

# SHELL LINUX

L'esercizio di oggi familiarizzeremo con i comandi da Shell Linux.

## PARTE 1

Controllare processi attivi su macchina shell Linux

**PID** – CODICE DEL PROCESSO

**USER** – USER PROPRIETARIO DELPROCESSO

**COMMAND** – NOME DEL PROCESSO

```
kali@kali: ~  
File Actions Edit View Help  
top - 09:37:21 up 0 min, 1 user, load average: 0.51, 0.13, 0.04  
Tasks: 160 total, 1 running, 159 sleeping, 0 stopped, 0 zombie  
%Cpu(s): 3.2 us, 0.0 sy, 0.0 ni, 96.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st  
MiB Mem : 3929.5 total, 2934.8 free, 590.1 used, 404.6 buff/cache  
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used, 3124.1 avail Mem  


| PID | USER | PR | NI  | VIRT   | RES   | SHR  | S | %CPU | %MEM | TIME    | COMMAND                     |
|-----|------|----|-----|--------|-------|------|---|------|------|---------|-----------------------------|
| 1   | root | 20 | 0   | 102388 | 12036 | 8956 | S | 0.0  | 0.3  | 0:00.69 | 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                  |
| 5   | root | 0  | -20 | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | netns                       |
| 6   | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | kworker/0:0-events          |
| 7   | root | 0  | -20 | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | kworker/0:0H-events_highpri |
| 8   | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.58 | kworker/u4:0-events_unbound |
| 9   | root | 0  | -20 | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.03 | kworker/0:1H-kblockd        |
| 10  | root | 0  | -20 | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.01 | mm_percpu_wq                |
| 11  | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | rcu_tasks_kthread           |
| 12  | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | rcu_tasks_rude_kthread      |
| 13  | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | rcu_tasks_trace_kthread     |
| 14  | root | 20 | 0   | 0      | 0     | 0    | S | 0.0  | 0.0  | 0:00.01 | ksoftirqd/0                 |
| 15  | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.01 | rcu_preempt                 |
| 16  | root | rt | 0   | 0      | 0     | 0    | S | 0.0  | 0.0  | 0:00.00 | migration/0                 |
| 17  | root | 20 | 0   | 0      | 0     | 0    | I | 0.0  | 0.0  | 0:00.00 | kworker/0:1-cgroup_destroy  |
| 18  | root | 20 | 0   | 0      | 0     | 0    | S | 0.0  | 0.0  | 0:00.00 | cpuhp/0                     |
| 19  | root | 20 | 0   | 0      | 0     | 0    | S | 0.0  | 0.0  | 0:00.00 | cpuhp/1                     |
| 20  | root | rt | 0   | 0      | 0     | 0    | S | 0.0  | 0.0  | 0:00.25 | migration/1                 |


```

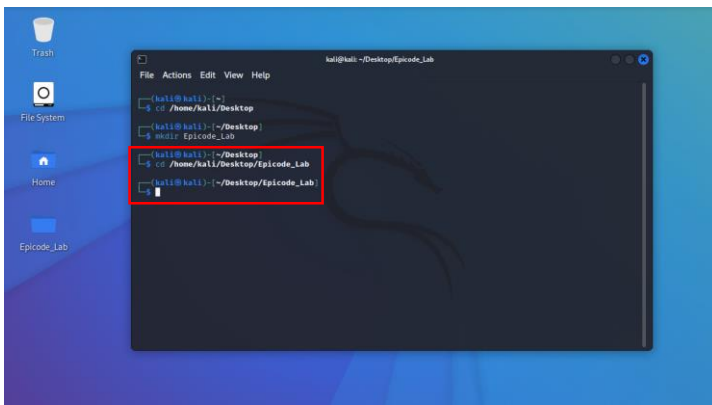
Processi attivi solo per l'utente "root" tramite comando "top | grep root"

```
kali@kali: ~  
File Actions Edit View Help  
20 root rt 0 0 0 0 0 S 0.0 0.0 0:00.25 migration/1  
  
(kali@kali)~$ top | grep root  
599 root 20 0 343988 99276 54496 S 6.2 2.5 0:00.91 Xorg  
1 root 20 0 102388 12036 8956 S 0.0 0.3 0:00.69 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  
5 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 netns  
6 root 20 0 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0-events  
7 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 kworker/0:0H-events_highpri  
8 root 20 0 0 0 0 I 0.0 0.0 0:00.58 kworker/u4:0-events_unbound  
9 root 0 -20 0 0 0 I 0.0 0.0 0:00.03 kworker/0:1H-kblockd  
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_kthread  
12 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tasks_rude_kthread  
13 root 20 0 0 0 0 I 0.0 0.0 0:00.00 rcu_tasks_trace_kthread  
14 root 20 0 0 0 0 S 0.0 0.0 0:00.01 ksoftirqd/0  
15 root 20 0 0 0 0 I 0.0 0.0 0:00.02 rcu_preempt  
16 root rt 0 0 0 0 S 0.0 0.0 0:00.00 migration/0  
17 root 20 0 0 0 0 I 0.0 0.0 0:00.00 kworker/0:1-events  
18 root 20 0 0 0 0 S 0.0 0.0 0:00.00 cpuhp/0  
  
(kali@kali)~$
```

