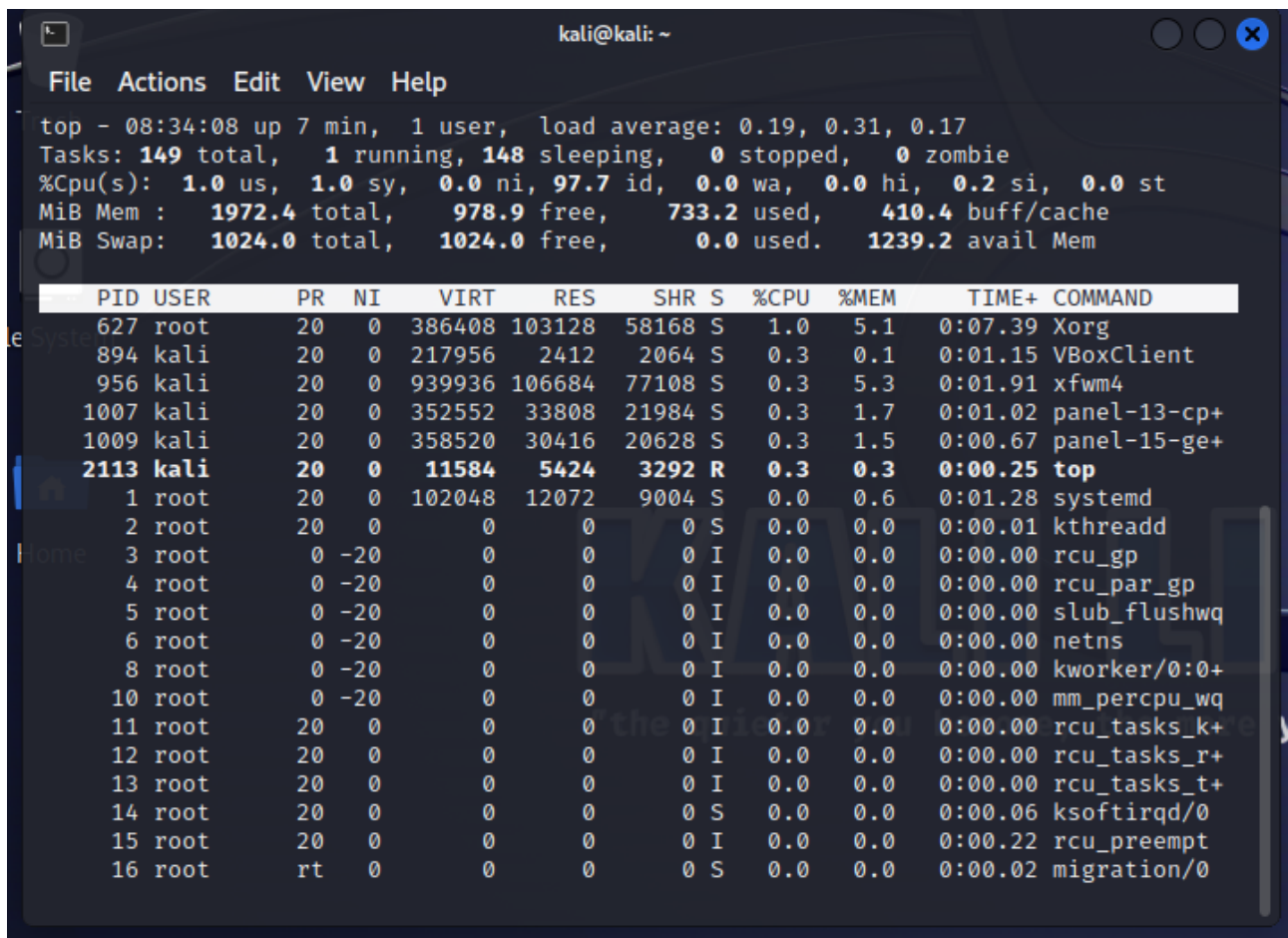


EPICODE – Esercizio shell con Linux

Nell'esercizio di oggi familiarizzeremo con i comandi della shell di Linux.

