

docker环境搭建教程

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VirtualBox下载并安装

下载

傻瓜式安装

下载ubuntu镜像

VirtualBox中安装Ubuntu

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docker安装

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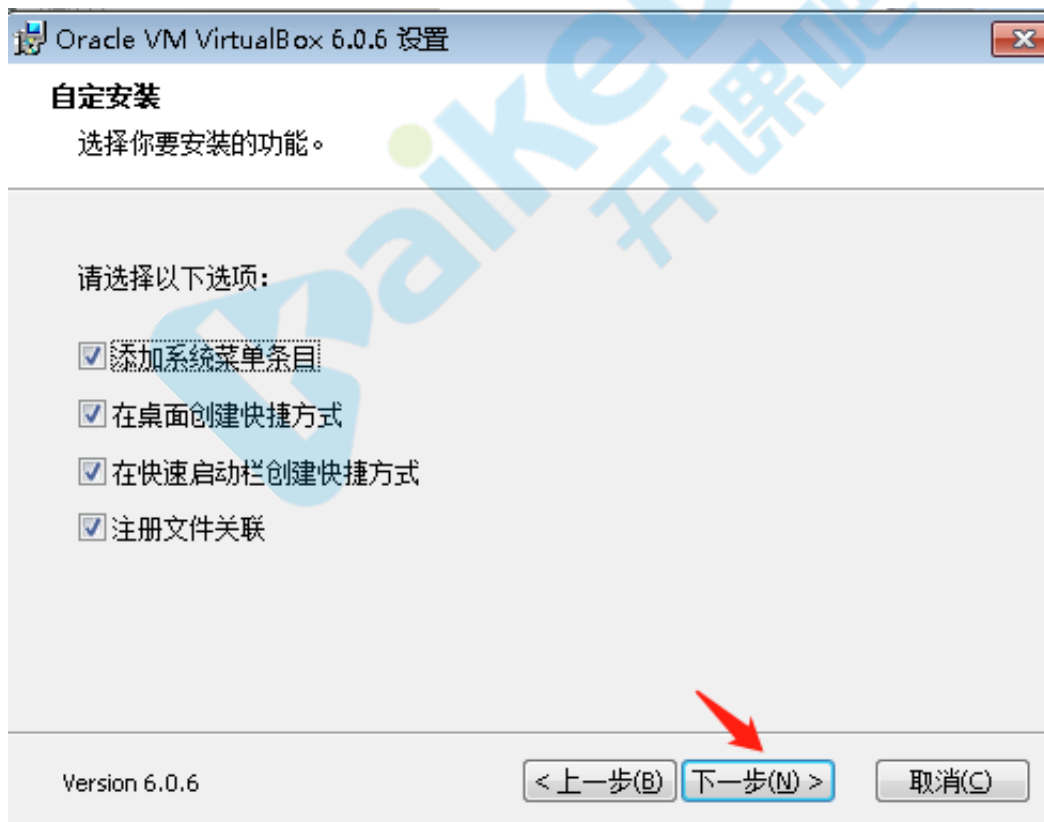
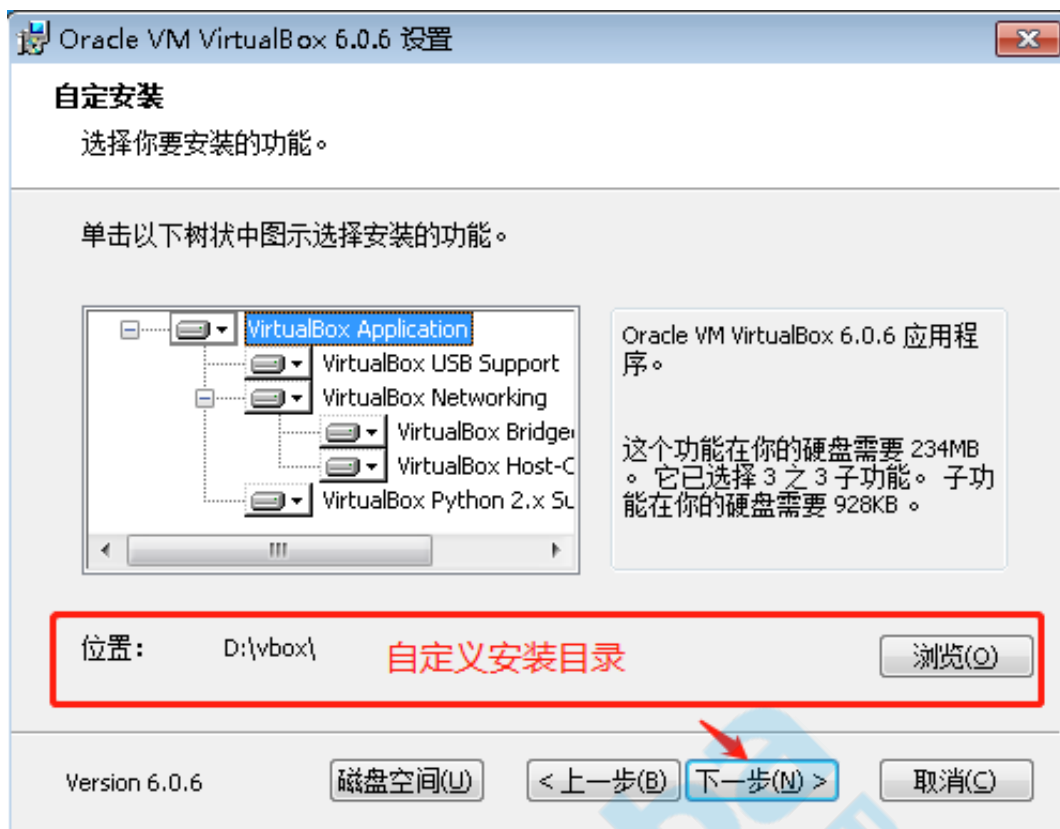
VirtualBox下载并安装

