

Familiarizzazione con la shell Linux

La traccia di oggi ci chiedeva di usare vari comandi di linux visti a lezione.

1-2) I primi tre punti chiedevano di vedere i processi attivi con diversi utenti tramite il comando top. Il secondo punto ci chiedeva pero di aggiungere | grep root per controllare i processi dell'utente root

```
top - 09:38:04 up 1 min, 1 user, load average: 1.39, 0.61, 0.22
Tasks: 157 total, 1 running, 156 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.9 us, 5.9 sy, 0.0 ni, 91.4 id, 0.0 wa, 0.0 hi, 0.7 si, 0.0 st
MiB Mem : 2424.3 total, 1391.1 free, 637.4 used, 395.8 buff/cache
MiB Swap: 1024.0 total, 1024.0 free, 0.0 used, 1628.3 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
 668 root        20   0 444732 136020 65696 S   7.9   5.5   0:09.30 Xorg
 992 kali        20   0 437280 106844 87808 S   4.0   4.3   0:02.96 qterminal
 958 kali        20   0 205020 29936 18664 S   2.6   1.2   0:01.38 panel-13-cpugra
 913 kali        20   0 932060 103604 77008 S   1.7   4.2   0:02.44 xfwm4
 962 kali        20   0 424720 30400 20712 S   1.0   1.2   0:00.82 panel-15-genmon
   15 root        20   0      0      0      0 I   0.3   0.0   0:00.66 rcu_preempt
   42 root        0 -20      0      0      0 I   0.3   0.0   0:00.91 kworker/1:1H-events_highpri
  152 root        20   0      0      0      0 I   0.3   0.0   0:00.16 kworker/0:3-events
  705 rtkit        21   1 153944 3160 2852 S   0.3   0.1   0:00.03 rtkit-daemon
  864 kali        20   0 153000 2704 2224 S   0.3   0.1   0:00.36 VBoxClient
  963 kali        20   0 659416 46500 35008 S   0.3   1.9   0:00.73 panel-16-pulsea
1251 kali        20   0 10544 4136 3340 R   0.3   0.2   0:00.13 top
    1 root        20   0 167880 12104 9056 S   0.0   0.5   0:01.53 systemd
    2 root        20   0      0      0      0 S   0.0   0.0   0:00.02 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-pm
    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   0:03.40 kworker/u4:0-events_unbound
    9 root        0 -20      0      0      0 I   0.0   0.0   0:00.31 kworker/0:1H-events_highpri
   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   0:00.06 ksoftirqd/0
   16 root        rt    0      0      0      0 S   0.0   0.0   0:00.01 migration/0
   17 root        20   0      0      0      0 I   0.0   0.0   0:00.29 kworker/0:1-ata_sff
   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
   21 root        20   0      0      0      0 S   0.0   0.0   0:00.31 ksoftirqd/1
   22 root        20   0      0      0      0 I   0.0   0.0   0:00.02 kworker/1:0-ata_sff
   23 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker/1:0H-events_highpri
   25 root        20   0      0      0      0 I   0.0   0.0   0:00.04 kworker/u4:1-flush-8:0
   26 root        20   0      0      0      0 S   0.0   0.0   0:00.00 kdevtmpfs
   27 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 inet_frag_wq
   28 root        20   0      0      0      0 S   0.0   0.0   0:00.00 kauditd
   29 root        20   0      0      0      0 I   0.0   0.0   0:00.07 kworker/1:1-cgwb_release
```

```
top - 09:54:48 up 18 min, 1 user, load average: 0.87, 0.49, 0.34
 668 root        20   0 451992 162788 65780 S   3.3   5.7   0:56.58 Xorg
   15 root        20   0      0      0      0 I   0.7   0.0   0:04.71 rcu_preempt
  466 root        20   0      0      0      0 I   0.7   0.0   0:02.05 kworker/1:3-events
  4719 root        20   0      0      0      0 I   0.3   0.0   0:00.18 kworker/0:2-ata_sff
    1 root        20   0 167880 12104 9056 S   0.0   0.5   0:01.65 systemd
    2 root        20   0      0      0      0 S   0.0   0.0   0:00.02 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
    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   0:03.00 kworker/u4:0-events_unbound
    9 root        0 -20      0      0      0 I   0.0   0.0   0:00.46 kworker/0:1H-events_highpri
   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   0:00.31 ksoftirqd/0
   16 root        rt    0      0      0      0 S   0.0   0.0   0:00.03 migration/0
   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   0:00.33 migration/1
   21 root        20   0      0      0      0 S   0.0   0.0   0:00.29 ksoftirqd/1
   23 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker/1:0H-events_highpri
   26 root        20   0      0      0      0 S   0.0   0.0   0:00.00 kdevtmpfs
   27 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 inet_frag_wq
   28 root        20   0      0      0      0 S   0.0   0.0   0:00.00 kauditd
   29 root        20   0      0      0      0 I   0.0   0.0   0:00.07 kworker/1:1-cgwb_release
   30 root        20   0      0      0      0 S   0.0   0.0   0:00.00 khungtaskd
   31 root        20   0      0      0      0 S   0.0   0.0   0:00.00 oom_reaper
   32 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 writeback
   33 root        20   0      0      0      0 S   0.0   0.0   0:00.35 kcompactd0
   34 root        25   5      0      0      0 S   0.0   0.0   0:00.00 ksm
   35 root        20   0      0      0      0 S   0.0   0.0   0:00.00 kintegrityd
   36 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kblockd
   37 root        25   5      0      0      0 S   0.0   0.0   0:00.00 ksm
   38 root        20   0      0      0      0 S   0.0   0.0   0:00.00 kintegrityd
   39 root        39  19      0      0      0 S   0.0   0.0   0:03.91 khugepaged
   40 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kintegrityd
   41 root        20   0      0      0      0 S   0.0   0.0   0:00.00 khungtaskd
   42 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 oom_reaper
   43 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 writeback
   44 root        20   0      0      0      0 S   0.0   0.0   0:00.35 kcompactd0
   45 root        25   5      0      0      0 S   0.0   0.0   0:00.00 ksm
   46 root        20   0      0      0      0 S   0.0   0.0   0:03.21 khugepaged
   47 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kintegrityd
   48 root        20   0      0      0      0 I   0.0   0.0   0:00.00 kblockd
   49 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 blkcg_punt_bio
   50 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 tpm_dev_wq
```

