RHEL 124
Lab Journal
CIT 217

Chaz Davis

BCTC
Spring 2020

February 13, 2020

Contents

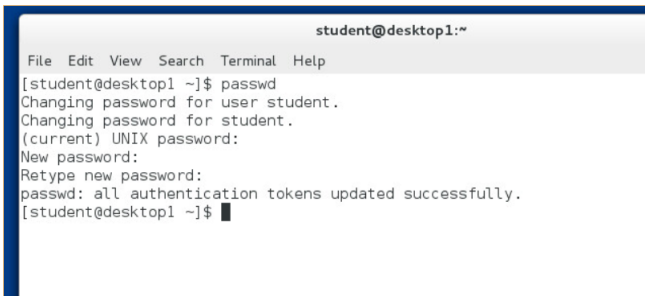
Lab 1

RHEL Labs 1 & 2

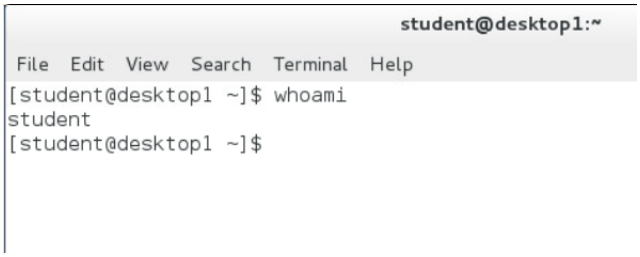
RHEL 124 Labs 1 & 2 **CIT 217**
Spring 2020 Chaz Davis

Part 1: Chapter 1 Questions

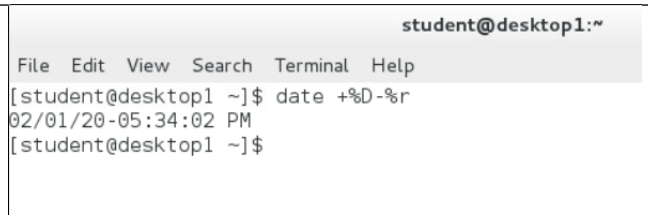
i) Provide the output of a sucessful password change from the CLI



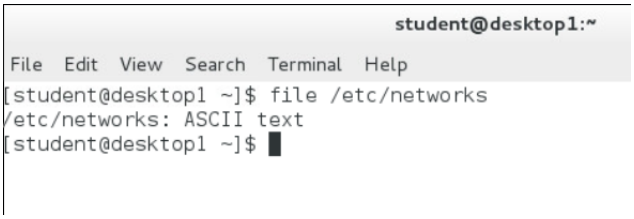
ii) From the CLI, enter the command whoami and provide the output



iii) From the CLI, enter the command date +%D-%r and provide the output



iv) Using File, determine what type of file is /etc./networks



v) Provide the top 5 lines of the file /etc/resolv.conf

```
student@desktop1:~
File  Edit  View  Search  Terminal  Help
[student@desktop1 ~]$ head -n 5 /etc/resolv.conf
# Generated by NetworkManager
domain example.com
search example.com
nameserver 172.25.254.254
[student@desktop1 ~]$
```

vi) List your CLI history. Provide the output

```
File  Edit  View  Search  Terminal  Help
[student@desktop1 ~]$ history
    1  rm ../.bash_history
    2  exit
    3  ip addr
    4  ip addr
    5  dhclient -r
    6  sudo su
    7  ip addr
    8  ip addr
    9  ip addr
   10  ip addr
   11  sudo su
   12  ls
   13  cd ..
   14  ls
   15  cd Do
   16  cd Documents/
   17  ls
   18  cd ..
   19  ls
   20  cd Templates/
   21  ls
   22  cd ..
   23  ls
   24  df -h
   25  fdisk
   26  fdisk /dev/sdb
   27  sudo su
   28  touch tv_season1_episode1.ogg
   29  touch tv_season1_episode2.ogg
   30  touch tv_season1_episode3.ogg
   31  touch tv_season1_episode4.ogg
   32  touch tv_season1_episode5.ogg
   33  touch tv_season1_episode6.ogg
   34  touch tv_season2_episode6.ogg
```

