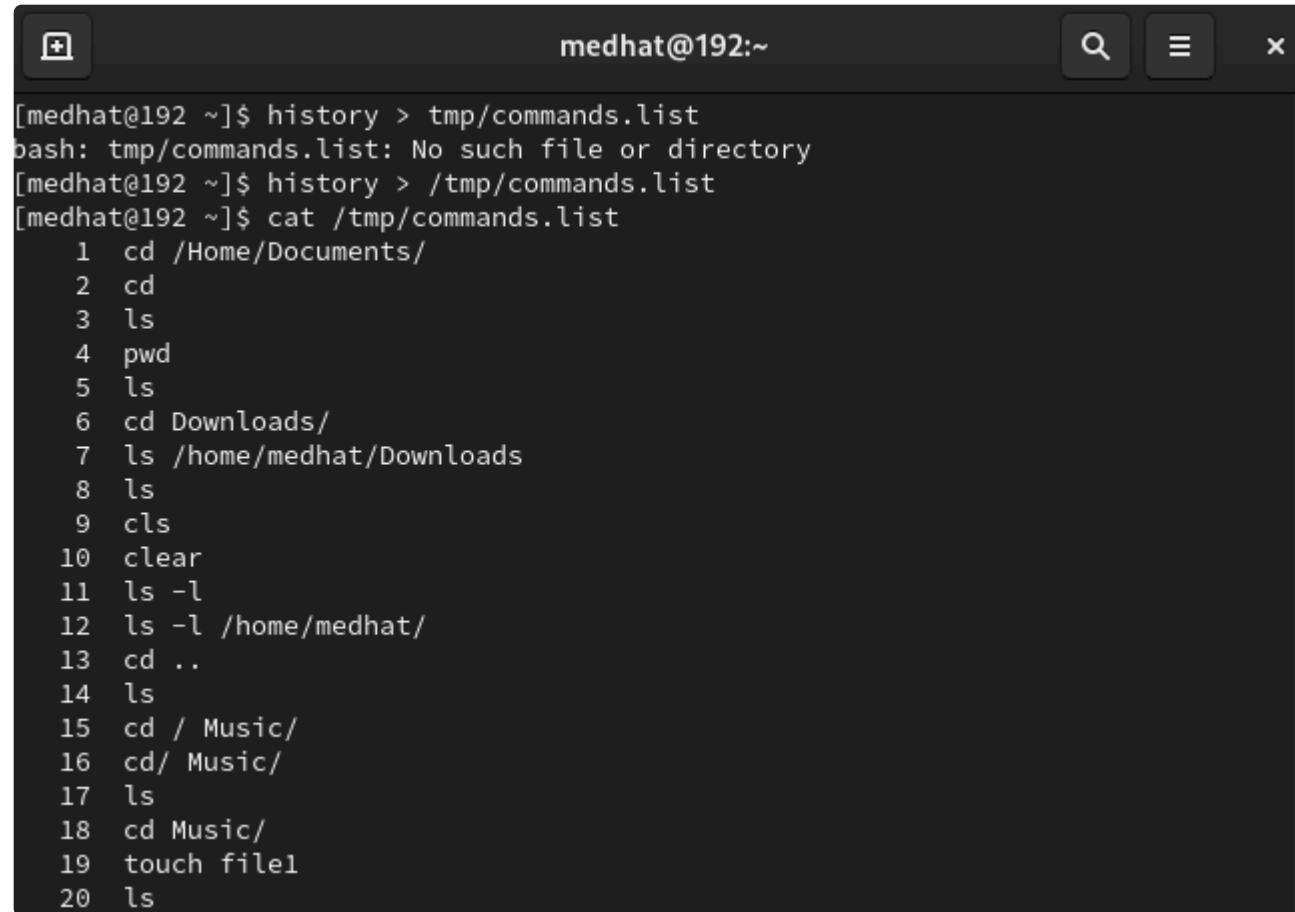


Medhat Mohamed Sobhy - Lab 4

1. List the user commands and redirect the output to /tmp/commands.list

A terminal window titled 'medhat@192:~' with search, menu, and close buttons. It shows a sequence of commands: 'history > tmp/commands.list' (which fails with 'No such file or directory'), 'history > /tmp/commands.list', and 'cat /tmp/commands.list'. The cat command displays a numbered list of 20 commands from the history.

```
medhat@192:~  
[medhat@192 ~]$ history > tmp/commands.list  
bash: tmp/commands.list: No such file or directory  
[medhat@192 ~]$ history > /tmp/commands.list  
[medhat@192 ~]$ cat /tmp/commands.list  
 1 cd /Home/Documents/  
 2 cd  
 3 ls  
 4 pwd  
 5 ls  
 6 cd Downloads/  
 7 ls /home/medhat/Downloads  
 8 ls  
 9 cls  
10 clear  
11 ls -l  
12 ls -l /home/medhat/  
13 cd ..  
14 ls  
15 cd / Music/  
16 cd/ Music/  
17 ls  
18 cd Music/  
19 touch file1  
20 ls
```

2. Count the number of user commands

```
medhat@192:~  
[medhat@192 ~]$ history | wc -l  
327  
[medhat@192 ~]$
```

3. Start Firefox with lower priority (30), then change it back to normal

