

实验一 云计算的认知与体验

目标

1. 获取云主机；
2. 理解获取到的云主机包含计算资源、存储资源、网络资源；
3. 会使用 ssh 管理云主机；
4. 通过搭建 Linux Service，理解云主机的用途。

任务 1：云平台的获取与使用

1. 任务

- (1) 了解并使用 DigitalOcean、Vultr、AMS、华为云等云平台(IaaS 实验)
- (2) 使用 ssh\putty 进行远程管理云主机(熟悉 Linux 管理)
- (3) 使用 VirtualBox 安装虚拟机(自行完成)
- (4) 使用 Gmail、DropBox、Github 等云软件(SaaS 实验)

常用云平台

DigitalOcean <https://www.digitalocean.com/>

Vultr <https://www.vultr.com/>

华为云 https://activity.huaweicloud.com/free_test/index.html

阿里云 <https://www.aliyun.com/product/ecs/>

腾讯云 <https://cloud.tencent.com/document/product/213/15384>

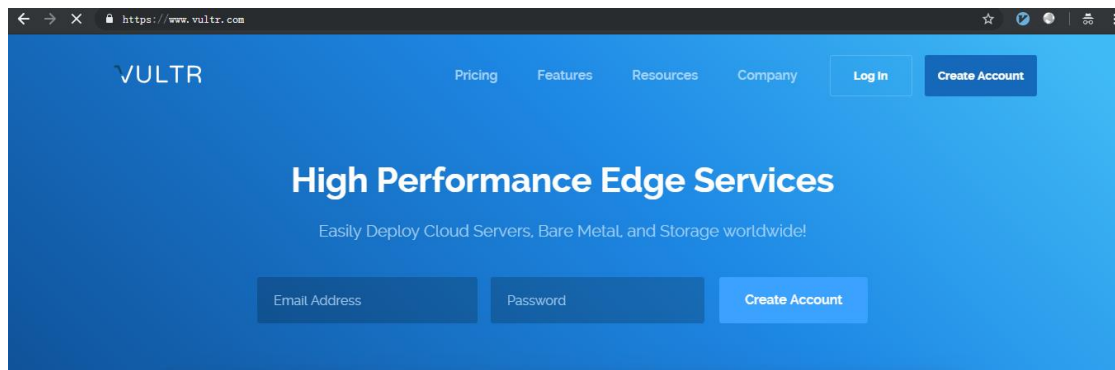
亚马逊 <https://aws.amazon.com/cn/>

微软云 <https://azure.microsoft.com/zh-cn/>

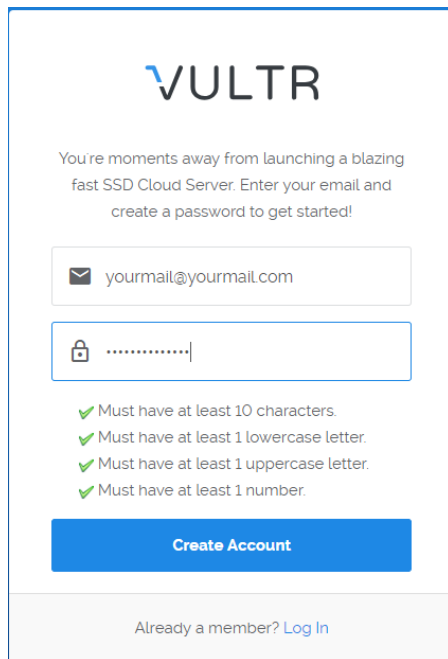
本例使用 Vultr 进行实验，使用时可根据个人喜好选择阿里云、腾讯云、华为云等。