(a) CLI History pg 1

```
File  Edit  View  Search  Terminal  Help
   33  touch tv_season1_episode6.ogg
   34  touch tv_season2_episode6.ogg
   35  touch tv_season2_episode5.ogg
   36  touch tv_season2_episode4.ogg
   37  touch tv_season2_episode3.ogg
   38  touch tv_season2_episode2.ogg
   39  touch tv_season2_episode1.ogg
   40  clear
   41  ls
   42  touch mystery_chapter1
   43  touch mystery_chapter1.odf
   44  touch mystery_chapter3.odf
   45  touch mystery_chapter4.odf
   46  touch mystery_chapter6.odf
   47  touch mystery_chapter7.odf
   48  touch mystery_chapter8.odf
   49  clear
   50  ls
   51  rm mystery_chapter1
   52  clear
   53  ls -l
   54  cd vide
   55  cd Videos/
   56  clear
   57  mkdir Season1/
   58  passwd
   59  whoami
   60  date +%D-%r
   61  file /etc/networks
   62  head -n 5 /etc/resolv.conf
   63  cat /etc/resolv.conf
   64  head -n 5 /etc/resolv.conf
   65  exit
   66  history
[student@desktop1 ~]$
```

(b) CLI History pg 2

Figure 1.1: Listing CLI History

2

Part 2: Chapter 2 Questions

i) List the contents of /etc/sysctl.d/ using the long listing format. Provide the output

```
[student@desktop1 ~]$ ls -l /etc/sysctl.d/
total 0
lrwxrwxrwx. 1 root root 14 May  6  2014 99-sysctl.conf -> ../sysctl.conf
[student@desktop1 ~]$ ls -al /etc/sysctl.d/
total 12
drwxr-xr-x.   2 root root   27 May  6  2014 .
drwxr-xr-x. 133 root root 8192 Feb  1 17:25 ..
lrwxrwxrwx.   1 root root   14 May  6  2014 99-sysctl.conf -> ../sysctl.conf
[student@desktop1 ~]$
```

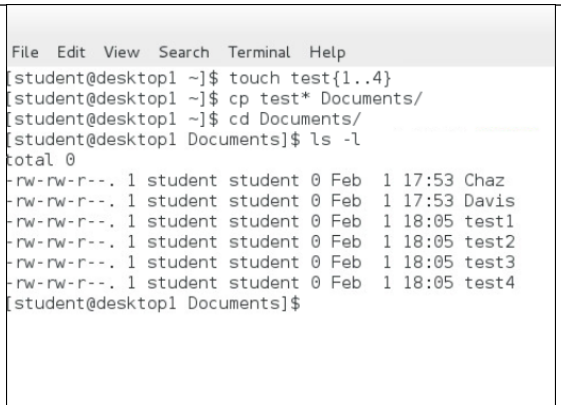
ii) Create Two file, your firstname and your lastname, then move them to the Documents directory. List the contents of the Documents directory. Provide the output.

```
[student@desktop1 ~]$ touch Chaz Davis
[student@desktop1 ~]$ mv Chaz Documents/ && mv Davis Documents/
[student@desktop1 ~]$ ls -l Documents/
total 0
-rw-rw-r--. 1 student student 0 Feb  1 17:47 Chaz
-rw-rw-r--. 1 student student 0 Feb  1 17:47 Davis
[student@desktop1 ~]$
```

iii) From your home directory, create a directory named CIT217 then list the contents of your home directory. Provide the Output.

```
[student@desktop1 ~]$ mkdir CIT217
[student@desktop1 ~]$ ls -l
total 0
drwxrwxr-x. 2 student student  6 Feb  1 18:00 CIT217
drwxr-xr-x. 2 student student  6 Apr 20  2015 Desktop
drwxr-xr-x. 2 student student 29 Feb  1 17:54 Documents
drwxr-xr-x. 2 student student  6 Apr 20  2015 Downloads
drwxr-xr-x. 2 student student  6 Apr 20  2015 Music
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter1.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter2.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter3.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter4.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter5.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter6.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter7.odf
-rw-rw-r--. 1 student student  0 Jan 25  2019 mystery_chapter8.odf
drwxr-xr-x. 2 student student  6 Apr 20  2015 Pictures
drwxr-xr-x. 2 student student  6 Apr 20  2015 Public
drwxr-xr-x. 2 student student  6 Apr 20  2015 Templates
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season1_episode1.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season1_episode2.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season1_episode3.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season1_episode4.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season1_episode5.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season1_episode6.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season2_episode1.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season2_episode2.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season2_episode3.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season2_episode4.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season2_episode5.ogg
-rw-rw-r--. 1 student student  0 Jan 25  2019 tv_season2_episode6.ogg
drwxr-xr-x. 3 student student 20 Jan 25  2019 Videos
[student@desktop1 ~]$
```

iv) Run the command touch test1..4in the CLI. Using a wildcard, copy all the test files to the Documents directory. List the contents of the Documents directory and provide the output