```
medhat@192:~  
[medhat@192 ~]$ nice -n 19 firefox &  
[1] 3348  
[medhat@192 ~]$ pgrep firefox  
3348  
[medhat@192 ~]$ renice -n 0 -p 3348  
renice: failed to set priority for 3348 (process ID): Permission denied  
[medhat@192 ~]$ sudo renice -n 0 -p 3348  
[sudo] password for medhat:  
3348 (process ID) old priority 19, new priority 0  
[medhat@192 ~]$
```

4. Get its process id by 2 way

```
medhat@192:~  
[medhat@192 ~]$ pgrep firefox  
3348  
[medhat@192 ~]$ pidof firefox  
5057 5046 5005 4902 3996 3980 3964 3944 3912 3798 3707 3685 3656 3639 3578 3551  
3433 3348  
[medhat@192 ~]$
```

5. search for all files on the system that named .bash_profile

```
medhat@192:~  
[medhat@192 ~]$ sudo find / -name .bash_profile  
[sudo] password for medhat:  
find: '/run/user/1000/doc': Permission denied  
find: '/run/user/1000/gvfs': Permission denied  
/etc/skel/.bash_profile  
/root/.bash_profile  
/home/medhat/.bash_profile  
/home/user6/.bash_profile  
/home/d1/.bash_profile  
/home/islam/.bash_profile  
/home/baduser/.bash_profile  
/home/intern/.bash_profile  
[medhat@192 ~]$
```

