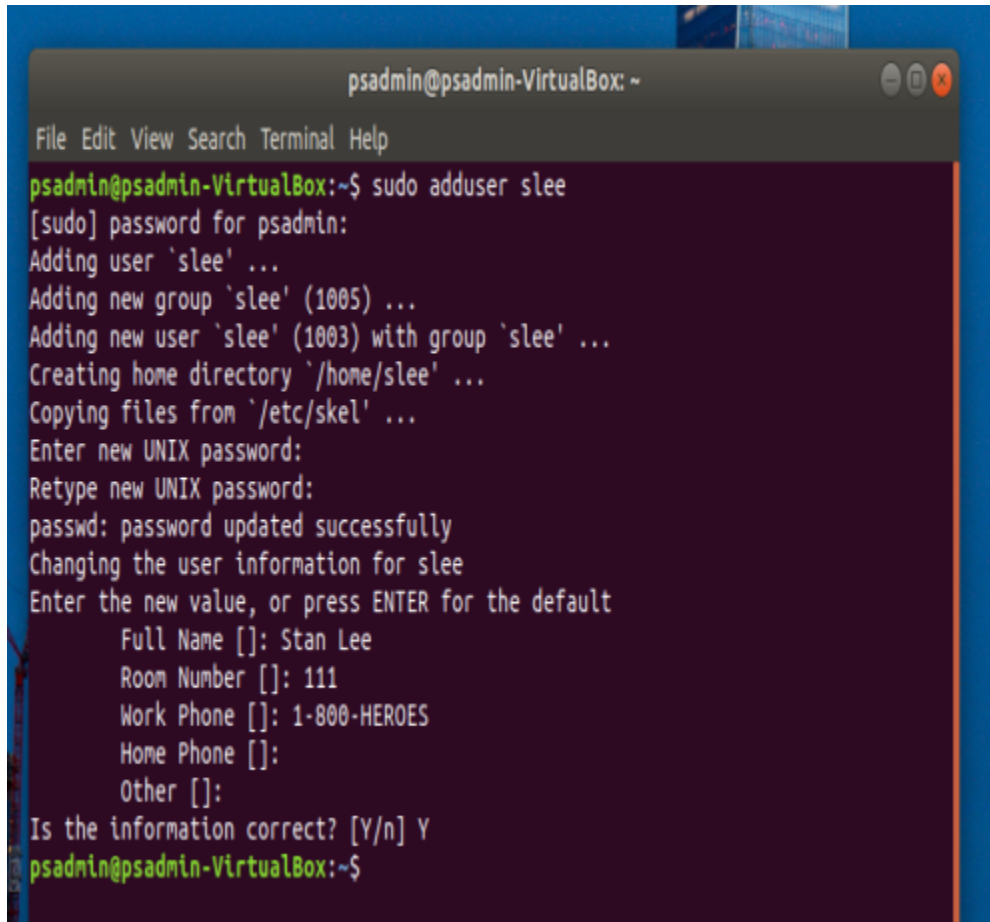


☒ ~~Create a new user with the following details:~~

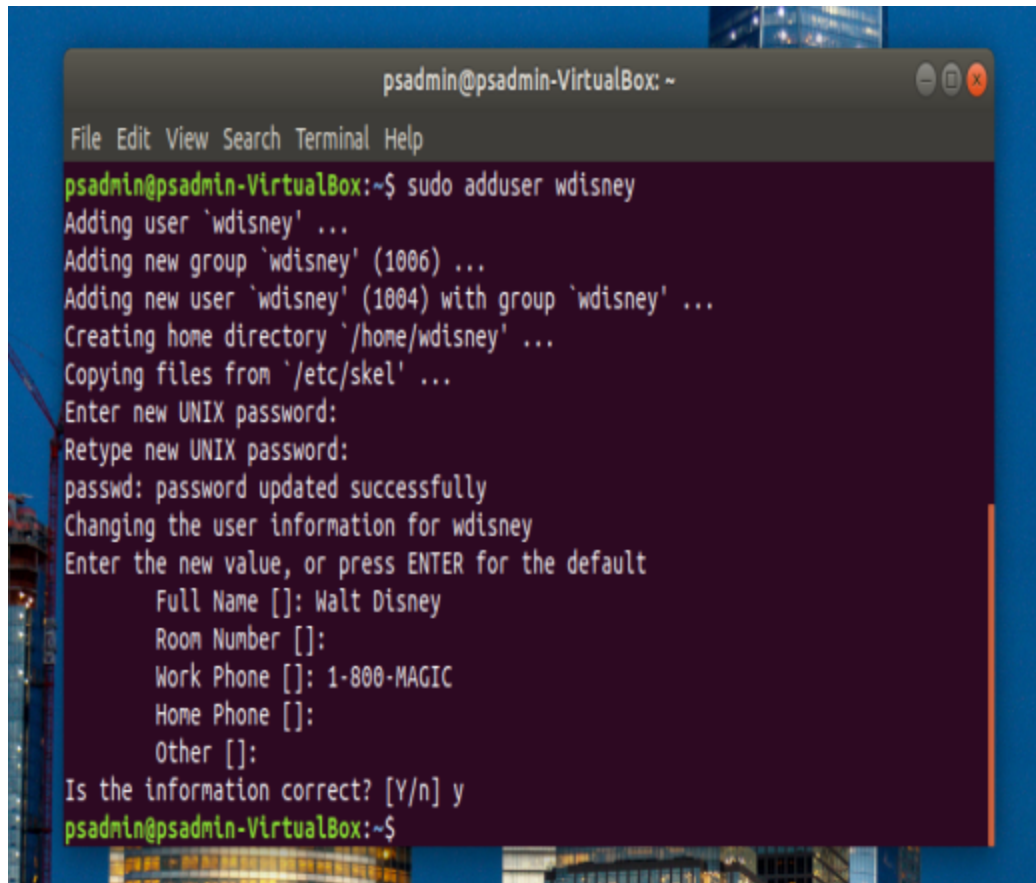
- ☐ Username: slee
- ☐ Full Name: Stan Lee
- ☐ Work Phone: 1-800-HEROES
- ☐ Password: Marvelwins



```
psadmin@psadmin-VirtualBox: ~  
File Edit View Search Terminal Help  
psadmin@psadmin-VirtualBox:~$ sudo adduser slee  
[sudo] password for psadmin:  
Adding user 'slee' ...  
Adding new group 'slee' (1005) ...  
Adding new user 'slee' (1003) with group 'slee' ...  
Creating home directory '/home/slee' ...  
Copying files from '/etc/skel' ...  
Enter new UNIX password:  
Retype new UNIX password:  
passwd: password updated successfully  
Changing the user information for slee  
Enter the new value, or press ENTER for the default  
Full Name []: Stan Lee  
Room Number []: 111  
Work Phone []: 1-800-HEROES  
Home Phone []:  
Other []:  
Is the information correct? [Y/n] Y  
psadmin@psadmin-VirtualBox:~$
```

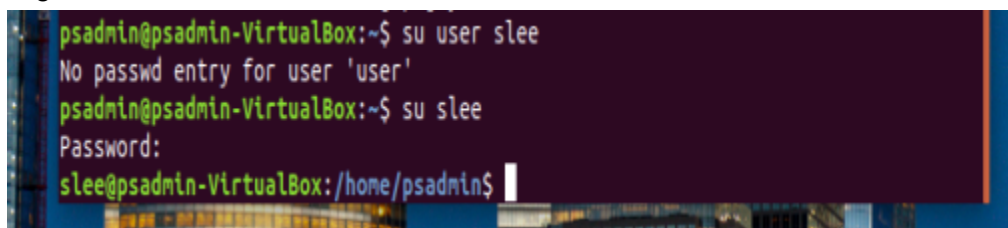
☒ ~~Create a new user with the following details:~~

- ☐ Username: wdisney
- ☐ Full Name: Walt Disney
- ☐ Work Phone: 1-800-MAGIC
- ☐ Password: Marvelwins



```
psadmin@psadmin-VirtualBox: ~  
File Edit View Search Terminal Help  
psadmin@psadmin-VirtualBox:~$ sudo adduser wdisney  
Adding user 'wdisney' ...  
Adding new group 'wdisney' (1006) ...  
Adding new user 'wdisney' (1004) with group 'wdisney' ...  