File Edit View Search Terminal Help
[student@desktop1 ~]$ touch test{1..4}
[student@desktop1 ~]$ cp test* Documents/
[student@desktop1 ~]$ cd Documents/
[student@desktop1 Documents]$ ls -l
total 0
-rw-rw-r--. 1 student student 0 Feb 1 17:53 Chaz
-rw-rw-r--. 1 student student 0 Feb 1 17:53 Davis
-rw-rw-r--. 1 student student 0 Feb 1 18:05 test1
-rw-rw-r--. 1 student student 0 Feb 1 18:05 test2
-rw-rw-r--. 1 student student 0 Feb 1 18:05 test3
-rw-rw-r--. 1 student student 0 Feb 1 18:05 test4
[student@desktop1 Documents]$

Lab 2

Labs 3 & 4

RHEL 124 Labs 3 & 4 **CIT 217**
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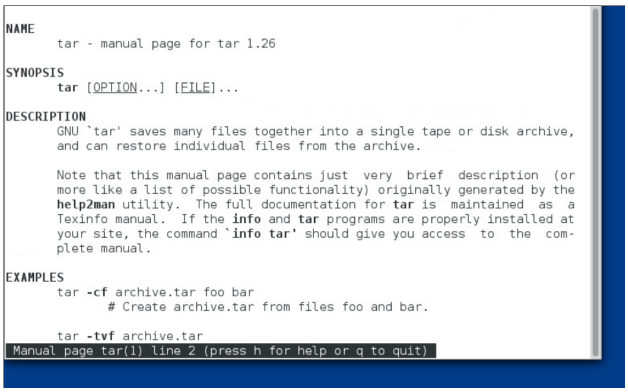
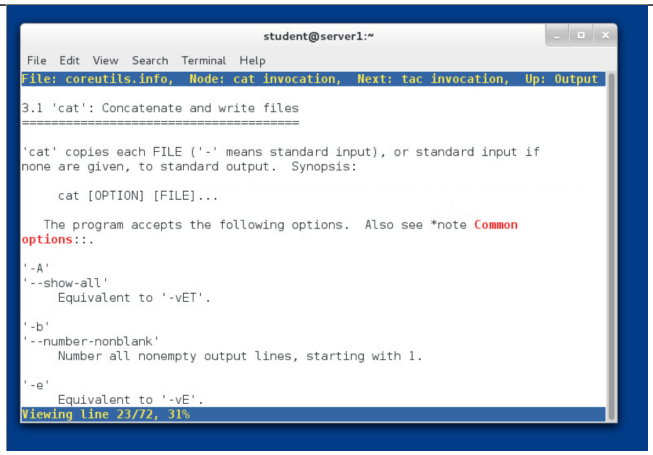
Part 1: Chapter 3 Questions

