南昌大学实验报告

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课程名称：Linux程序设计实验

实验项目名称

Linux编程

实验目的

①构建一个操作系统

②初始化服务

③openstack training-labs

实验基础

成功安装具有所有基本功能的Linux系统

构建一个名为OpenStack的IaaS服务系统

完成培训实验室的初始化

实验步骤

·OS安装：CentOS 7

·创建自己的用户，并将其放入su实干列表中

·提供自己的方式来实施sudo集团特权

·构建一个名为OpenStack的IaaS服务系统，在系统中建立服务

·初始化OpenStack

·测试并在自己的平台上运行

实验数据或结果

1.系统安装已经在作业1中完成，这里不再说明

2.以root用户登录，查看现在已存在用户

```
CentOS Linux 7 (Core)
Kernel 3.10.0-693.el7.x86_64 on an x86_64

localhost login: root
Password:
Last login: Sun Apr  8 17:53:54 on tty1
[root@localhost ~]# cat /etc/passwd |cut -f 1 -d :
root
bin
daemon
adm
lp
sync
shutdown
halt
mail
operator
games
ftp
nobody
systemd-network
dbus
polkitd
postfix
sshd
cyc
```

cyc是我的初始用户，接下来创建新用户111

```
[root@localhost ~]# adduser 111
[root@localhost ~]# passwd 111
Changing password for user 111.
New password:
BAD PASSWORD: The password is a palindrome
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]# ls -l /etc/sudoers
-r--r-----. 1 root root 3954 Apr  8 19:18 /etc/sudoers
[root@localhost ~]# chmod -v u+w /etc/sudoers
mode of '/etc/sudoers' changed from 0440 (r--r-----) to 0640 (rw-r-----)
[root@localhost ~]# vi /etc/sudoers
```

查看sudoers文件权限，并添加w权限，使用vi编辑器

```
## Allow root to run any commands anywhere
root    ALL=(ALL)       ALL
cyc     ALL=(ALL)       ALL
111     ALL=(ALL)       ALL
## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
# %sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING,

## Allows people in group wheel to run all commands
%wheel  ALL=(ALL)       ALL

## Same thing without a password
# %wheel        ALL=(ALL)       NOPASSWD: ALL

## Allows members of the users group to mount and unmount the
## cdrom as root
# %users  ALL=/sbin/mount /mnt/cdrom, /sbin/umount /mnt/cdrom

## Allows members of the users group to shutdown this system
# %users  localhost=/sbin/shutdown -h now

## Read drop-in files from /etc/sudoers.d (the # here does not mea
#includedir /etc/sudoers.d
~
~
:wq
```

添加111用户权限，保存退出；进入111用户，测试sudo特权

```
~
~
"/etc/sudoers" 113L, 3982C written
[root@localhost ~]# su 111
[111@localhost root]$ sudo cat etc/passwd

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

    #1) Respect the privacy of others.
    #2) Think before you type.
    #3) With great power comes great responsibility.
```

彻底删除111用户并检查用户列表

```
[root@localhost ~]# userdel -r 111
[root@localhost ~]# cat /etc/passwd |cut -f 1 -d :
root
bin
daemon
adm
lp
sync
shutdown
halt
mail
operator
games
ftp
nobody
systemd-network
dbus
polkitd
postfix
sshd
cyc
[root@localhost ~]#
```

3.构建openstack服务系统

在虚拟机添加网络适配器，系统内检查ip

```
[root@localhost ~]# ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN qlen 1
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
    link/ether 00:0c:29:d8:81:61 brd ff:ff:ff:ff:ff:ff
3: ens37: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
    link/ether 00:0c:29:d8:81:6b brd ff:ff:ff:ff:ff:ff
    inet 10.0.0.128/24 brd 10.0.0.255 scope global dynamic ens37
       valid_lft 1774sec preferred_lft 1774sec
    inet6 fe80::1d64:1aca:fa2f:387c/64 scope link
       valid_lft forever preferred_lft forever
```