Creating home directory '/home/wdisney' ...  
Copying files from '/etc/skel' ...  
Enter new UNIX password:  
Retype new UNIX password:  
passwd: password updated successfully  
Changing the user information for wdisney  
Enter the new value, or press ENTER for the default  
    Full Name []: Walt Disney  
    Room Number []:  
    Work Phone []: 1-800-MAGIC  
    Home Phone []:  
    Other []:  
Is the information correct? [Y/n] y  
psadmin@psadmin-VirtualBox:~$
```

-
- ☐ Login as “Stan Lee”.



```
psadmin@psadmin-VirtualBox:~$ su user slee  
No passwd entry for user 'user'  
psadmin@psadmin-VirtualBox:~$ su slee  
Password:  
slee@psadmin-VirtualBox:/home/psadmin$
```

- ☐
- ☒ Create the following directories:
 - ☐ /marvel_charachters/avengers
 - ☐ /marvel_charachters/ideas
 - ☐ /top_secret

☐

```
slee@psadmin-VirtualBox:/$ cd ~
slee@psadmin-VirtualBox:~$ mkdir marvel_characters
slee@psadmin-VirtualBox:~$ cd marvel_characters
slee@psadmin-VirtualBox:~/marvel_characters$ mkdir avengers
slee@psadmin-VirtualBox:~/marvel_characters$ ls
avengers
slee@psadmin-VirtualBox:~/marvel_characters$ mkdir ideas
slee@psadmin-VirtualBox:~/marvel_characters$ ls
avengers ideas
slee@psadmin-VirtualBox:~/marvel_characters$ cd
slee@psadmin-VirtualBox:~$ ls
examples.desktop marvel_characters
slee@psadmin-VirtualBox:~$ mkdir top_secrets
slee@psadmin-VirtualBox:~$ ls
examples.desktop marvel_characters top_secrets
slee@psadmin-VirtualBox:~$
```