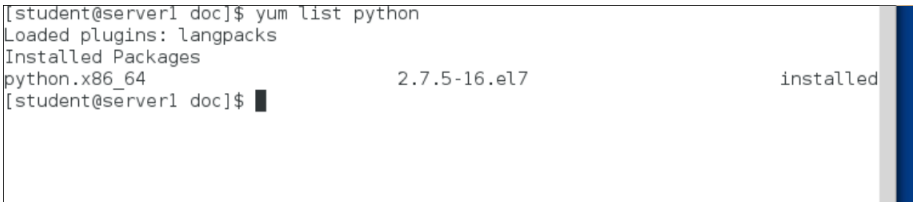
i) Man Page of tar



ii) Pinfo of cat

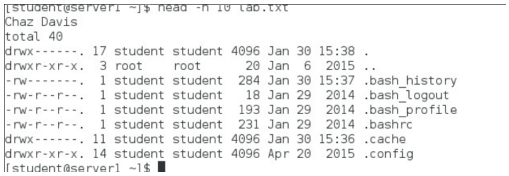


iii) Listing Yum Pkgs with python

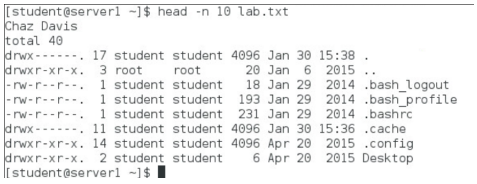


Part 2: Chapter 4 Questions

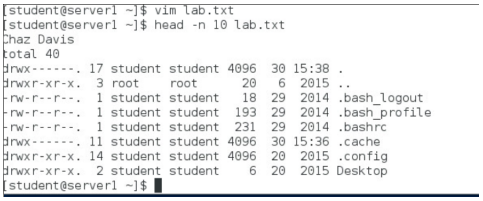
i) Edit lab.txt with vim



ii) delete 5th line save and output 10 lines



iii) Visual Block delete column of months



Lab 3

RHEL 124
Labs 5 & 6

RHEL124 Labs 5 & 6 **CIT 217**
Spring 2020 Chaz Davis

Chapter 5 Questions

i) Run the `firewall-cmd --list-all` with the necessary priviledge escalation. Output Provided on Pg. 11 See Fig 3.1a

ii) Switch user to root. Run the command `whoami`. Output Provided on Pg. 11 See Fig 3.1b

iii) Add your BCTC credential as a user. Change the user's password. Provide the outpupt of the encrypted file including your user credential. Output Provided on Pg. 11 See Fig 3.1c

iv) Change the password policy for your user credential to require a new password every 180 days. Output Provided on Pg. 11 See Fig 3.1d

v) Add a group named students with the GID of 50000. Add your user to the students group. Provide the output of the group file including the group and your user's membership. Output Provided on Pg. 11 See Fig 3.1e

```
[student@server1 ~]$ sudo firewall-cmd --list-all
[sudo] password for student:
public (default, active)
  interfaces: eth0
  sources:
  services: dhcpv6-client ssh
  ports:
  masquerade: no
  forward-ports:
  icmp-blocks:
  rich rules:

[student@server1 ~]$
```

(a) Output after running firewall-cmd –list-all

```
[student@server1 ~]$ su -
Password:
Last login: Mon Dec 21 10:01:50 EST 2015 on pts/0
[root@server1 ~]# whoami
root
[root@server1 ~]#
```

(b) Output after running whoami as root

```
[root@server1 ~]# useradd cdavis0532
[root@server1 ~]# passwd cdavis0532
Changing password for user cdavis0532.
New password:
BAD PASSWORD: The password fails the dictionary check - it is based on a dictior
ary word
Retype new password:
passwd: all authentication tokens updated successfully.
[root@server1 ~]# tail -5 /etc/passwd
pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
gdm:x:42:42::/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:993:991::/run/gnome-initial-setup/:/sbin/nologin
tcpdump:x:72:72::/:/sbin/nologin
cdavis0532:x:1001:1001::/home/cdavis0532:/bin/bash
[root@server1 ~]#
```

(c) encrypted password for my user

```
[root@server1 ~]# date -d "+180"
date: invalid date '+180'
[root@server1 ~]# date -d "+180 days"
Tue Aug  4 09:04:04 EDT 2020
[root@server1 ~]# chage -E 2020-08-04 cdavis0532
[root@server1 ~]#
```

(d) 180 day password policy

```
[root@server1 ~]# chage -E 2020-08-04 cdavis0532
[root@server1 ~]# groupadd -g 50000 students
[root@server1 ~]# usermod -G students cdavis0532
[root@server1 ~]# tail -5 /etc/group
stapdev:x:158:
tcpdump:x:72:
slocate:x:21:
cdavis0532:x:1001:
students:x:50000:cdavis0532
[root@server1 ~]#
```

(e) Membership of the students group. with a 50000 GID

Figure 3.1: The Screenshots from Chapter 5

Chapter 6 Questions

i) Switch user to root. Create a file named for your last name.See Fig 3.2a on Pg. 12. Change the permissions of the file to forbid other users from accessing it. Provide the detailed list output of the directory. Output Provided on Pg. 12 See Fig 3.2b