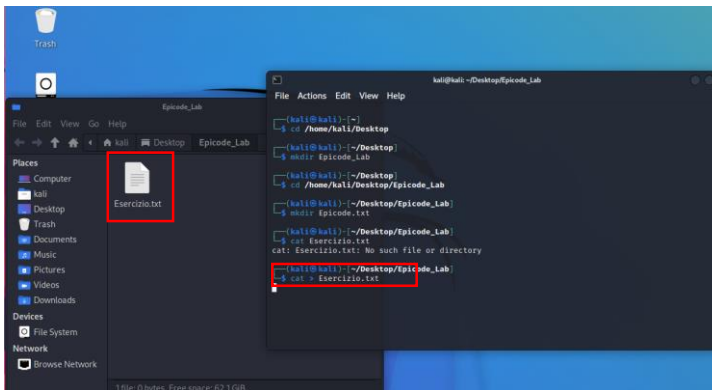
Processi attivi solo per l'utente kali tramite comando "top | grep kali"

```
kali@kali: ~  
File Actions Edit View Help  
  
(kali@kali)~$ top | grep kali  
1001 kali 20 0 432292 102048 83512 S 1.0 2.5 0:00.45 qterminal  
769 kali 20 0 269044 27548 17628 S 0.3 0.7 0:00.24 xfce4-session  
921 kali 20 0 221576 28716 18708 S 0.2 0.7 0:00.22 xfsettingsd  
933 kali 20 0 342180 24596 17268 S 0.3 0.6 0:00.12 Thunar  
940 kali 20 0 205016 27788 18560 S 0.3 0.7 0:00.72 panel-13-cpugra  
946 kali 20 0 359148 30196 20496 S 0.3 0.8 0:00.41 panel-15-genmon  
947 kali 20 0 593904 45828 34376 S 0.3 1.1 0:00.22 panel-15-pulsea  
949 kali 20 0 399932 43044 32036 S 0.3 1.1 0:00.19 panel-18-power-  
978 kali 20 0 463668 40696 31792 S 0.3 1.0 0:00.17 xfce4-notifyd  
1003 kali 20 0 188304 19876 15492 S 0.3 0.5 0:00.08 xfce4-power-man  
1018 kali 20 0 266816 25612 16560 S 0.3 0.6 0:00.13 light-locker  
1064 kali 20 0 187284 17660 13668 S 0.3 0.4 0:00.04 polkit-gnome-au  
847 kali 20 0 153000 2708 2228 S 0.3 0.1 0:00.15 VBoxClient  
940 kali 20 0 205016 27788 18560 S 0.3 0.7 0:00.73 panel-13-cpugra  
1001 kali 20 0 432292 102048 83512 S 0.3 2.5 0:00.46 qterminal  
1037 kali 20 0 374796 52596 31912 S 0.3 1.3 0:00.46 blueman-applet  
1064 kali 20 0 187284 17660 13668 S 0.3 0.4 0:00.05 polkit-gnome-au  
1071 kali 20 0 485816 49416 37552 S 0.3 1.2 0:00.20 nm-applet  
1052 kali 20 0 10396 3708 3160 R 0.3 0.1 0:00.01 top  
  
(kali@kali)~$
```