- ☒ Create a text file in the “avengers” directory called “avengers.txt” with the following text (each name is on a separate line):
 - ☐ Captain America
 - ☐ Incredible Hulk
 - ☐ Ironman
 - ☐ Black Widow
 - ☐ Hawkeye
 - ☐ Thor
 - ☐ Spiderman
 - ☐ Doctor Strange
- ☒ Sort the text within this file Alphabetically and output not save

```
slee@psadmin-VirtualBox:~$ ls
examples.desktop  marvel_characters  top_secrets
slee@psadmin-VirtualBox:~$ cd marvel_characters
slee@psadmin-VirtualBox:~/marvel_characters$ ls
avengers  ideas
slee@psadmin-VirtualBox:~/marvel_characters$ cd avengers
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ ls
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ nano avengers.txt
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ cat avengers.txt
Captain America
Incredible Hulk
Ironman
Black Widow
Hawkeye
Thor
Spiderman
Doctor Strange

slee@psadmin-VirtualBox:~/marvel_characters/avengers$ cat avengers.txt | sort

Black Widow
Captain America
Doctor Strange
Hawkeye
Incredible Hulk
Ironman
Spiderman
Thor
slee@psadmin-VirtualBox:~/marvel_characters/avengers$
```

- ☒ Create a text file in the users root directory with the following text(each name is on a separate line: moreheroes.txt
 - ☐ Doctor Weird
 - ☐ Metal Man
 - ☐ Sharknado
 - ☐ Fireball
 - ☐ The Rooster
 - ☐ Mermaid Man
 - ☐ Barnacle Boy
- ☒ Reverse sort the list.

```
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ nano moreheroes.txt
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ cat moreheroes.txt
Doctor Weird
Metal Man
Sharknado
Fireball
The Rooster
Mermaid Man
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ sort moreheroes.txt | tac
The Rooster
Sharknado
Metal Man
Mermaid Man
Fireball
Doctor Weird
Barnacle Boy

slee@psadmin-VirtualBox:~/marvel_characters/avengers$
```



☒ Move the file to /marvel_characters/ideas.

```
slee@psadmin-VirtualBox:~/marvel_characters$ ls
avengers  ideas  moreheroes.txt
slee@psadmin-VirtualBox:~/marvel_characters$ mv moreheroes.txt ~/ideas/
mv: cannot move 'moreheroes.txt' to '/home/slee/ideas/': Not a directory
slee@psadmin-VirtualBox:~/marvel_characters$ mv moreheroes.txt ~/ideas
slee@psadmin-VirtualBox:~/marvel_characters$ cd ideas
slee@psadmin-VirtualBox:~/marvel_characters/ideas$ ls
moreheroes.txt
slee@psadmin-VirtualBox:~/marvel_characters/ideas$
```



```
slee@psadmin-VirtualBox: ~/marvel_characters

File Edit View Search Terminal Help
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ ls
avengers.txt  moreheroes.txt
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ mv moreheroes.txt ~/marvel_characters
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ ls
avengers.txt
slee@psadmin-VirtualBox:~/marvel_characters/avengers$ cd ..
slee@psadmin-VirtualBox:~/marvel_characters$ ls
avengers  ideas  moreheroes.txt
slee@psadmin-VirtualBox:~/marvel_characters$
```



- ☒ Create a new hidden text file “do_not_open” in the top_secret directory. Include the following text within the file:
 - ☐ “My favorite superhero is: [fill with the name of your favorite superhero]”.
- ☒ Run the command to display this file in its directory.

```
slee@psadmin-VirtualBox:~$ cd top_secrets
slee@psadmin-VirtualBox:~/top_secrets$ nano .do_not_open.txt
slee@psadmin-VirtualBox:~/top_secrets$ ls

Command 'LS' not found, but can be installed with:

apt install sl
Please ask your administrator.

slee@psadmin-VirtualBox:~/top_secrets$ ls
slee@psadmin-VirtualBox:~/top_secrets$ ls
slee@psadmin-VirtualBox:~/top_secrets$ cat .do_not_open.txt
My favorite superhero is Thor & AquaMan
slee@psadmin-VirtualBox:~/top_secrets$ ls
slee@psadmin-VirtualBox:~/top_secrets$
```