ii) Add your BCTC credential as a user. Switch user to your credential. Create a file named test1. Change your umask to 027. Create a file named test2. Provide the detailed list output of the directory. Output Provided on Pg. 12 See Fig 3.2c

```
[root@server1 ~]# touch davis
[root@server1 ~]# l
bash: l: command not found...
[root@server1 ~]# ls
anaconda-ks.cfg  davis
[root@server1 ~]# ls -al
total 48
dr-xr-x---.  6 root root 4096 Feb  6 08:07 .
drwxr-xr-x. 17 root root 4096 Feb  6 07:41 ..
-rw-------.  1 root root 8619 May  6  2014 anaconda-ks.cfg
-rw-------.  1 root root  212 Dec 21  2015 .bash_history
-rw-r--r--.  1 root root   18 Dec 28  2013 .bash_logout
-rw-r--r--.  1 root root  176 Dec 28  2013 .bash_profile
-rw-r--r--.  1 root root  176 Dec 28  2013 .bashrc
drwxr-xr-x.  4 root root   29 Aug 24  2015 .cache
drwxr-xr-x.  4 root root   79 Aug 24  2015 .config
-rw-r--r--.  1 root root  100 Dec 28  2013 .cshrc
-rw-r--r--.  1 root root    0 Feb  6 08:07 davis
drwx------.  3 root root   24 Aug 24  2015 .dbus
drwx------.  2 root root   28 Jan  6  2015 .ssh
-rw-r--r--.  1 root root  129 Dec 28  2013 .tcshrc
-rw-------.  1 root root   64 Feb  6 07:48 .xauth4Bgj9v
```

(a) Detailed list view after creating the file davis

```
[root@server1 ~]# chmod 700 davis
[root@server1 ~]# ls -al
total 48
dr-xr-x---.  6 root root 4096 Feb  6 08:07 .
drwxr-xr-x. 17 root root 4096 Feb  6 07:41 ..
-rw-------.  1 root root 8619 May  6  2014 anaconda-ks.cfg
-rw-------.  1 root root  212 Dec 21  2015 .bash_history
-rw-r--r--.  1 root root   18 Dec 28  2013 .bash_logout
-rw-r--r--.  1 root root  176 Dec 28  2013 .bash_profile
-rw-r--r--.  1 root root  176 Dec 28  2013 .bashrc
drwxr-xr-x.  4 root root   29 Aug 24  2015 .cache
drwxr-xr-x.  4 root root   79 Aug 24  2015 .config
-rw-r--r--.  1 root root  100 Dec 28  2013 .cshrc
-rwx------.  1 root root    0 Feb  6 08:07 davis
drwx------.  3 root root   24 Aug 24  2015 .dbus
drwx------.  2 root root   28 Jan  6  2015 .ssh
-rw-r--r--.  1 root root  129 Dec 28  2013 .tcshrc
-rw-------.  1 root root   64 Feb  6 07:48 .xauth4Bgj9v
[root@server1 ~]#
```

(b) Detailed List after changing file permissions

```
[root@server1 ~]# su - cdavis0532
[cdavis0532@server1 ~]$ touch test1
[cdavis0532@server1 ~]$ ls
test1
[cdavis0532@server1 ~]$ umask 027
[cdavis0532@server1 ~]$ touch test2
[cdavis0532@server1 ~]$ ls -ld
drwx------. 5 cdavis0532 cdavis0532 4096 Feb  6 08:13 .
[cdavis0532@server1 ~]$ ls -al
total 16
drwx------. 5 cdavis0532 cdavis0532 4096 Feb  6 08:13 .
drwxr-xr-x. 4 root       root         37 Feb  6 07:59 ..
-rw-r--r--. 1 cdavis0532 cdavis0532   18 Jan 29  2014 .bash_logout
-rw-r--r--. 1 cdavis0532 cdavis0532  193 Jan 29  2014 .bash_profile
-rw-r--r--. 1 cdavis0532 cdavis0532  231 Jan 29  2014 .bashrc
drwxrwxr-x. 3 cdavis0532 cdavis0532   17 Feb  6 08:10 .cache
drwxr-xr-x. 3 cdavis0532 cdavis0532   67 Feb  6 08:10 .config
drwxr-xr-x. 4 cdavis0532 cdavis0532   37 Jan  6  2015 .mozilla
-rw-rw-r--. 1 cdavis0532 cdavis0532    0 Feb  6 08:10 test1
-rw-r-----. 1 cdavis0532 cdavis0532    0 Feb  6 08:13 test2
[cdavis0532@server1 ~]$
```

(c) test1 and test2 files with their umasks updated

Figure 3.2: The Screenshots from Chapter 6

Lab 4

RHEL 124
Labs 7, 8, & 9

RHEL 124 Labs **CIT 288**
Spring 2020 Chaz Davis

Part 1: Chapter 7 Questions

i) Run the command sleep 1000 in the background. Using the ps command, provide the output displaying it's still running.
I ran `sleep 1000` into the terminal.
I then ran the command `Ctrl + z` to suspend the program and then `bg` to put it into the background.
Finally, I ran `ps` to show the running processes on the system. The output you can see in Fig. 4.1a on Pg. 14.