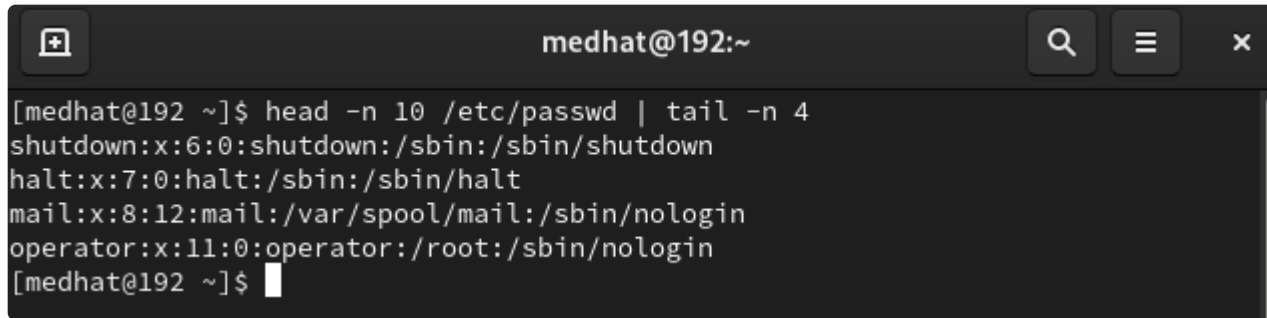
6. Save their output and error in 2 different files and sending them to the background.

```
medhat@192:~  
[medhat@192 ~]$ find / -name .bash_profile > output.txt 2> error.txt  
[medhat@192 ~]$ ls  
Desktop  Documents  Music  oldpasswd  Public  Videos  
dir1     Downloads  myfile  output.txt  Templates  
doc      error.txt  myteam  Pictures   testFile  
[medhat@192 ~]$ cat output.txt  
/etc/skel/.bash_profile  
/home/medhat/.bash_profile  
[medhat@192 ~]$ cat error.txt  
find: '/boot/efi/EFI/centos': Permission denied  
find: '/boot/grub2': Permission denied  
find: '/boot/loader/entries': Permission denied  
find: '/proc/tty/driver': Permission denied  
find: '/proc/1/task/1/fd': Permission denied  
find: '/proc/1/task/1/ns': Permission denied  
find: '/proc/1/fd': Permission denied  
find: '/proc/1/map_files': Permission denied  
find: '/proc/1/ns': Permission denied  
find: '/proc/2/task/2/fd': Permission denied  
find: '/proc/2/task/2/ns': Permission denied  
find: '/proc/2/fd': Permission denied  
find: '/proc/2/map_files': Permission denied  
find: '/proc/2/ns': Permission denied  
find: '/proc/3/task/3/fd': Permission denied
```

7. Display the number of users who is logged now to the system.

```
medhat@192:~  
[medhat@192 ~]$ who  
medhat  seat0      2024-12-31 08:29 (login screen)  
medhat  tty2      2024-12-31 08:29 (tty2)  
[medhat@192 ~]$ who | wc -l  
2  
[medhat@192 ~]$
```

8. Display lines 7 to line 10 of /etc/passwd file



```
medhat@192:~  
[medhat@192 ~]$ head -n 10 /etc/passwd | tail -n 4  
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown  
halt:x:7:0:halt:/sbin:/sbin/halt  
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin  
operator:x:11:0:operator:/root:/sbin/nologin  
[medhat@192 ~]$
```

9. What happens if you execute

- **cat filename1 | cat filename2**
- Read only the contents of filename2, filename1 is discarded
- **ls | rm**
- Nothing happens as rm accepts only files and ls outputs text

- `**ls /etc/passwd | wc -l**` --> it shows the passwd file name so the command outputs a 1

![[Screenshot (2051) 1.png]]

10. Issue the command sleep 100.

- The terminal will be inactive for 100 seconds until the specified time ends >> you should use `sleep 100 &` instead to let it run in the background so that it doesn't stop you from using the terminal

11. Stop the last command

- One way to do it is by stopping the process using **CTRL + Z**

12. 12 ~ 15

```
medhat@192:~/testdir
[medhat@192 testdir]$ sleep 100
^Z
[2]+  Stopped                  sleep 100
[medhat@192 testdir]$ jobs
[1]-  Running                  nice -n 19 firefox & (wd: ~)
[2]+  Stopped                  sleep 100
[medhat@192 testdir]$ bg %2
[2]+ sleep 100 &
[medhat@192 testdir]$ jobs
[1]-  Running                  nice -n 19 firefox & (wd: ~)
[2]+  Running                  sleep 100 &
[medhat@192 testdir]$ fg %2
sleep 100
^Z
[2]+  Stopped                  sleep 100
[medhat@192 testdir]$ bg %2
[2]+ sleep 100 &
[medhat@192 testdir]$ jobs
[1]-  Running                  nice -n 19 firefox & (wd: ~)
[2]+  Running                  sleep 100 &
[medhat@192 testdir]$ kill %2
[2]+  Terminated              sleep 100
[medhat@192 testdir]$ jobs
[1]+  Running                  nice -n 19 firefox & (wd: ~)
[medhat@192 testdir]$
```