- ☐
- ☒ Copy the files in the “marvel_charachters” directory into “tmp”

```
slee@psadmin-VirtualBox:~/top_secrets$ cd /tmp
slee@psadmin-VirtualBox:/tmp$ ls
config-err-UBLGXX
ssh-zlZrIK7PMYZY
systemd-private-f981e63161a444d3ada9c66c4ab8a47b-bolt.service-IbXeJL
systemd-private-f981e63161a444d3ada9c66c4ab8a47b-colord.service-xsAWnY
systemd-private-f981e63161a444d3ada9c66c4ab8a47b-fwupd.service-2X9ZkT
systemd-private-f981e63161a444d3ada9c66c4ab8a47b-ModemManager.service-ct8Zki
systemd-private-f981e63161a444d3ada9c66c4ab8a47b-rtkit-daemon.service-IqOBnt
systemd-private-f981e63161a444d3ada9c66c4ab8a47b-systemd-resolved.service-JJAyXK
slee@psadmin-VirtualBox:/tmp$
```

- ☐ Archive the copied files into all_charachters.tar

```
slee@psadmin-VirtualBox:~$ cp -r /home/slee/marvel_charachters/ /tmp
slee@psadmin-VirtualBox:~$ ls
Desktop Documents Downloads examples.desktop ideas marvel_charachters Music Pictures Public Templates top_secrets Videos
slee@psadmin-VirtualBox:~$ cd /tmp
slee@psadmin-VirtualBox:/tmp$ ls
config-err-T3Yloc systemd-private-c900cf25b667499cb76d68bf599514e7-bolt.service-G5JT7Q systemd-private-c900cf25b667499cb76d68bf599514e7-ModemManager.service-BYNs3V
marvel_charachters systemd-private-c900cf25b667499cb76d68bf599514e7-colord.service-DSNSHL systemd-private-c900cf25b667499cb76d68bf599514e7-rtkit-daemon.service-8bcvM1
ssh-RII3nSrvIs0S systemd-private-c900cf25b667499cb76d68bf599514e7-fwupd.service-szPYyz systemd-private-c900cf25b667499cb76d68bf599514e7-systemd-resolved.service-BMhbdX
slee@psadmin-VirtualBox:/tmp$
```

- ☒
- ☒ gzip the all_charachters.tar file


```
slee@psadmin-VirtualBox:/tmp$ tar -cvf all_charecters.tar /tmp
tar: Removing leading `/' from member names
/tmp/
tar: /tmp/systemd-private-c900cf25b667499cb76d68bf599514e7-ModemManager.service-BYNs3v: Cannot open: Permission denied
tar: /tmp/systemd-private-c900cf25b667499cb76d68bf599514e7-rtkit-daemon.service-8bcvM1: Cannot open: Permission denied
/tmp/.Test-unix/
/tmp/marvel_characters/
/tmp/marvel_characters/avengers/
/tmp/marvel_characters/avengers/avengers.txt
/tmp/marvel_characters/ideas/
/tmp/marvel_characters/ideas/moreheroes.txt
/tmp/.XIM-unix/
/tmp/.X11-unix/
tar: /tmp/.X11-unix/X1024: socket ignored
tar: /tmp/.X11-unix/X0: socket ignored
tar: /tmp/systemd-private-c900cf25b667499cb76d68bf599514e7-systemd-resolved.service-BMhbdX: Cannot open: Permission denied
/tmp/.ICE-unix/
tar: /tmp/.ICE-unix/1386: socket ignored
tar: /tmp/.ICE-unix/1161: socket ignored
/tmp/ssh-RII3mSrviso5/
tar: /tmp/ssh-RII3mSrviso5/agent.1386: socket ignored
/tmp/config-err-T3Yioc
tar: /tmp/systemd-private-c900cf25b667499cb76d68bf599514e7-colord.service-DSNSHL: Cannot open: Permission denied
tar: /tmp/all_charecters.tar: file is the archive; not dumped
/tmp/.font-unix/
/tmp/.X1024-lock
tar: /tmp/systemd-private-c900cf25b667499cb76d68bf599514e7-bolt.service-G5jT7Q: Cannot open: Permission denied
tar: /tmp/systemd-private-c900cf25b667499cb76d68bf599514e7-fwupd.service-szpYYz: Cannot open: Permission denied
tar: Exiting with failure status due to previous errors
slee@psadmin-VirtualBox:/tmp$
```



```
slee@psadmin-VirtualBox:/tmp$ ls -l
total 44
-rw-rw-r-- 1 slee slee 10240 Nov 12 16:57 all_charecters.tar
-rw----- 1 slee slee 0 Nov 12 16:37 config-err-T3Yioc
drwxrwxr-x 4 slee slee 4096 Nov 12 16:54 marvel_characters
drwx----- 2 slee slee 4096 Nov 12 16:37 ssh-RII3mSrviso5
drwx----- 3 root root 4096 Nov 12 16:36 systemd-private-c900cf25b667499cb76d68bf599514e7-bolt.service-G5jT7Q
drwx----- 3 root root 4096 Nov 12 16:36 systemd-private-c900cf25b667499cb76d68bf599514e7-colord.service-DSNSHL
drwx----- 3 root root 4096 Nov 12 16:38 systemd-private-c900cf25b667499cb76d68bf599514e7-fwupd.service-szpYYz
drwx----- 3 root root 4096 Nov 12 16:35 systemd-private-c900cf25b667499cb76d68bf599514e7-ModemManager.service-BYNs3v
drwx----- 3 root root 4096 Nov 12 16:36 systemd-private-c900cf25b667499cb76d68bf599514e7-rtkit-daemon.service-8bcvM1
drwx----- 3 root root 4096 Nov 12 16:35 systemd-private-c900cf25b667499cb76d68bf599514e7-systemd-resolved.service-BMhbdX
slee@psadmin-VirtualBox:/tmp$
```