ii) Abruptly terminate the sleep process that you created. Use the ps command to provide the output it is no longer running.
First, I brought the sleep command back from the background to the foreground using `fg`.
Then I used the key sequence `Ctrl + C` to kill the foregrounded process.
Finally, I ran `ps` to show the running processes on the system. The output you can see in Fig. 4.1b on Pg. 14.

iii) Provide the dynamic output of the top running processes on your system.
First I opened a terminal and then ran the command `top`, the output of which you can see in Fig. 4.1c on Pg. 14.

```
[student@server1 ~]$ sleep 1000
^Z
[2]+  Stopped                 sleep 1000
[student@server1 ~]$ bg
[2]+ sleep 1000 &
[student@server1 ~]$ ps
 PID TTY          TIME CMD
3360 pts/0    00:00:00 bash
3668 pts/0    00:00:00 tail
4207 pts/0    00:00:00 sleep
4222 pts/0    00:00:00 ps
```

(a) Starting and verifying the Sleep 1000 process

```
[student@server1 ~]$ fg
sleep 1000
^C
[student@server1 ~]$ ps
  PID TTY          TIME CMD
 3360 pts/0    00:00:00 bash
 4244 pts/0    00:00:00 ps
[student@server1 ~]$
```

(b) Terminating the sleep process

```
                                                                  student@server1:~
File  Edit  View  Search  Terminal  Help
top - 11:46:41 up 44 min,  2 users,  load average: 0.51, 0.39, 0.34
Tasks: 275 total,   3 running, 271 sleeping,   1 stopped,   0 zombie
%Cpu(s): 62.8 us,  0.3 sy,  0.0 ni, 36.9 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem:   1878192 total,   939060 used,   939132 free,      744 buffers
KiB Swap:        0 total,        0 used,        0 free.   409448 cached Mem

  PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+ COMMAND
 4183 student   20   0    4340     84      0 R 58.7  0.0   1:05.78 process101
 2244 student   20   0 1442388 168972  37824 S  3.0  9.0   4:17.63 gnome-shell
  774 root      20   0  186764  33524   7604 S  0.7  1.8   0:33.80 Xorg
 2363 student   20   0  346176  16004  12844 S  0.3  0.9   0:03.19 vmtoolsd
 4167 student   20   0  123772   1764   1152 R  0.3  0.1   0:00.79 top
    1 root      20   0   52840   6604   3760 S  0.0  0.4   0:03.64 systemd
    2 root      20   0       0      0      0 S  0.0  0.0   0:00.00 kthreadd
    3 root      20   0       0      0      0 S  0.0  0.0   0:00.06 ksoftirqd/0
    5 root       0 -20       0      0      0 S  0.0  0.0   0:00.00 kworker/0:0H
    7 root      rt   0       0      0      0 S  0.0  0.0   0:00.00 migration/0
    8 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcu_bh
    9 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/0
   10 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/1
   11 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/2
   12 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/3
   13 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/4
   14 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/5
   15 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/6
   16 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/7
   17 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/8
   18 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/9
   19 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/10
   20 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/11
   21 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/12
   22 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/13
   23 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/14
   24 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/15
   25 root      20   0       0      0      0 S  0.0  0.0   0:00.00 rcuob/16
```