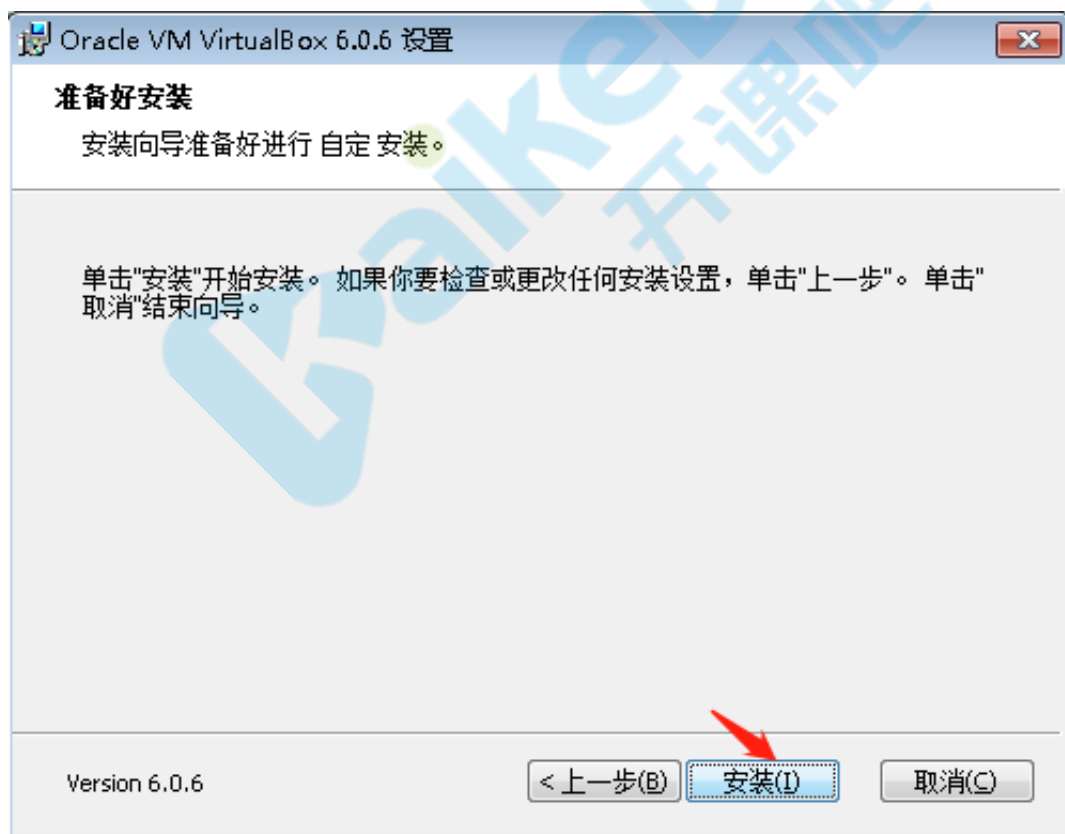
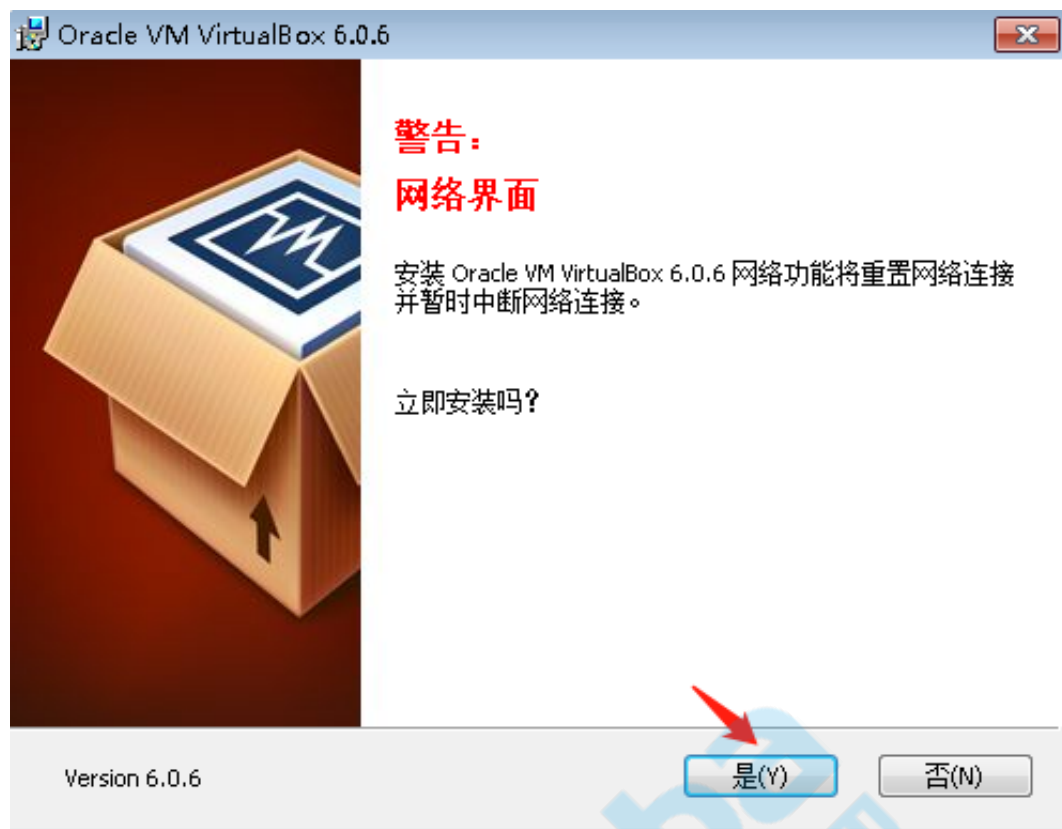
下载