☒ Display the contents of this file without unzipping.

```
slee@psadmin-VirtualBox:/tmp$ gzip all_charecters.tar
slee@psadmin-VirtualBox:/tmp$ ls
all_charecters.tar.gz  systemd-private-c900cf25b667499cb76d68bf599514e7-bolt.service-G5jT7Q  systemd-private-c900cf25b667499cb76d68bf599514e7-rtkit-daemon.service-8bcvM1
config-err-T3Yioc     systemd-private-c900cf25b667499cb76d68bf599514e7-colord.service-DSNSHL  systemd-private-c900cf25b667499cb76d68bf599514e7-systemd-resolved.service-BMhbdX
marvel_characters     systemd-private-c900cf25b667499cb76d68bf599514e7-fwupd.service-szpYYz
ssh-RII3mSrviso5      systemd-private-c900cf25b667499cb76d68bf599514e7-ModemManager.service-BYNs3v
slee@psadmin-VirtualBox:/tmp$ ll
total 68
drwxrwxrwt 15 root root 4096 Nov 12 17:31 //
drwxr-xr-x 24 root root 4096 Nov 7 11:46 ../
-rw-rw-r-- 1 slee slee 409 Nov 12 17:14 all_charecters.tar.gz
-rw----- 1 slee slee 0 Nov 12 16:37 config-err-T3Yioc
drwxrwxrwt 2 root root 4096 Nov 12 16:35 .font-unix/
drwxrwxrwt 2 root root 4096 Nov 12 16:37 .ICE-unix/
drwxrwxr-x 4 slee slee 4096 Nov 12 16:54 marvel_characters/
drwx----- 2 slee slee 4096 Nov 12 16:37 ssh-RII3mSrviso5/
drwx----- 3 root root 4096 Nov 12 16:36 systemd-private-c900cf25b667499cb76d68bf599514e7-bolt.service-G5jT7Q/
drwx----- 3 root root 4096 Nov 12 16:36 systemd-private-c900cf25b667499cb76d68bf599514e7-colord.service-DSNSHL/
drwx----- 3 root root 4096 Nov 12 16:38 systemd-private-c900cf25b667499cb76d68bf599514e7-fwupd.service-szpYYz/
drwx----- 3 root root 4096 Nov 12 16:35 systemd-private-c900cf25b667499cb76d68bf599514e7-ModemManager.service-BYNs3v/
drwx----- 3 root root 4096 Nov 12 16:36 systemd-private-c900cf25b667499cb76d68bf599514e7-rtkit-daemon.service-8bcvM1/
drwx----- 3 root root 4096 Nov 12 16:35 systemd-private-c900cf25b667499cb76d68bf599514e7-systemd-resolved.service-BMhbdX/
drwxrwxrwt 2 root root 4096 Nov 12 16:35 .Test-unix/
-r--r--r-- 1 gdm gdm 11 Nov 12 16:36 .X1024-lock
drwxrwxrwt 2 root root 4096 Nov 12 16:37 .X11-unix/
drwxrwxrwt 2 root root 4096 Nov 12 16:35 .XIM-unix/
slee@psadmin-VirtualBox:/tmp$
```



☐ How much space did you save by compressing the files?

```
slee@psadmin-VirtualBox:/tmp$ gunzip -l all_charecters.tgz
              compressed            uncompressed  ratio uncompressed_name
1086396          1105920      1.8% all_charecters.tar
```



- ☐ Copy the zipped all_characters.tar file into Walt Disney's home directory.
- ☐ To do this first i had to

```
psadmin@psadmin-VirtualBox:~$ sudo usermod -a -G 1005 wdisney
```

Then

- ☒ Return to the root directory of this user.
- ☒ Display a list of all of the file names, under your home directory and all subdirectories, which have file names ending with .txt using the "find" command.

```
slee@psadmin-VirtualBox:~$ find . -name "*.txt"
./top_secrets/.do_not_open.txt
./marvel_characters/avengers/avengers.txt
./marvel_characters/ideas/moreheroes.txt
```