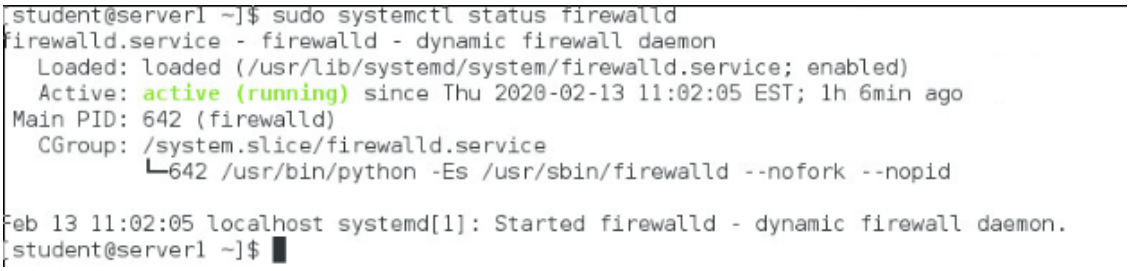
(c) Output of Top

Figure 4.1: Chapter 7 Screenshots

Part 2: Chapter 8 Questions

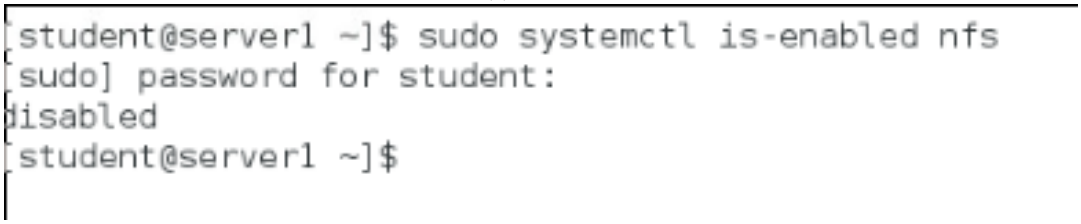
i) Provide the output of the system status for the service firewalld.
I went to the terminal on server1 and entered `sudo systemctl status firewalld`.
I then entered my password.
Finally, I was given the output of the status of the firewall daemon see Fig. 4.2a

ii) Is the service nfs enabled or disabled? Provide the output of its state.
After logging into the terminal and entering the command `sudo systemctl status nfs` and entering my credentials, we can now see in Fig. 4.2b that nfs is loaded but not active.
Alternatively, I could have run the command `sudo systemctl is-enabled nfs` that output is provided in Fig. 4.2c.



(a) Firewalld status

(b) nfs Status



(c) nfs is-enabled

Figure 4.2: Chapter 8 Screenshots

Part 3: Chapter 9 Questions

i) ssh to server1 then run the hostname command. Provide the output.
I logged into Desktop1 and opened a terminal. I then entered `ssh student@server1` after confirmation and key creation I was able to enter my password for the server account.
I then ran the command `hostname` the output of which you can see in Fig. 4.3a on Pg. 17.

ii) Edit the sshd config file. Disable root logins. Disable strict modes. Provide the output of the file where this was accomplished.
I logged into the server and used the command `sudo vim /etc/ssh/sshd_config`
I then, went down to the authentication section, and changed the yes to a no for both PermitRootLogin see Fig. 4.3b on Pg. 17 and for StrictModes. See Fig. 4.3c on Pg. 17.

Then to verify it took effect I used the command `less /etc/ssh/sshd_config` See Fig. 4.3d on Pg. 17.

iii) Generate an ssh key saved as your first name. Provide the output.
I used the command `ssh-keygen` and when prompted for file I told it to save as Chaz.
To verify this I used the command `cat Chaz`, the output is displayed in Fig. 4.3e on Pg. 17.

```
[student@desktop1 ~]$ ssh student@server1
The authenticity of host 'server1 (172.25.1.11)' can't be established.
ECDSA key fingerprint is 65:4d:ac:8a:c9:58:82:b5:0c:91:c4:ef:a5:e6:f6:65.
Are you sure you want to continue connecting (yes/no)? y
Please type 'yes' or 'no': yes
Warning: Permanently added 'server1,172.25.1.11' (ECDSA) to the list of known hosts.
student@server1's password:
Last login: Thu Feb 13 11:25:06 2020
[student@server1 ~]$ hostname
server1.example.com
[student@server1 ~]$
```

(a) Server1 hostname

```
# Authentication:

#LoginGraceTime 2m
#PermitRootLogin no
#StrictModes yes
#MaxAuthTries 6
#MaxSessions 10
```

(b) PermitRootLogin

```
# Authentication:

#LoginGraceTime 2m
#PermitRootLogin no
#StrictModes no
#MaxAuthTries 6
#MaxSessions 10
```

(c) StrictModes

```
root@server1:~
File  Edit  View  Search  Terminal  Help

# Ciphers and keying
#RekeyLimit default none

# Logging
# obsoletes QuietMode and FascistLogging
#SyslogFacility AUTH
SyslogFacility AUTHPRIV
#LogLevel INFO

# Authentication:

#LoginGraceTime 2m
#PermitRootLogin no
#StrictModes no
#MaxAuthTries 6
#MaxSessions 10

#RSAAuthentication yes
#PubkeyAuthentication yes

# The default is to check both .ssh/authorized_keys and .ssh/authorized_keys2
# but this is overridden so installations will only check .ssh/authorized_keys
AuthorizedKeysFile .ssh/authorized_keys

#AuthorizedPrincipalsFile none

#AuthorizedKeysCommand none
#AuthorizedKeysCommandUser nobody

# For this to work you will also need host keys in /etc/ssh/ssh_known_hosts
#RhostsRSAAuthentication no
# similar for protocol version 2
#HostbasedAuthentication no
```