[VirtualBox下载地址](#)

傻瓜式安装









下载ubuntu镜像

[ubuntu镜像下载地址](#)



VirtualBox中安装Ubuntu

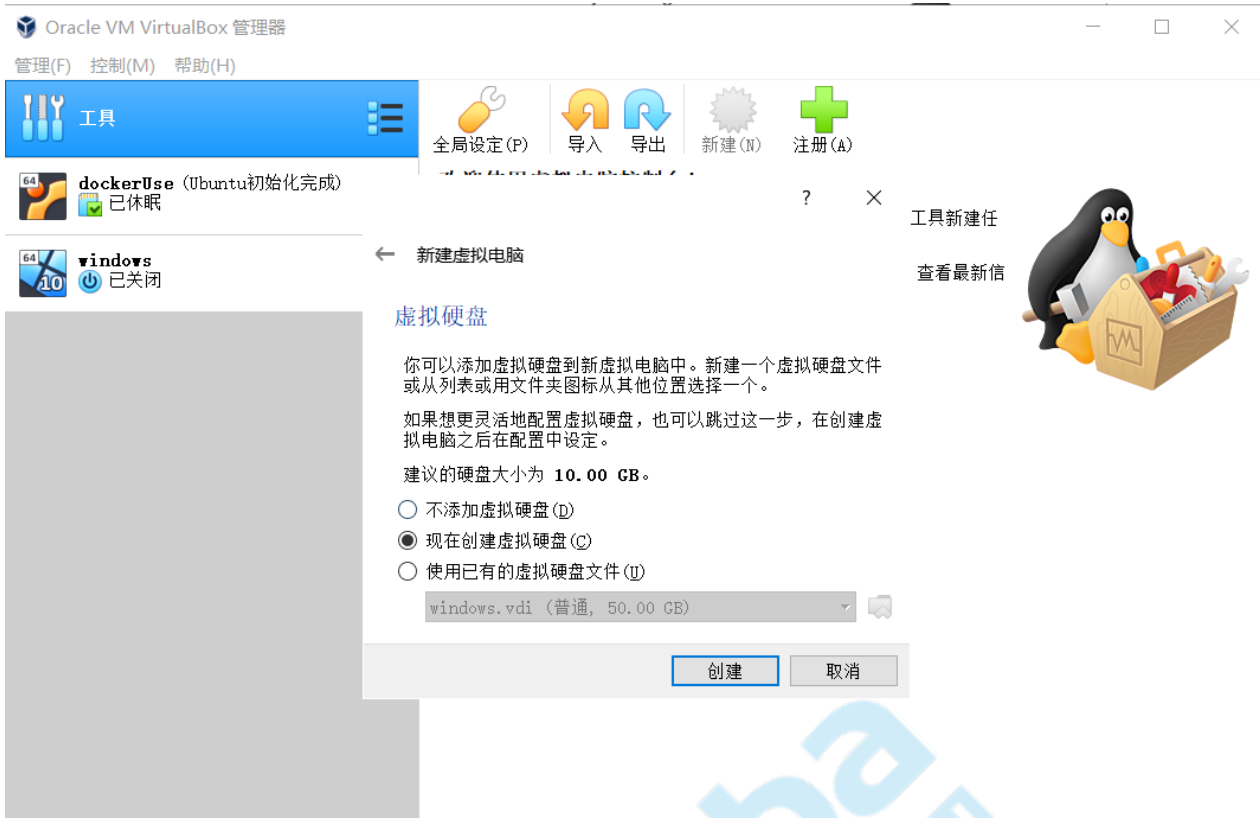
点击新建创建虚拟机

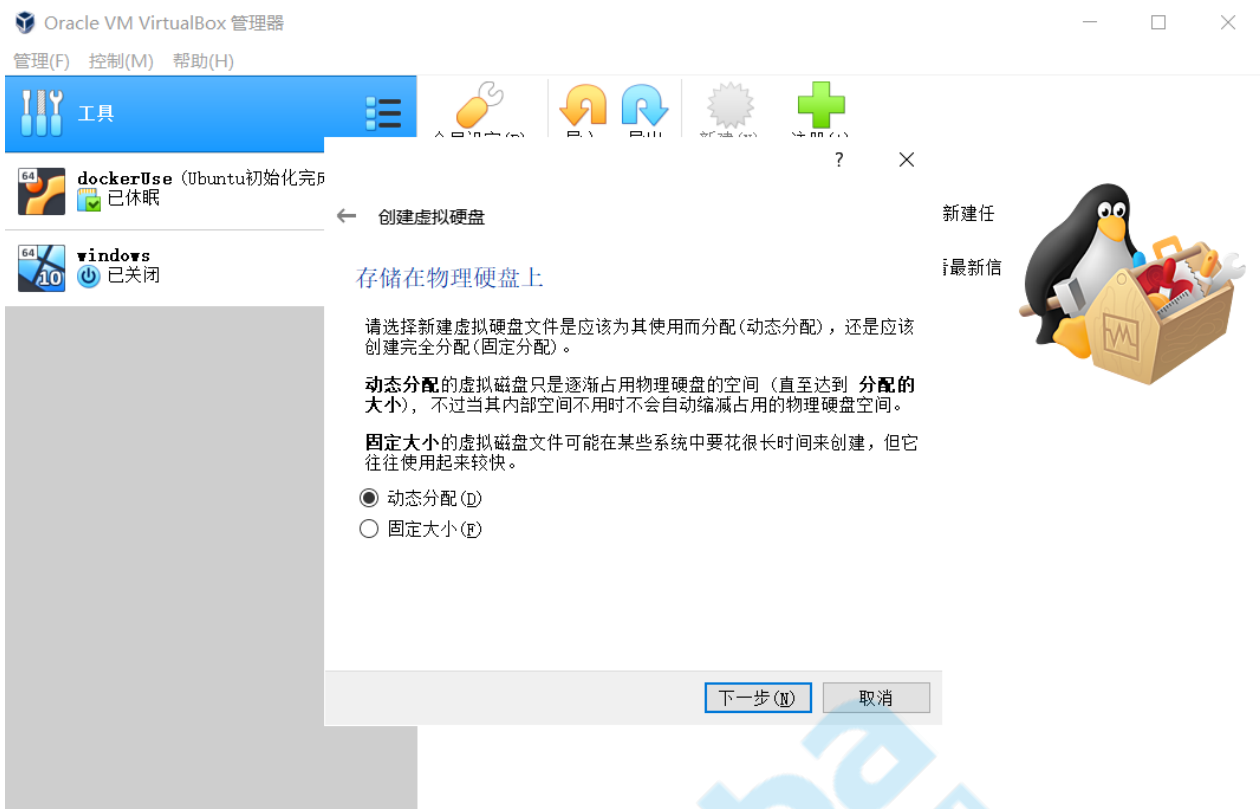


选择分配的虚拟机内存大小视自己情况而定，默认1024MB，我这里选择2048MB



创建虚拟硬盘

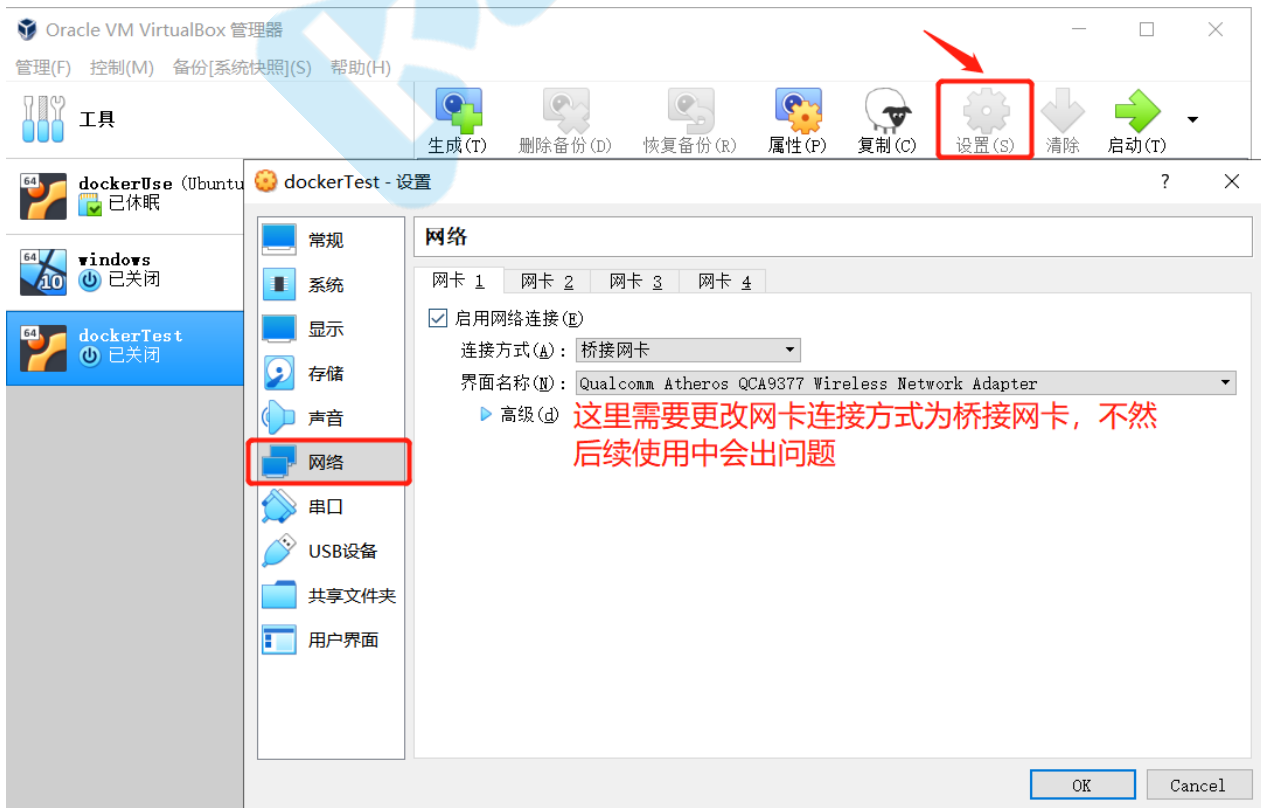




至此，一台Ubuntu虚拟机已经创建完成，接下来导入下载的阿里云镜像



修改网卡连接方式为桥接网卡



然后启动虚拟机开始安装Ubuntu系统

Willkommen! Bienvenue! Welcome! Добро пожаловать! Welkom!

Please choose your preferred language.

```
[ English ]
[ Asturianu ]
[ Català ]
[ Hrvatski ]
[ Nederlands ]
[ Suomi ]
[ Français ]
[ Deutsch ]
[ Ελληνικά ]
[ Magyar ]
[ Latviešu ]
[ Norsk bokmål ]
[ Polski ]
[ Русский ]
[ Español ]
[ Українська ]
```

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Use UP, DOWN and ENTER keys to select your language.

Keyboard configuration

Please select your keyboard layout below, or select "Identify keyboard" to detect your layout automatically.