1 – Controllare i processi attivi con il comando Top e descrivere: PID, USER, COMMAND



```
kali@kali: ~  
File Actions Edit View Help  
top - 08:34:08 up 7 min, 1 user, load average: 0.19, 0.31, 0.17  
Tasks: 149 total, 1 running, 148 sleeping, 0 stopped, 0 zombie  
%Cpu(s): 1.0 us, 1.0 sy, 0.0 ni, 97.7 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st  
MiB Mem : 1972.4 total, 978.9 free, 733.2 used, 410.4 buff/cache  
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used. 1239.2 avail Mem  


| PID         | USER        | PR        | NI       | VIRT         | RES         | SHR         | S        | %CPU       | %MEM       | TIME+          | COMMAND      |
|-------------|-------------|-----------|----------|--------------|-------------|-------------|----------|------------|------------|----------------|--------------|
| 627         | root        | 20        | 0        | 386408       | 103128      | 58168       | S        | 1.0        | 5.1        | 0:07.39        | Xorg         |
| 894         | kali        | 20        | 0        | 217956       | 2412        | 2064        | S        | 0.3        | 0.1        | 0:01.15        | VBoxClient   |
| 956         | kali        | 20        | 0        | 939936       | 106684      | 77108       | S        | 0.3        | 5.3        | 0:01.91        | xfwm4        |
| 1007        | kali        | 20        | 0        | 352552       | 33808       | 21984       | S        | 0.3        | 1.7        | 0:01.02        | panel-13-cp+ |
| 1009        | kali        | 20        | 0        | 358520       | 30416       | 20628       | S        | 0.3        | 1.5        | 0:00.67        | panel-15-ge+ |
| <b>2113</b> | <b>kali</b> | <b>20</b> | <b>0</b> | <b>11584</b> | <b>5424</b> | <b>3292</b> | <b>R</b> | <b>0.3</b> | <b>0.3</b> | <b>0:00.25</b> | <b>top</b>   |
| 1           | root        | 20        | 0        | 102048       | 12072       | 9004        | S        | 0.0        | 0.6        | 0:01.28        | systemd      |
| 2           | root        | 20        | 0        | 0            | 0           | 0           | S        | 0.0        | 0.0        | 0:00.01        | 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   |
| 5           | root        | 0         | -20      | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | slub_flushwq |
| 6           | root        | 0         | -20      | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | netns        |
| 8           | root        | 0         | -20      | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | kworker/0:0+ |
| 10          | root        | 0         | -20      | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | mm_percpu_wq |
| 11          | root        | 20        | 0        | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | rcu_tasks_k+ |
| 12          | root        | 20        | 0        | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | rcu_tasks_r+ |
| 13          | root        | 20        | 0        | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.00        | rcu_tasks_t+ |
| 14          | root        | 20        | 0        | 0            | 0           | 0           | S        | 0.0        | 0.0        | 0:00.06        | ksoftirqd/0  |
| 15          | root        | 20        | 0        | 0            | 0           | 0           | I        | 0.0        | 0.0        | 0:00.22        | rcu_preempt  |
| 16          | root        | rt        | 0        | 0            | 0           | 0           | S        | 0.0        | 0.0        | 0:00.02        | migration/0  |


```

PID : è un numero utilizzato dal kernel del sistema operativo per identificare in modo univoco un processo attivo.

USER : Utente associato al PID

Command : Comando associato ad un PID

2 – Filtrare i risultati del comando top inviando output al comando grep sia per utente ROOT , sia per utente KALI