以下是注册使用 Vultr 云主机示例（特别说明：本实验旨在熟悉云主机注册、创建、购买过程，**无须支付购买！**）

步骤 1：浏览器输入 <https://www.vultr.com/>

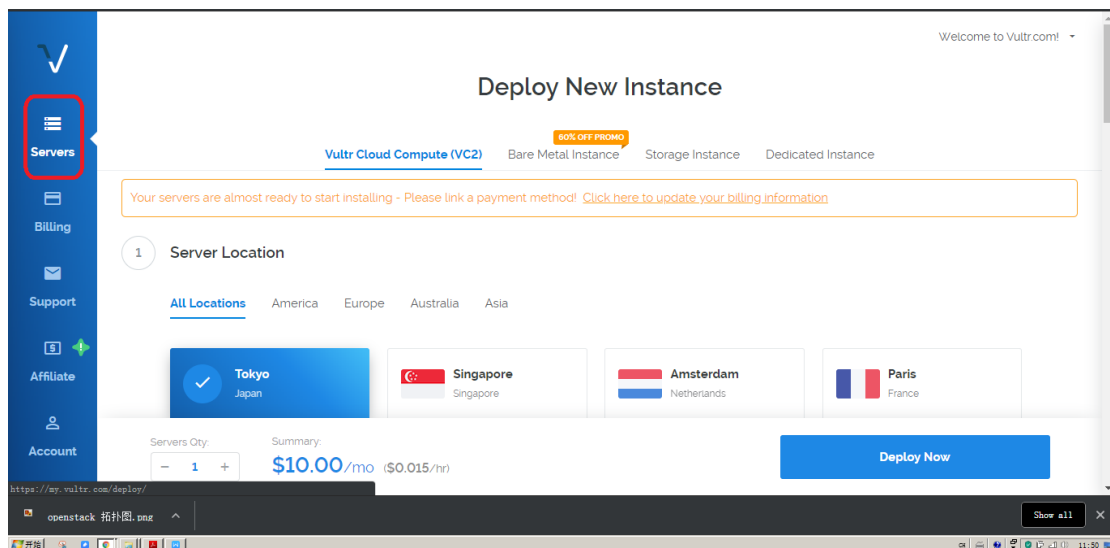


步骤 2: 填写自己的用户名、密码, 创建点击 “Create Account” 账户。



The image shows the Vultr account creation page. At the top is the Vultr logo. Below it, a message says: "You're moments away from launching a blazing fast SSD Cloud Server. Enter your email and create a password to get started!". There are two input fields: one for email (containing "yourmail@yourmail.com") and one for password (containing "....."). Below the password field, there are four green checkmarks with requirements: "Must have at least 10 characters.", "Must have at least 1 lowercase letter.", "Must have at least 1 uppercase letter.", and "Must have at least 1 number.". A blue "Create Account" button is at the bottom. At the very bottom, there is a link: "Already a member? Log In".

步骤 3: 点击左侧 Servers 创建云主机



步骤 4：根据自己喜好选择主机所在位置，如新加坡、东京、纽约等

Your servers are almost ready to start installing - Please link a payment method! [Click here to update your billing information](#)