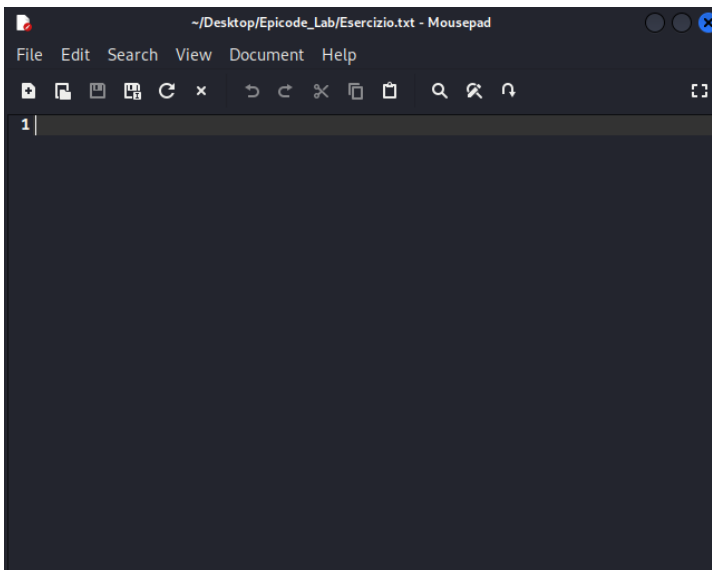
Creare una nuova directory in `cd/home/kali/Desktop` chiamata `Epicode_Lab` tramite comando "`mkdir Epicode_Lab`"



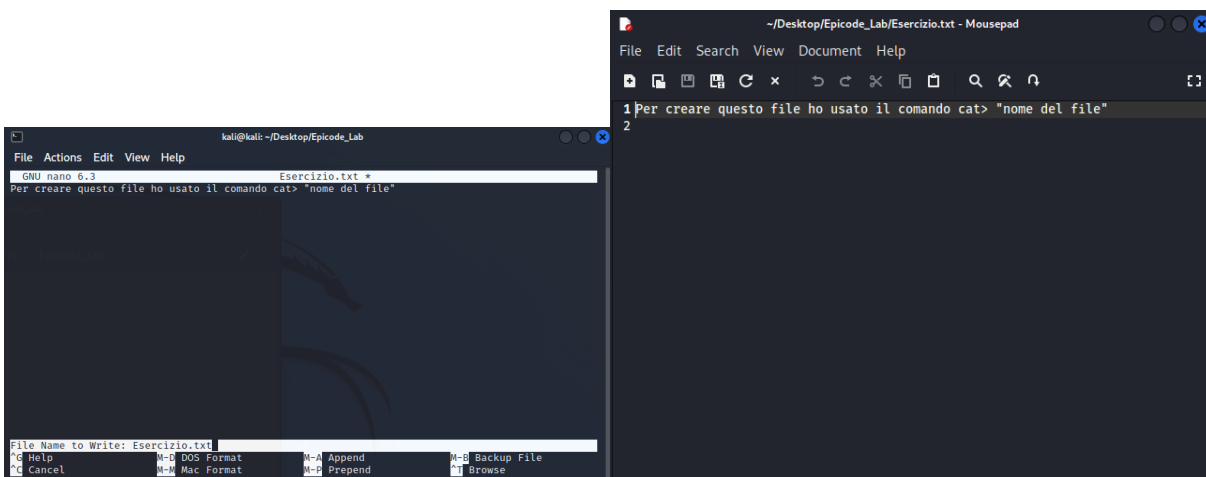
Spostarsi nella directory appena create e creare il file **Esercizio.txt**



Modifica tramite il editor **nano** di Esercizio.txt



Modifica del file Esercizio.txt tramite editor nano



## PARTE 2

Leggere a schermo il contenuto di Esercizio.txt

```
kali@kali: ~/Desktop/Epicode_Lab
File Actions Edit View Help

(kali@kali)-[~/Desktop/Epicode_Lab]
$ cat Esercizio.txt
cat: Esercizio.txt: No such file or directory

(kali@kali)-[~/Desktop/Epicode_Lab]
$ cat > Esercizio.txt
^C

(kali@kali)-[~/Desktop/Epicode_Lab]
$ nano Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ cat > Esercizio.txt
cat ^C

(kali@kali)-[~/Desktop/Epicode_Lab]
$ nano Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ cat Esercizio.txt
Per creare questo file ho usato il comando cat> "Nome del file"

(kali@kali)-[~/Desktop/Epicode_Lab]
$
```

Controllo dei permessi per i vari Utenti/Gruppi/Altri utenti tramite comando ls-la

```
kali@kali: ~/Desktop/Epicode_Lab
File Actions Edit View Help

^C

(kali@kali)-[~/Desktop/Epicode_Lab]
$ nano Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ cat > Esercizio.txt
cat ^C

(kali@kali)-[~/Desktop/Epicode_Lab]
$ nano Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ cat Esercizio.txt
Per creare questo file ho usato il comando cat> "Nome del file"

(kali@kali)-[~/Desktop/Epicode_Lab]
$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 Nov  2 09:55 .
drwxr-xr-x 3 kali kali 4096 Nov  2 09:42 ..
-rw-r--r-- 1 kali kali  64 Nov  2 09:55 Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$
```