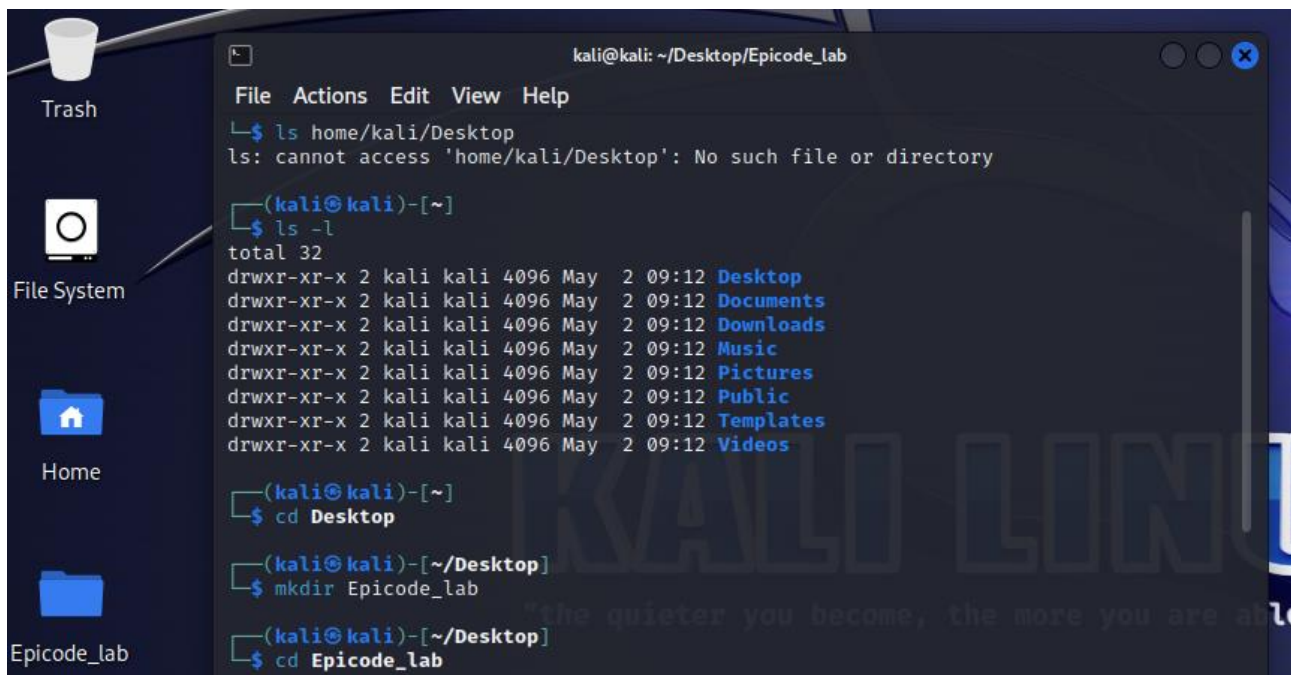
Root : Top | grep root

```
kali@kali: ~  
File Actions Edit View Help  
top - 08:42:45 up 16 min, 1 user, load average: 0.16, 0.13, 0.13  
627 root 20 0 387716 104460 58192 S 1.0 5.2 0:14.55 Xorg  
1 root 20 0 102048 12072 9004 S 0.3 0.6 0:01.30 systemd  
3798 root 20 0 0 0 0 I 0.3 0.0 0:00.43 kworker+  
2 root 20 0 0 0 0 S 0.0 0.0 0:00.01 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+  
5 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 slub_fl+  
6 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 netns  
8 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker+  
10 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_perc+  
11 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tas+  
12 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tas+  
10 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_perc+  
10 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_perc+  
10 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 mm_perc+  
11 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tas+  
12 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tas+  
13 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tas+
```

KALi : top | grep kali

```
kali@kali: ~  
File Actions Edit View Help  
(kali@kali)-[~]  
$ top | grep kali  
894 kali 20 0 217956 2412 2064 S 1.0 0.1 0:04.51 VBoxCli+  
956 kali 20 0 939936 106724 77108 S 0.7 5.3 0:04.78 xfwm4  
8000 kali 20 0 11580 5012 3112 R 0.7 0.2 0:00.02 top  
889 kali 20 0 217440 2440 2092 S 0.3 0.1 0:00.85 VBoxCli+  
1007 kali 20 0 352552 37864 21984 S 0.3 1.9 0:03.04 panel-1+  
1009 kali 20 0 358520 30416 20628 S 0.3 1.5 0:02.22 panel-1+  
894 kali 20 0 217956 2412 2064 S 1.0 0.1 0:04.54 VBoxCli+  
5477 kali 20 0 440132 103048 83924 S 1.0 5.1 0:00.78 qtermin+  
1007 kali 20 0 352552 37864 21984 S 0.7 1.9 0:03.06 panel-1+  
889 kali 20 0 217440 2440 2092 S 0.3 0.1 0:00.86 VBoxCli+  
943 kali 20 0 164364 10012 7140 S 0.3 0.5 0:00.11 at-spi2+  
956 kali 20 0 939936 106724 77108 S 0.3 5.3 0:04.79 xfwm4  
1009 kali 20 0 358520 30416 20628 S 0.3 1.5 0:02.23 panel-1+  
1010 kali 20 0 666644 43616 34416 S 0.3 2.2 0:01.05 panel-1+  
8000 kali 20 0 11580 5012 3112 R 0.3 0.2 0:00.03 top  
5477 kali 20 0 440136 103048 83924 S 2.0 5.1 0:00.84 qtermin+  
956 kali 20 0 939936 106724 77108 S 0.7 5.3 0:04.81 xfwm4  
889 kali 20 0 217440 2440 2092 S 0.3 0.1 0:00.87 VBoxCli+  
943 kali 20 0 164364 10012 7140 S 0.3 0.5 0:00.12 at-spi2+  
1009 kali 20 0 358520 30416 20628 S 0.3 1.5 0:02.24 panel-1+  
1010 kali 20 0 666644 43616 34416 S 0.3 2.2 0:01.06 panel-1+  
1015 kali 20 0 391452 40696 31812 S 0.3 2.0 0:00.26 panel-2+  
1055 kali 20 0 260956 19548 15348 S 0.3 1.0 0:00.11 xfce4-n+  
1096 kali 20 0 192576 26664 17192 S 0.3 1.3 0:00.21 xfce4-p+
```