Layout: [English (US)]

Variant: [English (US)]

[Identify keyboard]

[Done]

[Back]

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Use UP, DOWN and ENTER keys to select your keyboard.

Network connections

Configure at least one interface this server can use to talk to other machines, and which preferably provides sufficient access for updates.

```
NAME      TYPE  NOTES
[ enp0s3  eth  -           ► ]
  DHCPv4  10.20.19.76/24
        08:00:27:55:8a:96 / Intel Corporation / 82540EM Gigabit Ethernet Controller
        (PRO/1000 MT Desktop Adapter)
```

[Create bond ►]

[Done]
[Back]

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Select an interface to configure it or select Done to continue

Configure proxy

If this system requires a proxy to connect to the internet, enter its details here.

Proxy address:

If you need to use a HTTP proxy to access the outside world, enter the proxy information here. Otherwise, leave this blank.

The proxy information should be given in the standard form of "http://[[user][:pass]@]host[:port]/".

[Done]
[Back]

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Configure Ubuntu archive mirror

If you use an alternative mirror for Ubuntu, enter its details here.

Mirror address:
You may provide an archive mirror that will be used instead of the default.

[Done]
[Back]

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Filesystem setup

The installer can guide you through partitioning an entire disk either directly or using LVM, or, if you prefer, you can do it manually.

If you choose to partition an entire disk you will still have a chance to review and modify the results.

[Use An Entire Disk]
[Use An Entire Disk And Set Up LVM]
[Manual]
[Back]

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Choose guided or manual partitioning

Filesystem setup

The selected guided partitioning scheme creates the required bootloader partition on the chosen disk and then creates a single partition covering the rest of the disk, formatted as ext4 and mounted at '/'.
Choose the disk to install to:

[VBOX_HARDDISK_VB4a812bbc-66688aef local disk 10.000G ▶]
unused

[Cancel]

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Choose the installation target

Filesystem setup

FILE SYSTEM SUMMARY

MOUNT POINT	SIZE	TYPE	DEVICE TYPE
[/]	9.997G	new ext4	new partition of local disk ▶]

AVAILABLE DEVICES

No available devices

[Create software RAID (md) ▶]
[Create volume group (LVM) ▶]

USED DEVICES

DEVICE	TYPE	SIZE
[VBOX_HARDDISK_VB4a812bbc-66688aef]	local disk	10.000G ▶]
partition 1 new, bios_grub		1.000M ▶]
partition 2 new, to be formatted as ext4, mounted at /		9.997G ▶]

[Done]

[Reset]
[Back]

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Select available disks to format and mount

Filesystem setup

FILE SYSTEM SUMMARY

MOUNT POINT	SIZE	TYPE	DEVICE TYPE
[/	9.997G	new ext4	new partition of local disk ►]

Confirm destructive action

Selecting Continue below will begin the installation process and result in the loss of data on the disks selected to be formatted.

You will not be able to return to this or a previous screen once the installation has started.

Are you sure you want to continue?

[No]

[Continue]

[Done]

[Reset]

[Back]

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Select available disks to format and mount

填写信息的时候一定要注意把密码记住，后续登录需要使用

Profile setup

Enter the username and password you will use to log in to the system. You can configure SSH access on the next screen but a password is still needed for sudo.

Your name: kkb

Your server's name: kkb

The name it uses when it talks to other computers.

Pick a username: kkb

Choose a password: *****

Confirm your password: *****

填写相应的信息，密码一定要记住，后边登录使用

[Done]

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Install in progress: acquiring and extracting image from
cp:///media/filesystem

SSH Setup

You can choose to install the OpenSSH server package to enable secure remote access to your server.

[X] Install OpenSSH server

Import SSH identity: [No ▼]

You can import your SSH keys from Github or Launchpad.

Import Username:

[X] Allow password authentication over SSH

[Done]

[Back]

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Install complete

Featured Server Snaps

These are popular snaps in server environments. Select or deselect with SPACE, press ENTER to see more details of the package, publisher and versions available.

```
( ) wekan                Open-Source kanban
( ) kata-containers      Lightweight virtual machines that seamlessly plug in
( ) docker               Docker container runtime
( ) canonical-livepatch  Canonical Livepatch Client
( ) rocketchat-server    Group chat server for 100s, installed in seconds.
( ) mosquitto            Eclipse Mosquitto MQTT broker
( ) etcd                 Resilient key-value store by CoreOS
( ) powershell           PowerShell for every system!
( ) stress-ng            A tool to load, stress test and benchmark a computer
( ) sabnzbd              SABnzbd
( ) wormhole              get things from one computer to another, safely
( ) aws-cli              Universal Command Line Interface for Amazon Web Serv
( ) google-cloud-sdk     Command-line interface for Google Cloud Platform pro
( ) slcli                Python based SoftLayer API Tool.
( ) doctl                DigitalOcean command line tool
( ) conjure-up            Package runtime for conjure-up spells
( ) minidlna-escoand     server software with the aim of being fully complian
( ) postgresql10         PostgreSQL is a powerful, open source object-relatio
( ) heroku                CLI client for Heroku
( ) keepalived            High availability VRRP/BFD and load-balancing for Li
( ) prometheus            The Prometheus monitoring system and time series dat
( ) juju                 Simple, secure and stable devops. Juju keeps complex
```