13. Display your processes only

```
medhat@192:~/testdir
medhat@192 testdir]$ ps -u medhat
```

PID	TTY	TIME	CMD
2173	?	00:00:00	systemd
2181	?	00:00:00	(sd-pam)
2207	?	00:00:00	gnome-keyring-d
2214	tty2	00:00:00	gdm-wayland-ses
2217	?	00:00:00	dbus-broker-lau
2219	?	00:00:00	dbus-broker
2222	tty2	00:00:00	gnome-session-b
2268	?	00:00:00	gnome-session-c
2269	?	00:00:00	gnome-session-b
2288	?	00:12:09	gnome-shell
2328	?	00:00:00	gvfsd
2340	?	00:00:00	gvfsd-fuse
2348	?	00:00:00	at-spi-bus-laun
2353	?	00:00:00	dbus-broker-lau
2354	?	00:00:00	dbus-broker
2366	?	00:00:00	gnome-shell-cal
2367	?	00:00:00	xdg-permission-
2383	?	00:00:02	pipewire
2384	?	00:00:00	wireplumber
2385	?	00:00:00	pipewire-pulse
2400	?	00:00:00	dconf-service
2402	?	00:00:00	evolution-sourc
2413	?	00:00:00	gvfs-udisks2-vo
2432	?	00:00:00	gvfs-mtp-volume
2438	?	00:00:00	gvfs-gphoto2-vo

14. Display all processes except yours

```
medhat@192:~/testdir
[medhat@192 testdir]$ ps aux | grep -v "^medhat"
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.4 172624 11700 ?        Ss   00:11   0:03 /usr/lib/systemd/systemd
rhgb --switched-root --system --deserialize 31
root           2  0.0  0.0      0     0 ?        S    00:11   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        I<   00:11   0:00 [rcu_gp]
root           4  0.0  0.0      0     0 ?        I<   00:11   0:00 [rcu_par_gp]
root           5  0.0  0.0      0     0 ?        I<   00:11   0:00 [slub_flushwq]
root           6  0.0  0.0      0     0 ?        I<   00:11   0:00 [netns]
root           8  0.0  0.0      0     0 ?        I<   00:11   0:00 [kworker/0:0H-events_hig
hpri]
root          10  0.0  0.0      0     0 ?        I<   00:11   0:00 [mm_percpu_wq]
root          12  0.0  0.0      0     0 ?        I    00:11   0:00 [rcu_tasks_kthre]
root          13  0.0  0.0      0     0 ?        I    00:11   0:00 [rcu_tasks_rude_]
root          14  0.0  0.0      0     0 ?        I    00:11   0:00 [rcu_tasks_trace]
root          15  0.0  0.0      0     0 ?        S    00:11   0:00 [ksoftirqd/0]
root          16  0.0  0.0      0     0 ?        S    00:11   0:00 [pr/tty0]
root          17  0.0  0.0      0     0 ?        I    00:11   0:01 [rcu_preempt]
root          18  0.0  0.0      0     0 ?        S    00:11   0:00 [migration/0]
root          19  0.0  0.0      0     0 ?        S    00:11   0:00 [idle_inject/0]
root          21  0.0  0.0      0     0 ?        S    00:11   0:00 [cpuhp/0]
root          22  0.0  0.0      0     0 ?        S    00:11   0:00 [cpuhp/1]
root          23  0.0  0.0      0     0 ?        S    00:11   0:00 [idle_inject/1]
root          24  0.0  0.0      0     0 ?        S    00:11   0:01 [migration/1]
root          25  0.0  0.0      0     0 ?        S    00:11   0:00 [ksoftirqd/1]
root          27  0.0  0.0      0     0 ?        I<   00:11   0:00 [kworker/1:0H-events_hig
hpri]
```

15. Use the pgrep command to list your processes only


```
medhat@192:~/testdir
[medhat@192 testdir]$ pgrep -u medhat
2173
2181
2207
2214
2217
2219
2222
2268
2269
2288
2328
2340
2348
2353
2354
2366
2367
2383
2384
2385
2400
2402
2413
2432
2438
2440
```