1 Server Location

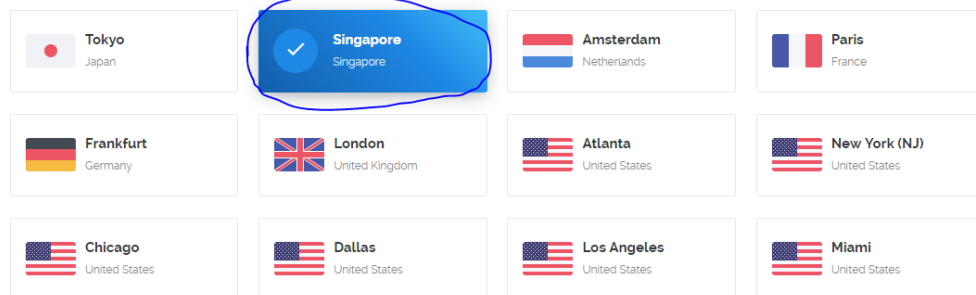
All Locations

America

Europe

Australia

Asia



步骤 5：选择主机操作系统 CentOS 7.5

2 Server Type

64 bit OS

32 bit OS

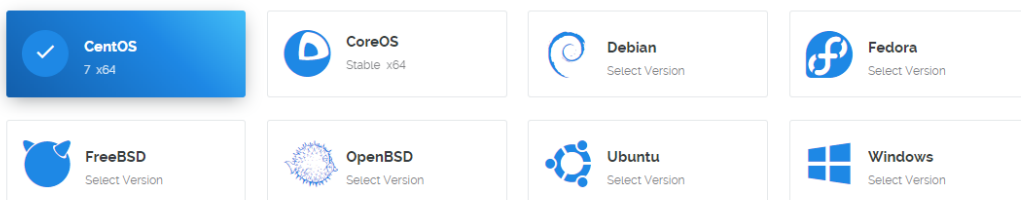
Application

Upload ISO

ISO Library

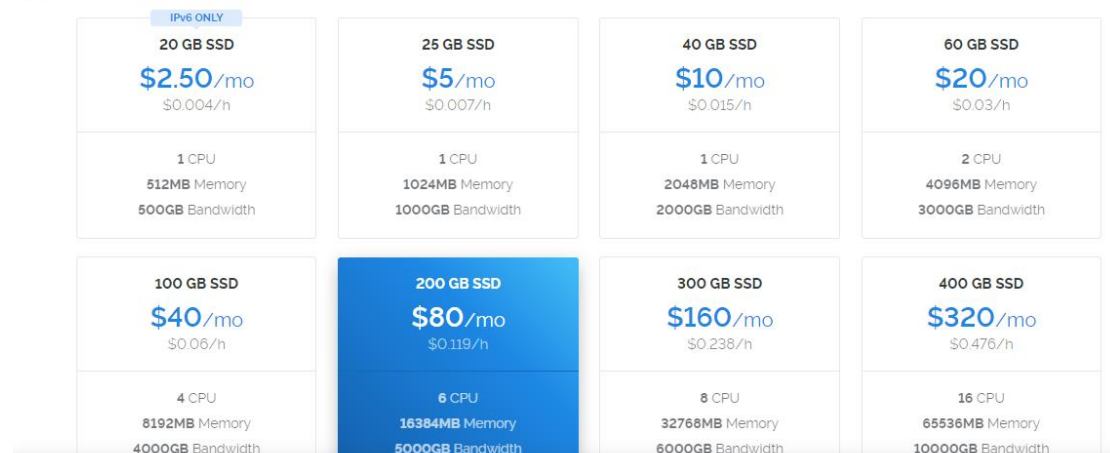
Backup

Snapshot



步骤 6：选择主机资源，如 512M，1CPU，20GSSD，计费约为\$0.004 美元/小时（占用资源越多收费越贵）

3 Server Size



步骤 6：选择其他额外选项，如 IPV6，是否备份等（额外功能 可能收费）

4

Additional Features

☐

Enable IPv6

☐

Enable Auto Backups

\$16.00/mo

☐

Enable DDOS Protection

?

☐

Enable Private Networking

?

5

Startup Script (Manage)

+

Add New

Servers Qty:

Summary:

7

Server Hostname & Label

Enter server hostname

yourservername

Enter server label

yourservername

步骤 7：点击“Deploy Now”创建主机

Servers Qty:

Summary:

-

1

+

\$80.00/mo

(\$0.119/hr)

Deploy Now

步骤 8：支付账单, 完成主机创建（获得云主机、IP、用户名、密码）
（本实验旨在熟悉云主机使用过程，**请勿支付购买！**）

The screenshot shows the Vultr Billing interface. On the left is a blue sidebar with navigation links: Servers, Billing (selected), Support, Affiliate, and Account. The main content area is titled 'Billing' and includes a 'Make Payment' link. A message states: 'You are almost ready to deploy servers - please link a payment method to get started!'. Below this, the 'Credit Card' payment method is selected. The 'Make a Credit Card Payment' section contains fields for 'Your Name', 'Billing Address', 'Billing City', 'Billing Postal Code', and 'Billing Country/Region' (set to China). The 'Credit Card Details' section has fields for 'Card Number', 'MM/YY', and 'CVV'. On the right, a 'Summary' box shows a total billed amount of -\$10.00 and a total available credit of \$10.00. A blue 'Apply' button is visible in the summary box.

Welcome to Vultr.com! ▾

Billing

[Make Payment](#)

You are almost ready to deploy servers - please link a payment method to get started!