3 – Creare una nuova directory nel Desktop chiamata Epicode_lab



```
kali@kali: ~/Desktop/Epicode_lab
File Actions Edit View Help
└─$ ls home/kali/Desktop
ls: cannot access 'home/kali/Desktop': No such file or directory

(kali@kali)-[~]
└─$ ls -l
total 32
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Desktop
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Documents
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Downloads
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Music
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Pictures
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Public
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Templates
drwxr-xr-x 2 kali kali 4096 May  2 09:12 Videos

(kali@kali)-[~]
└─$ cd Desktop

(kali@kali)-[~/Desktop]
└─$ mkdir Epicode_lab

(kali@kali)-[~/Desktop]
└─$ cd Epicode_lab
```

4 – Spostarsi nella directory create e creare il file Esercizio.txt

```
(kali@kali)-[~/Desktop/Epicode_lab]
└─$ touch Esercizio.txt
```

5 – Scrivere sul file e salvare

```
(kali@kali)-[~/Desktop/Epicode_lab]
└─$ cat > Esercizio.txt
Epicode !!!!

(kali@kali)-[~/Desktop/Epicode_lab]
└─$
```

6 – Utilizzare il comando CAT per leggere a schermo il file

```
(kali@kali)-[~/Desktop/Epicode_lab]
└─$ cat Esercizio.txt
Epicode !!!!

(kali@kali)-[~/Desktop/Epicode_lab]
└─$
```

7 – Visualizzare a schermo i permessi del file con comando : ls -la

```
(kali㉿kali)-[~/Desktop/Epicode_lab]
$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 May  9 09:08 .
drwxr-xr-x 3 kali kali 4096 May  9 08:55 ..
-rw-r--r-- 1 kali kali  13 May  9 09:12 Esercizio.txt
```

8 – Modificare i privilegi del file in modo tale che l'utente corrente abbia tutti i privilegi (r,w,x) , il gruppo (r,w) , gli altri utenti solo (r).

```
(kali㉿kali)-[~/Desktop/Epicode_lab]
$ chmod 764 Esercizio.txt

(kali㉿kali)-[~/Desktop/Epicode_lab]
$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 May  9 09:08 .
drwxr-xr-x 3 kali kali 4096 May  9 08:55 ..
-rwxrw-r-- 1 kali kali  13 May  9 09:12 Esercizio.txt
```

9- Create un nuovo utente e impostate una nuova password

```
(kali㉿kali)-[~]
$ sudo useradd pietro
[sudo] password for kali:

(kali㉿kali)-[~]
$ sudo passwd pietro
New password:
Retype new password:
passwd: password updated successfully

(kali㉿kali)-[~]
$
```

10- Con l'utente attuale cambiate i permessi del file .txt in modo tale che altri utenti non siano abilitati alla lettura

```
(kali㉿kali)-[~/Desktop/Epicode_lab]
$ chmod 763 Esercizio.txt

(kali㉿kali)-[~/Desktop/Epicode_lab]
$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 May  9 09:08 .
drwxr-xr-x 3 kali kali 4096 May  9 08:55 ..
-rwxrw--wx 1 kali kali  13 May  9 09:12 Esercizio.txt
```