[Done]
[Back]

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Install complete

Install complete!

```
running '/snap/bin/subiquity.subiquity-configure-apt
/snap/subiquity/1093/usr/bin/python3 true'
curtin command apt-config
curtin command in-target
running 'curtin curthooks'
curtin command curthooks
configuring apt configuring apt
installing missing packages
configuring iscsi service
configuring raid (mdadm) service
installing kernel
setting up swap
apply networking config
writing etc/fstab
configuring multipath
updating packages on target system
configuring pollinate user-agent on target
finalizing installation
running 'curtin hook'
curtin command hook
executing late commands
final system configuration
configuring cloud-init
installing openssh
restoring apt configuration |
```

[View full log]

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Thank you for using Ubuntu!

安装完成，重新启动并登录

OK | Started Execute cloud user/final scripts.

虚拟电脑报告其所安装的操作系统支持鼠标自动切换。这意味着鼠标不需要为该虚拟电脑独占使用，当

Ubuntu 18.04.3 LTS kkb tty1

kkb login: kkb

Password:

Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-72-generic x86_64)

* Documentation: <https://help.ubuntu.com>
* Management: <https://landscape.canonical.com>
* Support: <https://ubuntu.com/advantage>

System information as of Mon Dec 30 13:18:17 UTC 2019

System load:	0.09	Processes:	88
Usage of /:	39.6% of 9.78GB	Users logged in:	0
Memory usage:	7%	IP address for enp0s3:	10.20.19.108
Swap usage:	0%		

57 packages can be updated.
0 updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

kkb@kkb:~\$ aaa_

登录成功

Right Ctrl

登录配置

使用ssh登录，windows需要使用子系统，mac直接终端ssh安装即可

使用ifconfig查看ip地址

kkb@kkb:~\$ ifconfig

enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 10.20.19.108 netmask 255.255.255.0 broadcast 10.20.19.255
inet6 fe80::a00:27ff:fe7a:179a prefixlen 64 scopeid 0x20<link>
ether 08:00:27:7a:17:9a txqueuelen 1000 (Ethernet)
RX packets 3011 bytes 842482 (842.4 KB)
RX errors 0 dropped 263 overruns 0 frame 0
TX packets 302 bytes 32574 (32.5 KB)
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 (Local Loopback)
RX packets 108 bytes 8420 (8.4 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 108 bytes 8420 (8.4 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

kkb@kkb:~\$

windows子系统进行ssh登录

ssh 用户名@ip地址

```
kkb@kkb: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
wxy@LAPTOP-6B6LPNGS:~$ ssh kkb@10.20.19.108  
The authenticity of host '10.20.19.108 (10.20.19.108)' can't be established.  
ECDSA key fingerprint is SHA256:qT019Yy8//hPSFXNoWmzB2AqWGd7UEdpz/1lvtVBhCM.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '10.20.19.108' (ECDSA) to the list of known hosts.  
kkb@10.20.19.108's password: 输入密码  
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-72-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Mon Dec 30 13:32:23 UTC 2019  
  
System load:  0.0      Processes:            88  
Usage of /:   39.7% of 9.78GB   Users logged in:     1  
Memory usage: 8%      IP address for enp0s3: 10.20.19.108  
Swap usage:   0%  
  
57 packages can be updated.  
0 updates are security updates.  
  
Last login: Mon Dec 30 13:18:17 2019  
kkb@kkb:~$
```

使用root账户登录

```
# 使用root账户登录 输入密码  
sudo su  
# 编辑sshd配置文件  
vi /etc/ssh/sshd_config  
# 在 sshd_config 文件里的 "Authentication" 部分加上以下内容  
PermitRootLogin yes  
# 完成以后退出 vim 并保存  
service sshd restart # 重启 ssh 服务以应用更改  
passwd root # 直接修改 Root 用户的密码
```