[Credit Card](#)

Make a Credit Card Payment

Paypal

Bitcoin

Alipay

WeChat Pay

Your Name

Billing Address

Billing City

Billing Postal Code

Billing Country/Region
China ▾

Credit Card Details

Card Number

MM/YY

CVV

Summary

Enter Code [Apply](#)

Total Billed to Credit Card -\$10.00

Total Available Credit \$10.00

任务 2：使用 ssh 进行远程管理 Linux 云主机。

Linux 云主机

IP:

XXX.XXX.XXX.XXX

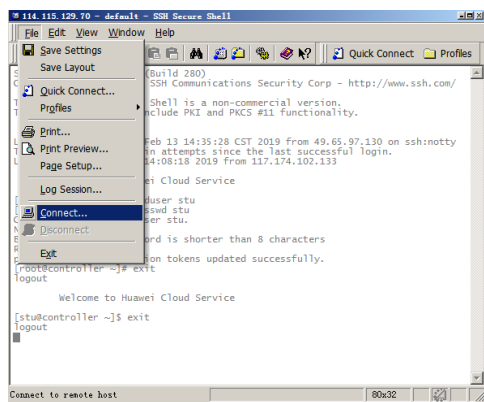
用户名: xxx

密码: xxx

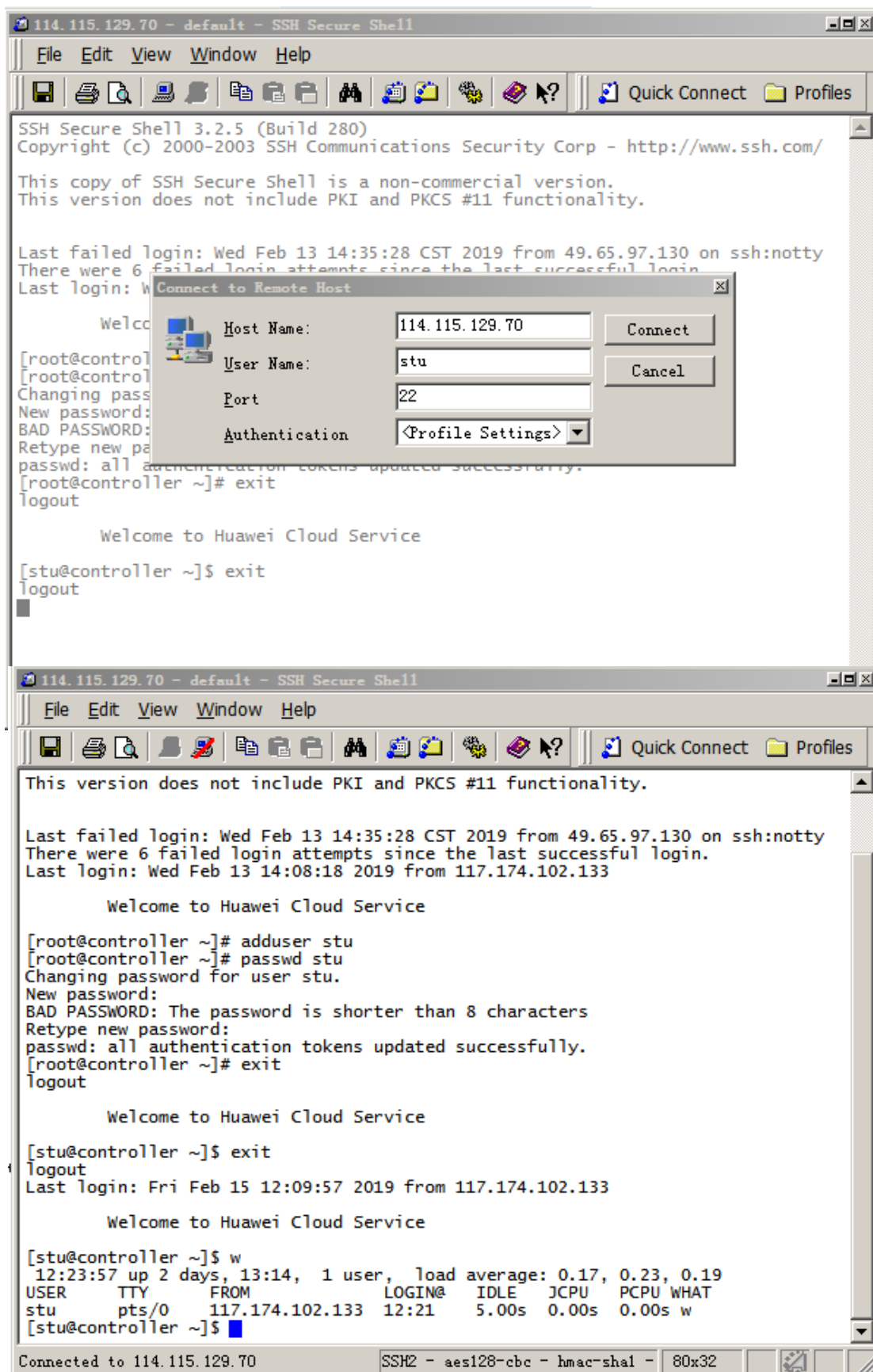
步骤 1：开始/运行中，选择 SSHCLIENT



步骤 2：File 菜单，选择 Connect...