配置ens33

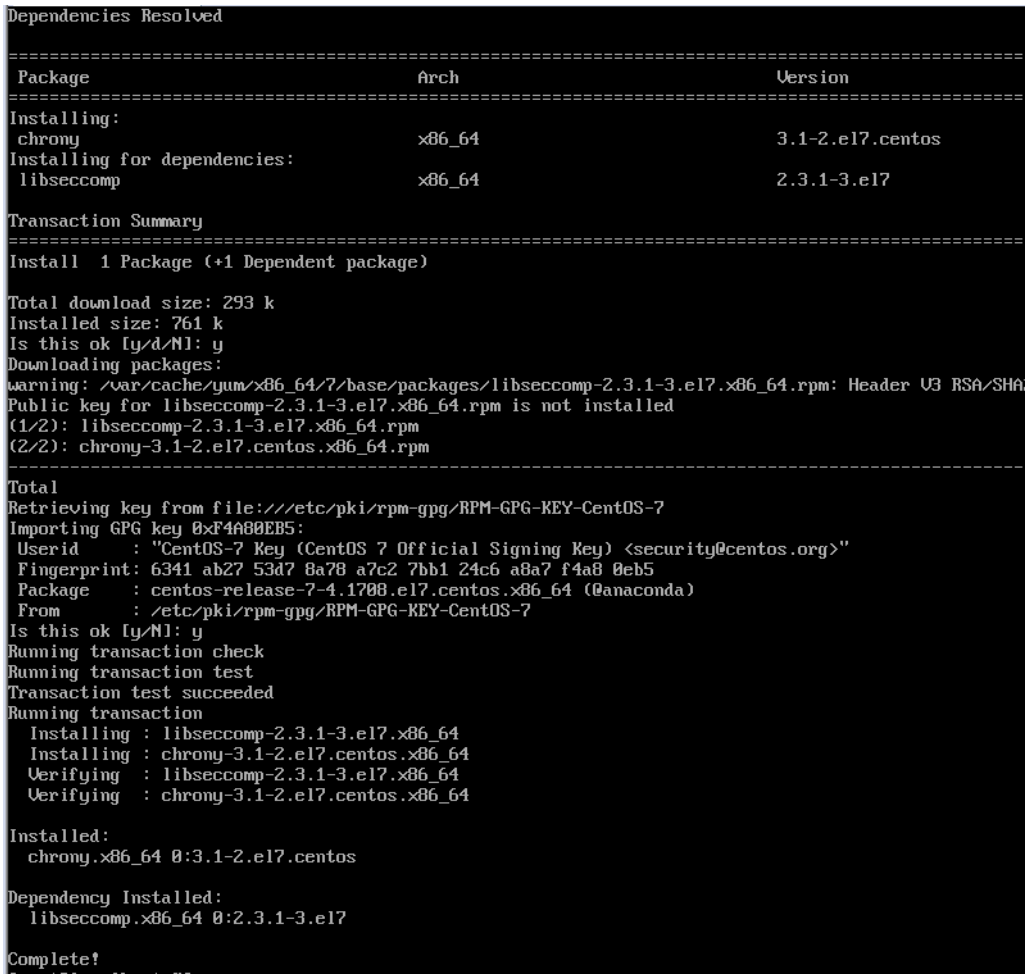
```
TYPE=Ethernet
PROXY_METHOD=none
BROWSER_ONLY=no
BOOTPROTO=none
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=yes
IPV6_DEFROUTE=yes
IPV6_FAILURE_FATAL=no
IPV6_ADDR_GEN_MODE=stable-privacy
NAME=ens33
UUID=bb6e82ec-d004-4a8f-bd6e-6b76296d1741
DEVICE=ens33
ONBOOT=yes
IPADDR=10.0.0.11
PREFIX=24
GATEWAY=10.0.0.2
DNS1=10.0.0.2
~
~
~
~
```

主机联网测试

```
[root@localhost ~]# ping -c 4 openstack.org
PING openstack.org (162.242.140.107) 56(84) bytes of data.
64 bytes from 162.242.140.107 (162.242.140.107): icmp_seq=1 ttl=128 time=235 ms
64 bytes from 162.242.140.107 (162.242.140.107): icmp_seq=2 ttl=128 time=227 ms
64 bytes from 162.242.140.107 (162.242.140.107): icmp_seq=3 ttl=128 time=226 ms
64 bytes from 162.242.140.107 (162.242.140.107): icmp_seq=4 ttl=128 time=226 ms

--- openstack.org ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 4879ms
rtt min/avg/max/mdev = 226.411/229.007/235.153/3.596 ms
```

下载安装chrony



由于我的电脑同时开启2个虚拟机卡顿严重，所以没有进行控制计算测试，无法构建服务系统并测试

实验思考

OpenStack配置过程较为繁琐

参考资料

https://jingyan.baidu.com/article/49ad8bcead4b6c5834d8fae1.html

https://www.linuxidc.com/Linux/2016-11/137549.htm

https://docs.openstack.org/mitaka/zh_CN/install-guide-rdo/environment-ntp-controller.html