☐

- ☒ Login to Walt Disney

```
psadmin@psadmin-VirtualBox:/home/slee$ cd /tmp
psadmin@psadmin-VirtualBox:/tmp$ ls
all_charecters.tar  ssh-R6mL7oSCT20r
all_charecters.tgz  ssh-sE1Qj0Tnqc10
backup-lab.tar      systemd-private-39a4c0f6161544f0ae282b529ede74cf-bolt.service-rPj5Uo
backup-lab.tgz      systemd-private-39a4c0f6161544f0ae282b529ede74cf-colord.service-etpoeY
backup.tar          systemd-private-39a4c0f6161544f0ae282b529ede74cf-ModemManager.service-3XFBB7
config-err-CZEDm1   systemd-private-39a4c0f6161544f0ae282b529ede74cf-rtkit-daemon.service-7PbBbd
config-err-n5u7k9   systemd-private-39a4c0f6161544f0ae282b529ede74cf-systemd-resolved.service-F5JNTB
config-err-szJkjj   Temp-d641d9a5-28a4-4d74-8d0b-3d0356c259b6
sample1.txt         Temp-e160c0cf-efc5-4f54-8c55-ef8cc39961bc
sample2.txt         tmpaddon
ssh-qdzEMtnHXwbZ
psadmin@psadmin-VirtualBox:/tmp$ sudo cp all_characters.tar /home/wdisney
cp: cannot stat 'all_characters.tar': No such file or directory
psadmin@psadmin-VirtualBox:/tmp$ sudo cp all_charecters.tar /home/wdisney
psadmin@psadmin-VirtualBox:/tmp$ su wdisney
Password:
wdisney@psadmin-VirtualBox:/tmp$ ls -l
total 14900
-rw-rw-r-- 1 slee slee 522240 Nov 14 11:24 all_charecters.tar
```

- ☒ Unzip the all_characters.tar file


```
wdisney@psadmin-VirtualBox:~$ tar -xvf all_charecters.tar
tmp/
tmp/ssh-R6mL7oSCT20r/
tmp/.Test-unix/
tmp/.XIM-unix/
tmp/.X11-unix/
tmp/tmpaddon
```

- ☒ Return to your user:

```
wdisney@psadmin-VirtualBox:~$ su slee
Password:
slee@psadmin-VirtualBox:/home/wdisney$ cd ~
```

- ☐ Use the find command to identify the location of the “syslog” file.

```
slee@psadmin-VirtualBox:~$ su psadmin
Password:
psadmin@psadmin-VirtualBox:/home/slee$ cd ~
psadmin@psadmin-VirtualBox:~$ sudo find . / -name syslog
[sudo] password for psadmin:
find: '/run/user/1003/gvfs': Permission denied
find: '/run/user/1000/doc': Permission denied
find: '/run/user/1000/gvfs': Permission denied
find: '/run/user/1002/doc': Permission denied
find: '/run/user/1002/gvfs': Permission denied
/run/systemd/journal/syslog
/var/log/installer/syslog
/var/log/syslog
psadmin@psadmin-VirtualBox:~$
```

- ☐ Use the locate command to identify the location of the “syslog” file.

```
psadmin@psadmin-VirtualBox:~$ locate syslog
/etc/rsyslog.conf
/etc/rsyslog.d
/etc/apparmor.d/usr.sbin.rsyslogd
/etc/apparmor.d/disable/usr.sbin.rsyslogd
/etc/apparmor.d/local/usr.sbin.rsyslogd
/etc/default/rsyslog
/etc/init.d/rsyslog
/etc/logcheck/ignore.d.server/rsyslog
/etc/logrotate.d/rsyslog
/etc/rc0.d/K01rsyslog
/etc/rc1.d/K01rsyslog
/etc/rc2.d/S01rsyslog
/etc/rc3.d/S01rsyslog
/etc/rc4.d/S01rsyslog
/etc/rc5.d/S01rsyslog
/etc/rc6.d/K01rsyslog
/etc/rsyslog.d/20-ufw.conf
/etc/rsyslog.d/50-default.conf
/etc/systemd/system/syslog.service
/etc/systemd/system/multi-user.target.wants/rsyslog.service
/lib/systemd/system/rsyslog.service
/lib/systemd/system/syslog.socket
/snap/core/13886/etc/rsyslog.conf
/snap/core/13886/etc/rsyslog.d
/snap/core/13886/etc/apparmor.d/usr.sbin.rsyslogd
```