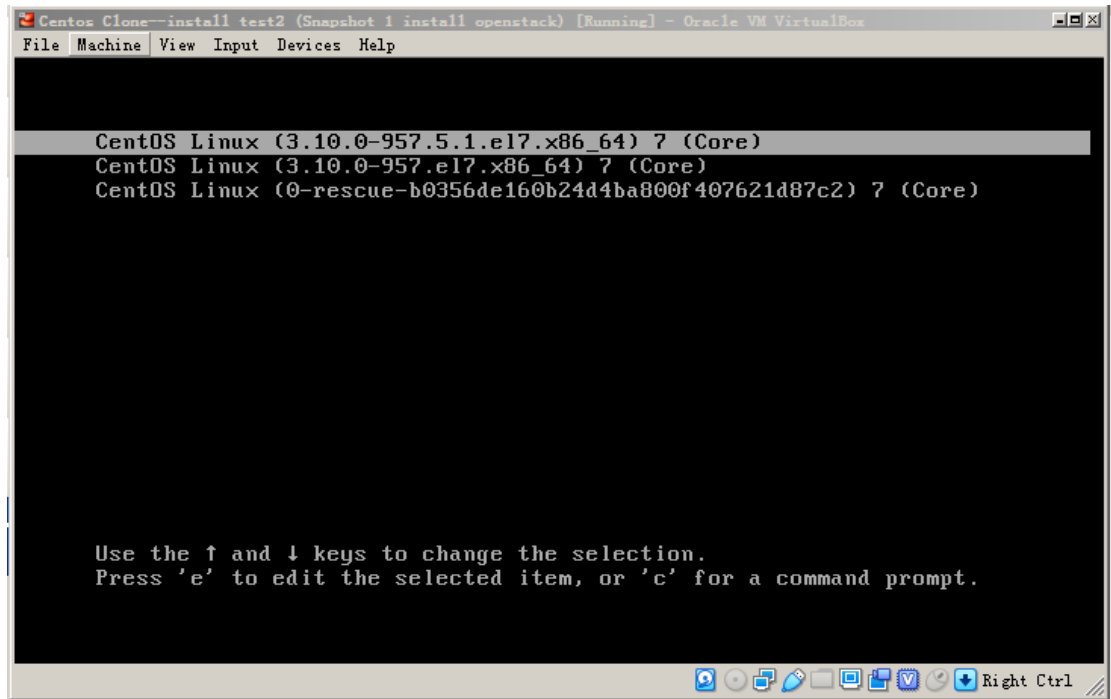
步骤 3: 输入 IP、用户名、密码



任务 3：连接 VirtualBox 虚拟机 Linux。

VirtualBox 安装，CentOS 安装，略

双击启动 CentOS 主机



控制台登录 CentOS 主机，使用 `ifconfig -a` 查询主机 ip

```
CentOS Linux 7 (Core)
Kernel 3.10.0-957.5.1.el7.x86_64 on an x86_64

controller login: root
Password:
Last login: Thu Feb 14 21:24:42 from gateway
[root@controller ~]# ifconfig -a
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.56.126 netmask 255.255.255.0 broadcast 192.168.56.255
    inet6 fe80::7e16:2ee3:df83:1f44 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:dc:f4:47 txqueuelen 1000 (Ethernet)
    RX packets 39 bytes 4029 (3.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 65 bytes 5490 (5.3 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet6 fe80::75b9:3f3e:8919:d41d prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:17:ef:67 txqueuelen 1000 (Ethernet)
    RX packets 6 bytes 386 (386.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 22 bytes 1804 (1.7 KiB)
    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 34 bytes 1970 (1.9 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 34 bytes 1970 (1.9 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@controller ~]# _
```

使用 SSH 登录 CentOS 主机