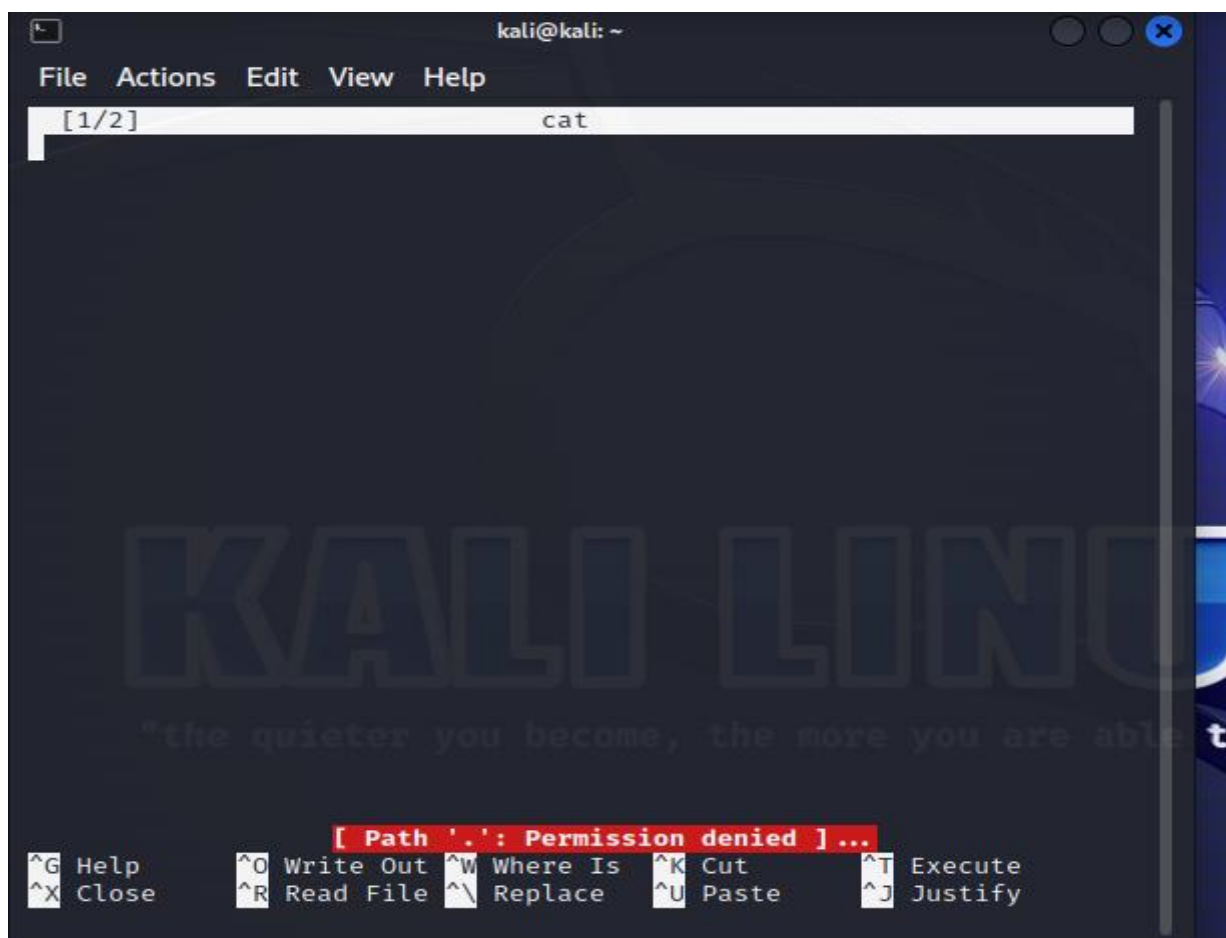

11 – Spostare il file nella directory di root

```
(kali@kali)-[~/Desktop/Epicode_lab]  
$ sudo mv Esercizio.txt /Desktop/Epicode_lab
```

12 – Cambiate utente con comando Su seguito dal nome utente

```
(kali@kali)-[~]  
$ su pietro  
Password:  
$
```