- ☐
- ☐ Note the difference between the two.
- ☐ Display the last 10 lines of the current syslog file.

- ```
psadmin@psadmin-VirtualBox:~$ tail /var/log/syslog
Nov 14 23:21:48 psadmin-VirtualBox whoopsie[645]: [23:21:48] Not a paid data plan: /org/freedesktop/NetworkManager/ActiveConnection/1
Nov 14 23:21:48 psadmin-VirtualBox whoopsie[645]: [23:21:48] Found usable connection: /org/freedesktop/NetworkManager/ActiveConnection/1
Nov 14 23:21:48 psadmin-VirtualBox dbus-daemon[514]: [system] Successfully activated service 'org.freedesktop.nm_dispatcher'
Nov 14 23:21:48 psadmin-VirtualBox nm-dispatcher: req:1 'connectivity-change': new request (1 scripts)
Nov 14 23:21:48 psadmin-VirtualBox nm-dispatcher: req:1 'connectivity-change': start running ordered scripts...
Nov 14 23:21:48 psadmin-VirtualBox systemd[1]: Started Network Manager Script Dispatcher Service.
Nov 14 23:21:49 psadmin-VirtualBox whoopsie[645]: [23:21:49] online
Nov 14 23:33:04 psadmin-VirtualBox systemd[1]: proc-sys-fs-binfmt_misc.automount: Got automount request for /proc/sys/fs/binfmt_misc, triggered by 8537 (find)
Nov 14 23:33:04 psadmin-VirtualBox systemd[1]: Mounting Arbitrary Executable File Formats File System...
Nov 14 23:33:04 psadmin-VirtualBox systemd[1]: Mounted Arbitrary Executable File Formats File System.
```
- ☐ Elevate your user privilege to be the root/superuser.

- ```
psadmin@psadmin-VirtualBox:~$ grep root /etc/group
root:x:0:
psadmin@psadmin-VirtualBox:~$ sSudo usermod -aG root slee

Command 'sSudo' not found, did you mean:

  command 'sudo' from deb sudo
  command 'sudo' from deb sudo-ldap

Try: sudo apt install <deb name>

psadmin@psadmin-VirtualBox:~$ sudo usermod -aG root slee
[sudo] password for psadmin:
Sorry, try again.
[sudo] password for psadmin:
psadmin@psadmin-VirtualBox:~$ grep root /etc/group
root:x:0:slee
psadmin@psadmin-VirtualBox:~$
```
- ☐

- ☐ Which process is consuming the max CPU resource? 8640

- ```
psadmin@psadmin-VirtualBox:~$ su slee
Password:
slee@psadmin-VirtualBox:/home/psadmin$ cd ~
slee@psadmin-VirtualBox:~$ top

top - 23:44:17 up 15:13, 3 users, load average: 0.63, 0.43, 0.29
Tasks: 387 total, 1 running, 351 sleeping, 0 stopped, 0 zombie
%Cpu(s): 4.1 us, 0.3 sy, 0.0 ni, 95.3 id, 0.3 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 4026416 total, 131064 free, 3264780 used, 630572 buff/cache
KiB Swap: 2097148 total, 1296516 free, 800632 used. 326408 avail Mem

 PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
 4709 psadmin 20 0 3106396 308212 53452 S 3.3 7.7 6:42.13 gnome-shell
 4732 psadmin 20 0 2382868 9364 5484 S 0.7 0.2 1:07.43 pulseaudio
 3618 slee 20 0 185388 1224 840 S 0.3 0.0 0:40.35 VBoxClient
 4537 psadmin 20 0 503636 116760 59568 S 0.3 2.9 2:12.42 Xorg
 8640 slee 20 0 42060 3904 3140 R 0.3 0.1 0:00.16 top
```
- ☐

- ☐ Are there any parent processes?

```
File Edit View Search Terminal Help
top - 23:46:09 up 15:15, 3 users, load average: 0.42, 0.39, 0.29
Tasks: 386 total, 2 running, 351 sleeping, 0 stopped, 0 zombie
%Cpu(s): 9.0 us, 3.3 sy, 0.0 ni, 87.6 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 4026416 total, 128040 free, 3267716 used, 630660 buff/cache
KiB Swap: 2097148 total, 1296516 free, 800632 used. 323480 avail Mem
Choose field group (1 - 4)