这样重新登陆 ssh 就可以用 Root账户 登陆了

root@kbb: ~

```
wxy@LAPTOP-6B6LPNGS: ~$  
wxy@LAPTOP-6B6LPNGS: ~$ ssh root@10.20.19.108  
root@10.20.19.108's password:  
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-72-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
System information as of Mon Dec 30 13:48:58 UTC 2019  
  
System load:  0.11           Processes:            90  
Usage of /:   39.7% of 9.78GB Users logged in:       1  
Memory usage: 8%           IP address for enp0s3: 10.20.19.108  
Swap usage:   0%  
  
57 packages can be updated.  
0 updates are security updates.  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
root@kbb:~#
```

配置ssh免密登录

```
# 生成ssh秘钥对  
ssh-keygen -t rsa -P ''
```

退出到子系统

```

lost connection
wxy@LAPTOP-6B6LPNGS:~$ scp ~/.ssh/id_rsa.pub root@10.20.19.108:/root/ 拷贝公钥到服务器
root@10.20.19.108's password:
id_rsa.pub
wxy@LAPTOP-6B6LPNGS:~$ ssh root@10.20.19.108
root@10.20.19.108's password:
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-72-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Mon Dec 30 13:59:48 UTC 2019

System load:  0.0               Processes:           90
Usage of /:   39.7% of 9.78GB    Users logged in:    1
Memory usage: 8%               IP address for enp0s3: 10.20.19.108
Swap usage:   0%

57 packages can be updated.
0 updates are security updates.

Last login: Mon Dec 30 13:48:59 2019 from 10.20.19.41
root@kbb:~# cat id_rsa.pub >> ~/.ssh/authorized_keys 将公钥添加至信任列表
root@kbb:~#
root@kbb:~# ls
id_rsa.pub
root@kbb:~#

```

```

# 拷贝本地ssh公钥到虚拟机root账号下
scp ~/.ssh/id_rsa.pub root@10.20.19.108:/root/

# ssh登录
ssh root@10.20.19.108

# 将公钥加入信任列表
cat id_rsa.pub >> ~/.ssh/authorized_keys

```

免密登录配置完成，接下来就可以进行免密登录了

```
root@kkb: ~  
wxy@LAPTOP-6B6LPNGS: ~$ ssh root@10.20.19.108  
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-72-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/advantage  
  
System information as of Mon Dec 30 14:07:06 UTC 2019  
  
System load:  0.0          Processes:           90  
Usage of /:   39.7% of 9.78GB Users logged in:    1  
Memory usage: 8%          IP address for enp0s3: 10.20.19.108  
Swap usage:   0%  
  
57 packages can be updated.  
0 updates are security updates.  
  
Last login: Mon Dec 30 13:59:49 2019 from 10.20.19.41  
root@kkb:~#
```

docker安装

```
# apt升级  
sudo apt-get update  
# 添加相关软件包  
sudo apt-get install \  
    apt-transport-https \  
    ca-certificates \  
    curl \  
    software-properties-common  
  
# 下载软件包的合法性，需要添加软件源的 GPG 密钥  
curl -fsSL https://mirrors.ustc.edu.cn/docker-ce/linux/ubuntu/gpg | sudo apt-  
key add -  
  
# source.list 中添加 Docker 软件源  
sudo add-apt-repository \  
    "deb [arch=amd64] https://mirrors.ustc.edu.cn/docker-ce/linux/ubuntu \  
    $(lsb_release -cs) \  
    stable"  
  
# 安装 Docker CE  
sudo apt-get update  
sudo apt-get install docker-ce
```

```
# 启动 Docker CE
sudo systemctl enable docker
sudo systemctl start docker

# 建立 docker 用户组(附加)
sudo groupadd docker
sudo usermod -aG docker $USER

# Hello world测试
docker run hello-world
```

镜像加速

- [Azure 中国镜像](https://dockerhub.azk8s.cn) <https://dockerhub.azk8s.cn>
- [阿里云加速器\(需登录账号获取\)](#)
- [七牛云加速器](https://reg-mirror.qiniu.com) <https://reg-mirror.qiniu.com>

```
# /etc/docker/daemon.json
{
  "registry-mirrors": [
    "https://dockerhub.azk8s.cn",
    "https://reg-mirror.qiniu.com"
  ]
}

# 重启docker服务, 使之生效
sudo systemctl daemon-reload
sudo systemctl restart docker
```

docker-compose安装

```
apt install docker-compose
```

- 使用docker-compose

```
version: '3.1'
services:
  mongo:
    image: mongo
    restart: always
    ports:
      - 27017:27017
  mongo-express:
    image: mongo-express
    restart: always
    ports:
      - 8081:8081
```

启动: `docker-compose up`

关闭: `docker-compose down`