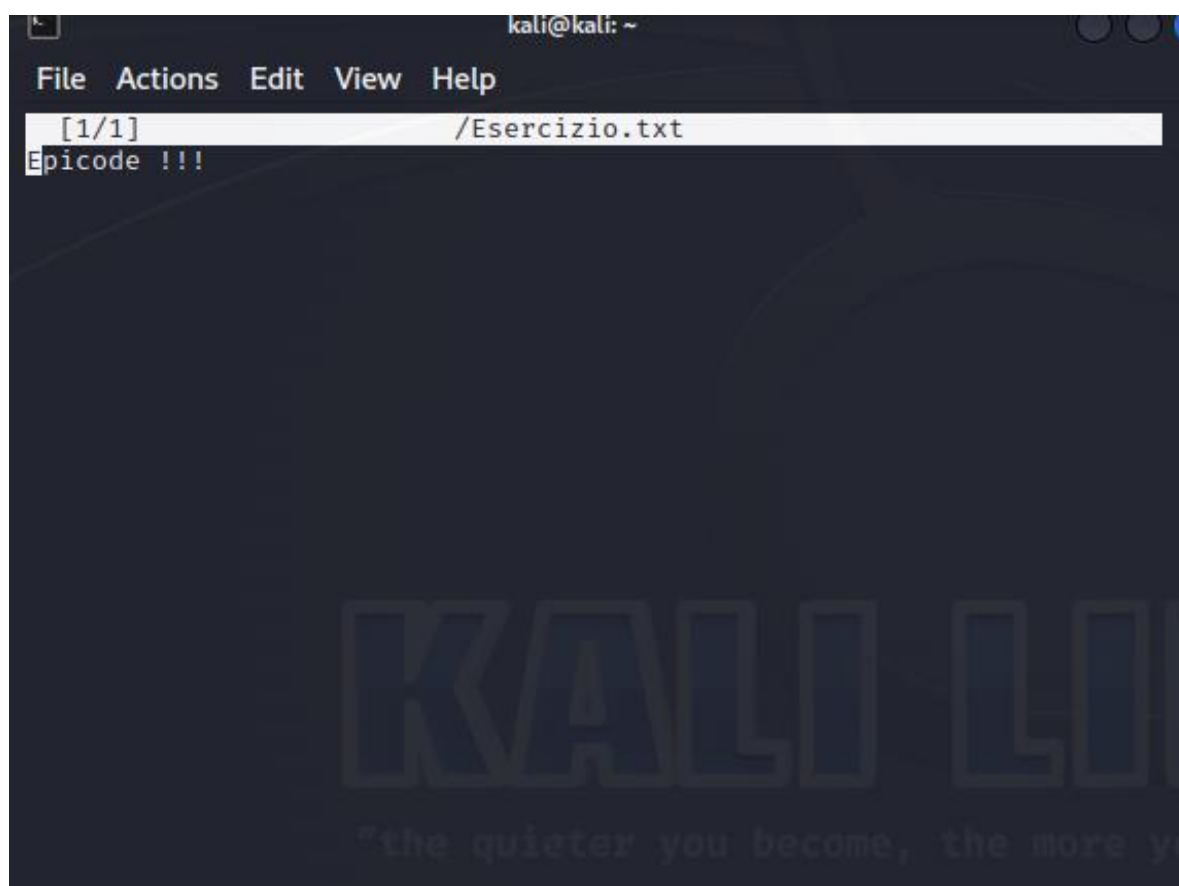
13- Provate ad aprire il file .txt con comando nano creato in precedenza che errore vi da?



14 – Modificare i permessi del file

```
(kali㉿kali)-[~]  
$ sudo chmod 764 /Esercizio.txt  
  
(kali㉿kali)-[~]  
$ sudo ls -la /Esercizio.txt  
-rwxrw-r-- 1 kali kali 12 May  9 11:56 /Esercizio.txt
```

15 – Riaprire e controllare la lettura del file .txt



16- Rimuovere il file la cartella e l'utente che avete creato ricreando lo scenario iniziale