19. Compress a file by gzip, bzip2 using tar command and decompress it again

```
medhat@192:~/testdir
[medhat@192 testdir]$ tar -czf testfile.tar.gz testfile
[medhat@192 testdir]$ ls
testfile  testfile.tar.gz
[medhat@192 testdir]$ ls -lh
total 4.8M
-rw-r--r--. 1 medhat medhat 4.8M Jan  1 08:07 testfile
-rw-r--r--. 1 medhat medhat 7.3K Jan  1 08:08 testfile.tar.gz
[medhat@192 testdir]$ tar -cjf testfile.tar.bz2 testfile
[medhat@192 testdir]$ ls -lh
total 4.8M
-rw-r--r--. 1 medhat medhat 4.8M Jan  1 08:07 testfile
-rw-r--r--. 1 medhat medhat 396 Jan  1 08:09 testfile.tar.bz2
-rw-r--r--. 1 medhat medhat 7.3K Jan  1 08:08 testfile.tar.gz
[medhat@192 testdir]$ tar -xzf testfile.tar.gz
[medhat@192 testdir]$ tar -xjf testfile.tar.bz2
[medhat@192 testdir]$ ls -lh
total 4.8M
-rw-r--r--. 1 medhat medhat 4.8M Jan  1 08:07 testfile
-rw-r--r--. 1 medhat medhat 396 Jan  1 08:09 testfile.tar.bz2
-rw-r--r--. 1 medhat medhat 7.3K Jan  1 08:08 testfile.tar.gz
[medhat@192 testdir]$ ls
testfile  testfile.tar.bz2  testfile.tar.gz
[medhat@192 testdir]$ rm testfile
[medhat@192 testdir]$ tar -xzf testfile.tar.gz
[medhat@192 testdir]$ ls
testfile  testfile.tar.bz2  testfile.tar.gz
[medhat@192 testdir]$
```

20. `zcat testfile.tar.gz` for gzip file and `bzcat testfile.tar.bz2` for bzip2

21. Backup /etc directory using tar utility.

```
medhat@192:/  
[medhat@192 ~]$ ls /home/  
baduser d1 intern islam medhat user6  
[medhat@192 ~]$ cd ..  
[medhat@192 home]$ cd ..  
[medhat@192 /]$ ls  
afs boot etc lib media opt root sbin sys usr  
bin dev home lib64 mnt proc run srv tmp var  
[medhat@192 /]$ sudo tar -czf etc_backup.tar.gz etc  
[sudo] password for medhat:  
[medhat@192 /]$ ls  
afs boot etc home lib64 mnt proc run srv tmp var  
bin dev etc_backup.tar.gz lib media opt root sbin sys usr  
[medhat@192 /]$
```

22. .What is the command used to view the content of a compressed dir?

- tar -tf etc_backup.tar.gz

```
medhat@192:/  
[medhat@192 /]$ ls  
afs  boot  etc          home  lib64  mnt  proc  run  srv  tmp  var  
bin  dev    etc_backup.tar.gz  lib   media  opt  root  sbin  sys  usr  
[medhat@192 /]$ tar -tf etc_backup.tar.gz  
etc/  
etc/mtab  
etc/fstab  
etc/crypttab  
etc/resolv.conf  
etc/dnf/  
etc/dnf/modules.d/  
etc/dnf/aliases.d/  
etc/dnf/dnf.conf  
etc/dnf/modules.defaults.d/  
etc/dnf/plugins/  
etc/dnf/plugins/kpatch.conf  
etc/dnf/plugins/copr.conf  
etc/dnf/plugins/copr.d/  
etc/dnf/plugins/debuginfo-install.conf  
etc/dnf/protected.d/  
etc/dnf/protected.d/dnf.conf  
etc/dnf/protected.d/setup.conf  
etc/dnf/protected.d/systemd.conf  
etc/dnf/protected.d/grub2-tools-minimal.conf  
etc/dnf/protected.d/sudo.conf  
etc/dnf/protected.d/yum.conf  
etc/dnf/protected.d/grub2-pc.conf
```