(d) Less sshd config

```
[root@server1 ~]# cat Chaz
-----BEGIN RSA PRIVATE KEY-----
MIIEpQIBAAKCAQEA2ESlC0LEtE40qrd8t0cRcPOtQ2drDBA9KXbGRo5lDQtil7Pl
2lwbM1OUaA3fNLZ7e9IuFfNRsQ+h3vyW6dAmh0RWPRdhIKnjzbo6zaw9cTQrBGgt
LfGEphdB/nlUZ+a+QKMIi98MJmm2fP0hM58JigI9Ok6R+h5y4CzslL+DUYzogUiB
C4KF0ZtpwO/yGSNjaPNy/nJMx4R7FwgN87uXPON73gDTdK6XMgCIvU/Pu/g8tjEj
e6dJMYsxZa2tkQpeMsVA7CLNUCA1A6HlwvWrw8/sD6MchQO8BPo+tIf02Kr2C6Ft
Chu3Nmh2dKfQHUYtgyZ6ML13tFI3jTcyBiMIpwIDAQABAoIBAQCV9mOLf2zuqgG5
lyo/3GPXsuC+EIRGBSykB9xNKIghl3eeovwMM74YxSfvT08rOi4+GewjBGntIS3Z
dcUftFpDCbvS+Nc80xFHoo8L9xdT3BzIHYTWita0ZQQ59N/2fCYIpARVGQFP0ZXc
7ZmMNgdjT1ItkDXg/iQiFoTSsUnZzVilwVJGteymal5veGqS/5Ha2Ws2rl0xEMDw
JbSmd/oS33tg+QssqajJcPnu5zcQg3Y/4PzB2sXcAgQVj13D0mBQvJ8kL2KsuiXJ
Ah+aHk6iHnhE6swyT0boGIVCh/eOBrp3EsPejgMt4a9lxycfrFqfJHrG6avx91W5
oZ/iMIdhAoGBAPm/JrPf8lORUMUCmtdTIp2H6Xwofc9g+9A00HH/tG2PbgiFbM0M
rCDNDTv0Aksa6ugNjj70owFjMgfI7zzqCYr4Hvdp6KBZcSMTQPiL4zm8/8xtoYGe
y8BvlVzxhWyOMDT/Ibf1cacftsZ7AAWJgyctCp89PNdvD7DwGFQy0a4jAoGBAN2u
5lYJbJ6zn0YGpeWwPxKRi7iwRUWt1y89H7gvtwgWRkxiLMyqoruwZ3wbVv5VJVur
l6sK2QSvufE2yL3VTubnlazaaHcerPudAZXI6zu93eC+/T/4surMwu2NTkOcqvjx
kJFywKGhoQz5DiHVHHI6cWz4TKu98680MitALGmtAoGBAIQpVJjRhNIWTzDCTSBv
fRzyBGvQnas1fmxSlo/NKjTkNulJdicYcqo0+LDmUqReDTtZmRHBld8xGBOokHmi
vAQPg4uYPyND0awnDzW4CTnPu2n6BgKq/tXJ9relk967a+VPsg9AUrGHBdkI1B0a
BQ6hNkLITD8RJbOTirxb3DwTAoGAPioyWzHIvHn9jEjEHgOF9zsu4viwRlwwHR5
kqL+xqvIZt8ZBQPMwqlDO9BG4udppH1+NT/6oqEsBnWzTUl/SaCCwjsRos5owly
Rlijbotdzwp/5hKNyb5F42u+yMMERu8mxULStgCnMwYcamxin7231QEELx0DWtG2
S96hFbkCgYEAof3r0AJYI5I2LwENusoKNe6WF05nqyZRN4pBq4riPMZyZw/EZQEj
f3rQNjUumPqexve75Yc8yJnP+kz3nTpGRR/FmgLDmBcw5UoDSTceHZeZWV6tR9G2
ay/2QO61c5oswTjKTDABsz5/sDeF7/dD93E14sD1LUGVm7fWuXJzj6c=
-----END RSA PRIVATE KEY-----
[root@server1 ~]#
```

(e) RSA ouput of Chaz