Rimozione File :

```
File  Actions  Edit  View  Help
(kali㉿kali)-[~]
$ sudo rm /Esercizio.txt
[sudo] password for kali:

(kali㉿kali)-[~]
$ ls -l /
total 1048648
lrwxrwxrwx   1 root root          7 Mar 10 08:43 bin -> usr/bin
drwxr-xr-x   3 root root    4096 Mar 10 09:06 boot
drwxr-xr-x  17 root root   3160 May  9 10:07 dev
drwxr-xr-x 176 root root  12288 May  9 10:07 etc
drwxr-xr-x   3 root root    4096 Mar 10 08:52 home
lrwxrwxrwx   1 root root          33 Mar 10 09:06 initrd.img -> boot/i
initrd.img-6.1.0-kali5-amd64
lrwxrwxrwx   1 root root          33 Mar 10 09:06 initrd.img.old -> bo
ot/initrd.img-6.1.0-kali5-amd64
lrwxrwxrwx   1 root root          7 Mar 10 08:43 lib -> usr/lib
lrwxrwxrwx   1 root root          9 Mar 10 08:43 lib32 -> usr/lib32
lrwxrwxrwx   1 root root          9 Mar 10 08:43 lib64 -> usr/lib64
lrwxrwxrwx   1 root root         10 Mar 10 08:43 libx32 -> usr/libx32
drwx-----  2 root root   16384 Mar 10 09:03 lost+found
drwxr-xr-x   2 root root    4096 Mar 10 08:43 media
drwxr-xr-x   2 root root    4096 Mar 10 08:43 mnt
drwxr-xr-x   3 root root    4096 Mar 10 08:48 opt
dr-xr-xr-x 213 root root      0 May  9 10:07 proc
drwx-----  5 root root    4096 May  9 10:35 root
drwxr-xr-x  31 root root    780 May  9 10:09 run
lrwxrwxrwx   1 root root          8 Mar 10 08:43 sbin -> usr/sbin
drwxr-xr-x   3 root root    4096 Mar 10 08:50 srv
```

Rimozione Cartella :

```
File  Actions  Edit  View  Help
(kali㉿kali)-[~]
$ ls -l
total 32
drwxr-xr-x  3 kali kali 4096 May  9 08:55 Desktop
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Documents
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Downloads
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Music
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Pictures
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Public
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Templates
drwxr-xr-x  2 kali kali 4096 May  2 09:12 Videos

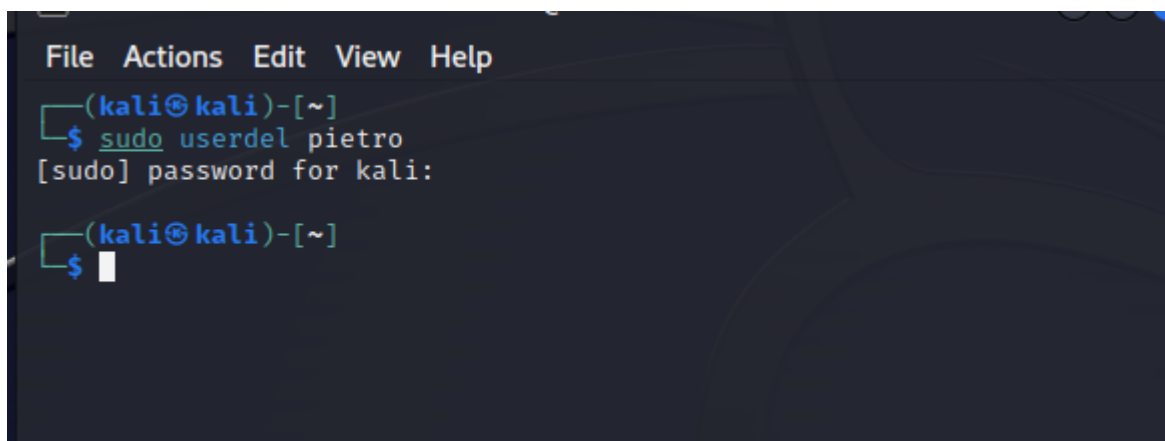
(kali㉿kali)-[~]
$ cd Desktop

(kali㉿kali)-[~/Desktop]
$ rm Epicode_lab
rm: cannot remove 'Epicode_lab': Is a directory

(kali㉿kali)-[~/Desktop]
$ rmdir Epicode_lab

(kali㉿kali)-[~/Desktop]
$
```

Rimozione User :

A terminal window with a dark background and light-colored text. The window has a menu bar at the top with 'File', 'Actions', 'Edit', 'View', and 'Help'. The terminal shows a prompt '(kali㉿kali)-[~]' followed by the command '\$ sudo userdel pietro'. Below this, it says '[sudo] password for kali:'. The prompt returns to '(kali㉿kali)-[~]' followed by '\$' and a cursor.

```
File Actions Edit View Help
(kali㉿kali)-[~]
$ sudo userdel pietro
[sudo] password for kali:
(kali㉿kali)-[~]
$
```