```

| PID  | USER    | PR  | NI  | VIRT    | RES    | SHR   | S | %CPU | %MEM | TIME+   | COMMAND         |
|------|---------|-----|-----|---------|--------|-------|---|------|------|---------|-----------------|
| 4709 | psadmin | 20  | 0   | 3106396 | 308224 | 53452 | S | 7.3  | 7.7  | 6:50.27 | gnome-shell     |
| 4537 | psadmin | 20  | 0   | 503636  | 116760 | 59568 | S | 2.0  | 2.9  | 2:14.73 | Xorg            |
| 7468 | psadmin | 20  | 0   | 828184  | 44852  | 28128 | S | 1.0  | 1.1  | 0:29.02 | gnome-terminal- |
| 3804 | slee    | 20  | 0   | 651488  | 9820   | 4944  | S | 0.3  | 0.2  | 0:04.39 | gsd-color       |
| 4732 | psadmin | 20  | 0   | 2382868 | 9364   | 5484  | S | 0.3  | 0.2  | 1:07.88 | pulseaudio      |
| 4859 | psadmin | 20  | 0   | 651496  | 9728   | 4844  | S | 0.3  | 0.2  | 0:15.38 | gsd-color       |
| 4933 | psadmin | 20  | 0   | 1036056 | 28464  | 15448 | S | 0.3  | 0.7  | 0:07.97 | nautilus-deskto |
| 6883 | psadmin | 20  | 0   | 519216  | 5204   | 3788  | S | 0.3  | 0.1  | 0:00.85 | sd_espeak-ng    |
| 8640 | slee    | 20  | 0   | 42060   | 3904   | 3140  | R | 0.3  | 0.1  | 0:00.57 | top             |
| 1    | root    | 20  | 0   | 225440  | 6608   | 4560  | S | 0.0  | 0.2  | 0:07.31 | systemd         |
| 2    | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | kthreadd        |
| 3    | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | rcu_gp          |
| 4    | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | rcu_par_gp      |
| 6    | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | kworker/0:0H-ev |
| 8    | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:01.95 | kworker/0:1H-ev |
| 9    | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | mm_percpu_wq    |
| 10   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.48 | ksoftirqd/0     |
| 11   | root    | 20  | 0   | 0       | 0      | 0     | R | 0.0  | 0.0  | 0:03.68 | rcu_sched       |
| 12   | root    | rt  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.25 | migration/0     |
| 13   | root    | -51 | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | idle_inject/0   |
| 15   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | cpuhp/0         |
| 16   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | kdevtmpfs       |
| 17   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | netns           |
| 18   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | rcu_tasks_kthre |
| 19   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | kauditd         |
| 20   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.04 | khungtaskd      |
| 21   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | oom_reaper      |
| 22   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | writeback       |
| 23   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | kcompactd0      |
| 24   | root    | 25  | 5   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | ksmd            |
| 25   | root    | 39  | 19  | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | khugepaged      |
| 71   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | kintegrityd     |
| 72   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | kblockd         |
| 73   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | blkcg_punt_bio  |
| 74   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | tpm_dev_wq      |
| 75   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | ata_sff         |
| 76   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | md              |
| 77   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | edac-poller     |
| 78   | root    | 0   | -20 | 0       | 0      | 0     | I | 0.0  | 0.0  | 0:00.00 | devfreq_wq      |
| 79   | root    | rt  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:00.00 | watchdogd       |
| 82   | root    | 20  | 0   | 0       | 0      | 0     | S | 0.0  | 0.0  | 0:04.66 | kswapd0         |

- ☐
- ☒ Where is the binary file for this process located?
- ☒ What is the size of this file?
- ☒ What are the permissions on this file?
- ☒ How long has the system been running?

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```
slee@psadmin-VirtualBox:~$ ls -al /proc/8604/exe
ls: cannot access '/proc/8604/exe': No such file or directory
slee@psadmin-VirtualBox:~$ ls -al
total 116
drwxr-xr-x 17 slee slee 4096 Nov 14 11:10 .
drwxr-xr-x 7 root root 4096 Nov 14 16:17 ..
-rw----- 1 slee slee 3296 Nov 14 23:48 .bash_history
-rw-r--r-- 1 slee slee 220 Nov 11 22:11 .bash_logout
-rw-r--r-- 1 slee slee 3771 Nov 11 22:11 .bashrc
drwx----- 11 slee slee 4096 Nov 12 16:43 .cache
drwx----- 11 slee slee 4096 Nov 12 16:38 .config
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Desktop
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Documents
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Downloads
-rw-r--r-- 1 slee slee 8980 Nov 11 22:11 examples.desktop
drwx----- 3 slee slee 4096 Nov 12 16:38 .gnupg
-rw----- 1 slee slee 732 Nov 14 11:09 .ICEauthority
-rw-rw-r-- 1 slee slee 80 Nov 11 22:40 ideas
drwxrwxr-x 3 slee slee 4096 Nov 11 22:30 .local
drwxrwxr-x 4 slee slee 4096 Nov 12 16:51 marvel_characters
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Music
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Pictures
-rw-r--r-- 1 slee slee 807 Nov 11 22:11 .profile
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Public
drwx----- 2 slee slee 4096 Nov 12 16:38 .ssh
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Templates
drwxrwxr-x 2 slee slee 4096 Nov 11 23:24 top_secrets
-rw-r----- 1 slee slee 5 Nov 14 11:09 .vboxclient-display.pid
-rw-r----- 1 slee slee 5 Nov 14 11:09 .vboxclient-draganddrop.pid
-rw-r----- 1 slee slee 5 Nov 14 11:09 .vboxclient-seamless.pid
drwxr-xr-x 2 slee slee 4096 Nov 12 16:37 Videos
slee@psadmin-VirtualBox:~$ ls -lh /usr/bin/gnome-shell
-rwxr-xr-x 1 root root 19K Oct 24 2019 /usr/bin/gnome-shell
slee@psadmin-VirtualBox:~$ uptime
 23:54:11 up 15:23, 3 users, load average: 0.30, 0.34, 0.29
slee@psadmin-VirtualBox:~$ uptime -p
up 15 hours, 23 minutes
slee@psadmin-VirtualBox:~$
```