Modifica dei permessi tramite comando **chmod u+x Esercizio.txt** e **chmod g+w Esercizio.txt**

```
kali@kali: ~/Desktop/Epicode_Lab
File Actions Edit View Help

(kali@kali)-[~/Desktop/Epicode_Lab]
$ chmod u+x Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 Nov  2 09:55 .
drwxr-xr-x 3 kali kali 4096 Nov  2 09:42 ..
-rwxr--r-- 1 kali kali  64 Nov  2 09:55 Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ chmod g+w Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 Nov  2 09:55 .
drwxr-xr-x 3 kali kali 4096 Nov  2 09:42 ..
-rwxrw-r-- 1 kali kali  64 Nov  2 09:55 Esercizio.txt

(kali@kali)-[~/Desktop/Epicode_Lab]
$
```

Creazione di un nuovo utente con l'ausilio del comando **sudo - sudo useradd Ale**. Stessa cosa per l'associazione di una password **sudo passwd Ale**

```
kali@kali: ~/Desktop/Epicode_Lab
File Actions Edit View Help
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ useradd Epicode
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$
```

```
(kali@kali)-[~]
└─$ sudo passwd Ale
New password:
Retype new password:
passwd: password updated successfully
```

Cambio dei privilegi di lettura per “Altri Utenti” tramite il comando **chmod o-r Esercizio.txt**

```
kali@kali: ~/Desktop/Epicode_Lab
File Actions Edit View Help
(kali@kali)-[~]
└─$ cd
(kali@kali)-[~]
└─$ cd /home/kali/Desktop/Epicode_Lab
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 Nov  2 09:55 .
drwxr-xr-x 3 kali kali 4096 Nov  2 09:42 ..
-rwxr--r-- 1 kali kali  64 Nov  2 09:55 Esercizio.txt
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ chmod o-r Esercizio.txt
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ ls -la
total 12
drwxr-xr-x 2 kali kali 4096 Nov  2 09:55 .
drwxr-xr-x 3 kali kali 4096 Nov  2 09:42 ..
-rwxr--r-- 1 kali kali  64 Nov  2 09:55 Esercizio.txt
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$
```

Cambiare directory al file Esercizio.txt dalla precedente a root (/) tramite il comando **sudo mv Esercizio.txt /**. Con visualizzazione tramite comando **ls -a**

```
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ mv Esercizio.txt /
mv: cannot move 'Esercizio.txt' to '/Esercizio.txt': Permission denied
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ sudo mv Esercizio.txt /
(kali@kali)-[~/Desktop/Epicode_Lab]
└─$ cd /
(kali@kali)-[/]
└─$ ls -a
.  boot      home      lib32     media     root      swapfile  var
.. dev       initrd.img lib64     mnt       run       sys       vmlinuz
0  Esercizio.txt initrd.img.old libx32    opt       sbin      tmp       vmlinuz.old
bin  etc       lib       lost+found proc      srv       usr
(kali@kali)-[/]
└─$
```

Cambio di utente tramite comando **su Ale** e verifica di privilegi di lettura

```
(kali@kali)-[~]
└─$ su Ale
Password:
$
```

```
kali@kali: /
File Actions Edit View Help
GNU nano 6.3 New Buffer
[ Error reading Esercizio.txt: Permission denied ] ...
Help Write-Out Where-Is Cut Execute Location
Exit Read File Replace Paste Justify Go To Line
```

