd yikou -u 6000 -g 6000 -s /sbin/nologin -d /dev/
null
peng@ubuntu:~/work$
peng@ubuntu:~/work$
peng@ubuntu:~/work$ sudo smbpasswd -a yikou
New SMB password:
Retype new SMB password:
Added user yikou.
```

### • 3. 修改samba服务器配置文件

```
sudo vim /etc/samba/smb.conf
```

在文件尾部添加下面内容：

```
[yikou]
path = /home/peng/work #共享文件夹的路径
available = yes
browseable = yes
writable = yes
```



```
peng@ubuntu: ~/boa/boa-0.94.13/src
246 # Windows clients look for this share name as a source of downloadable
247 # printer drivers
248 [print$]
249     comment = Printer Drivers
250     path = /var/lib/samba/printers
251     browseable = yes
252     read only = yes
253     guest ok = no
254 # Uncomment to allow remote administration of Windows print drivers.
255 # You may need to replace 'lpadmin' with the name of the group your
256 # admin users are members of.
257 # Please note that you also need to set appropriate Unix permissions
258 # to the drivers directory for these users to have write rights in it
259 ; write list = root, @lpadmin
260
261
262 [yikou]
263     path = /home/peng/work
264     available = yes
265     browseable = yes
266     writable = yes
267
/etc/samba/smb.conf [+][R0] 267,0-1 Bot
```

## • 4. 重启samba服务

```
peng@ubuntu:~/work$ /etc/init.d/smbd restart  
[ ok ] Restarting smbd (via systemctl): smbd.service.
```

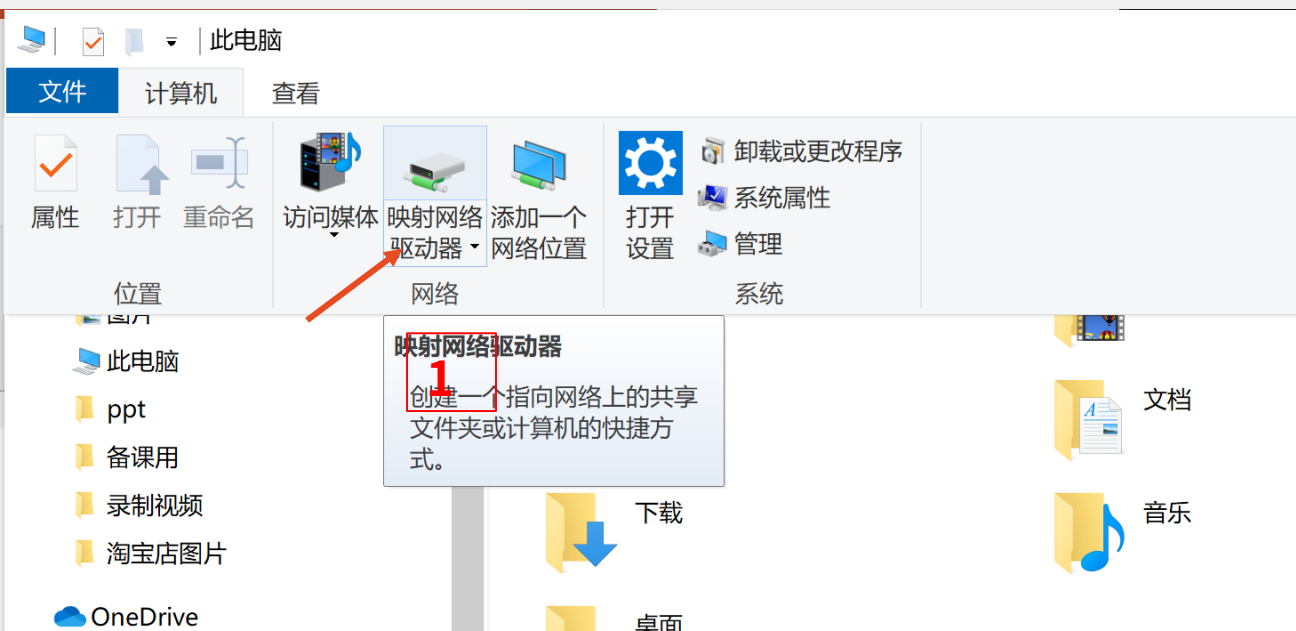
# 四、windows创建映射

- 必须保证windows和ubuntu网络互通，
- 首先查看ubuntu网卡ip地址
- 保证windows能ping通192.168.0.112

windows下打开cmd命令终端：

```
peng@ubuntu: ~  
peng@ubuntu:~$ ifconfig  
ens33  Link encap:Ethernet  HWaddr 00:0c:29:bd:ed:3c  
        inet addr:192.168.0.112  Bcast:192.168.0.255  Mask:255.255.255.0  
        inet6 addr: fe80::6abf:1256:56f4:c740/64 Scope:Link  
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
        RX packets:143 errors:0 dropped:0 overruns:0 frame:0  
        TX packets:208 errors:0 dropped:0 overruns:0 carrier:0  
        collisions:0 txqueuelen:1000  
        RX bytes:152764 (152.7 KB)  TX bytes:22996 (22.9 KB)  
  
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:260 errors:0 dropped:0 overruns:0 frame:0  
        TX packets:260 errors:0 dropped:0 overruns:0 carrier:0  
        collisions:0 txqueuelen:1000  
        RX bytes:20096 (20.0 KB)  TX bytes:20096 (20.0 KB)
```

```
管理员: 命令提示符  
Microsoft Windows [版本 10.0.18363.592]  
(c) 2019 Microsoft Corporation。保留所有权利。  
  
C:\Users\Administrator>ping 192.168.0.112  
  
正在 Ping 192.168.0.112 具有 32 字节的数据:  
来自 192.168.0.112 的回复: 字节=32 时间<1ms TTL=64  
来自 192.168.0.112 的回复: 字节=32 时间<1ms TTL=64  
来自 192.168.0.112 的回复: 字节=32 时间<1ms TTL=64  
来自 192.168.0.112 的回复: 字节=32 时间<1ms TTL=64  
  
192.168.0.112 的 Ping 统计信息:  
    数据包: 已发送 = 4, 已接收 = 4, 丢失 = 0 (0% 丢失),  
    往返行程的估计时间(以毫秒为单位):  
        最短 = 0ms, 最长 = 0ms, 平均 = 0ms  
  
C:\Users\Administrator>
```



点击完成:  
输入用户名yikou 密码: 1

- 下面是ubuntu中samba服务器的根目录内容，与windows Y盘目录内容保持一致！

```
peng@ubuntu:~/work$ ls  
boa camera mainthread readme.txt  
peng@ubuntu:~/work$ pwd  
/home/peng/work
```