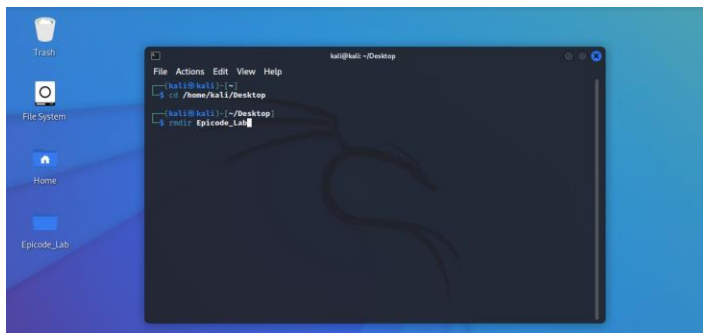
Privilegi riaggiunti a “Altri utenti” in lettura

```
kali@kali: /  
File Actions Edit View Help  
$ ls -la  
total 1048660  
drwxr-xr-x 18 root root      4096 Nov  2 10:33 .  
drwxr-xr-x 18 root root      4096 Nov  2 10:33 ..  
-rw-r--r--  1 root root         0 Aug  8 06:08 0  
lrwxrwxrwx  1 root root         7 Aug  8 06:02 bin -> usr/bin  
drwxr-xr-x  3 root root      4096 Aug  8 06:28 boot  
drwxr-xr-x 17 root root     3140 Nov  2 09:36 dev  
-rw-r--r--  1 kali kali         65 Nov  2 10:32 Esercizio.txt  
drwxr-xr-x 167 root root    12288 Nov  2 10:20 etc  
drwxr-xr-x  3 root root      4096 Aug  8 06:10 home  
lrwxrwxrwx  1 root root         34 Aug  8 06:28 initrd.img -> boot/initrd.img-5.18.0-kali5-amd64  
-amd64  
lrwxrwxrwx  1 root root         34 Aug  8 06:28 initrd.img.old -> boot/initrd.img-5.18.0-kali5-amd64  
lrwxrwxrwx  1 root root         7 Aug  8 06:02 lib -> usr/lib  
lrwxrwxrwx  1 root root         9 Aug  8 06:02 lib32 -> usr/lib32  
lrwxrwxrwx  1 root root         9 Aug  8 06:02 lib64 -> usr/lib64  
lrwxrwxrwx  1 root root        10 Aug  8 06:02 libx32 -> usr/libx32  
drwx  -  -  2 root root    16384 Aug  8 06:26 lost+found  
drwxr-xr-x  2 root root      4096 Aug  8 06:02 media  
drwxr-xr-x  2 root root      4096 Aug  8 06:02 mnt  
drwxr-xr-x  3 root root      4096 Aug  8 06:07 opt
```

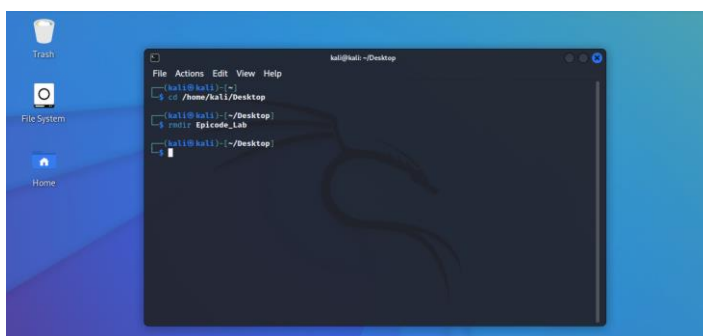
Verifica dei privilegi

```
kali@kali: /  
File Actions Edit View Help  
GNU nano 6.3 Esercizio.txt  
Per creare questo file ho usato il comando cat > "Nome del file"  
  
[ File 'Esercizio.txt' is unwritable ] ...  
Help Write Out Where Is Cut Execute Location  
Exit Read File Replace Paste Justify Go To Line
```

Eliminazione di tutto il contenuto creato



pre eliminazione



post eliminazione

Eliminazione user Ale con l'ausilio di sudo. Comando **sudo userdel Ale**

```
kali@kali: ~/Desktop
File Actions Edit View Help
(kali@kali)-[~]
└─$ cd /home/kali/Desktop
(kali@kali)-[~/Desktop]
└─$ mkdir Epicode_Lab
(kali@kali)-[~/Desktop]
└─$ userdel Ale
userdel: Permission denied.
userdel: cannot lock /etc/passwd; try again later.
(kali@kali)-[~/Desktop]
└─$ sudo userdel Ale
[sudo] password for kali:
(kali@kali)-[~/Desktop]
└─$ su Ale
su: user Ale does not exist or the user entry does not contain all the required fields
(kali@kali)-[~/Desktop]
└─$
```

Eliminazione user Ale con l'ausilio di sudo. Comando **sudo rm Esercizio.txt**. Spostandoci nella directory in cui è salvato

```
kali@kali: /
File Actions Edit View Help
(kali@kali)-[~/Desktop]
└─$ cd /
(kali@kali)-[/]
└─$ rm Esercizio.txt
rm: cannot remove 'Esercizio.txt': Permission denied
(kali@kali)-[/]
└─$ sudo rm Esercizio.txt
(kali@kali)-[/]
└─$ ls -a
.  bin  etc  initrd.img.old  lib64  media  proc  sbin  sys  var
.. boot home lib  libx32  mnt  root  srv  tmp  vmlinuz
0  dev  initrd.img  lib32  lost+found  opt  run  swapfile  usr  vmlinuz.old
(kali@kali)-[/]
└─$
```