Il terzo punto invece ci chiedeva di mostrare solo i processi dell'utente kali

```
(kali@kali)~$ top | grep kali
963 kali      20    0 659416 48608 35088 S   1.8   2.0   0:04.51 panel-16-pulsea
5866 kali      20    0   10404   3992   3312 R   1.8   0.2   0:00.01 top
2624 kali      20    0 437408 107508 88556 S   2.6   4.3   0:05.47 qterminal
913 kali       20    0 933816 107396 77008 S   1.6   4.3   0:19.91 xfwm4
958 kali       20    0 205020 32096 18664 S   1.3   1.3   0:16.43 panel-13-cpugra
962 kali       20    0 424720 30404 20712 S   1.3   1.2   0:11.29 panel-15-genmon
864 kali       20    0 153000   2704   2224 S   0.7   0.1   0:06.51 VBoxClient
963 kali       20    0 659416 48608 35088 S   0.3   2.0   0:04.52 panel-16-pulsea
965 kali       20    0 391744 48296 33152 S   0.3   1.9   0:01.59 panel-18-power-
5866 kali      20    0   10404   3992   3312 R   0.3   0.2   0:00.02 top
2624 kali      20    0 437260 107636 88616 S   6.0   4.3   0:05.65 qterminal
958 kali       20    0 205020 32096 18664 S   1.3   1.3   0:16.47 panel-13-cpugra
913 kali       20    0 933816 107396 77008 S   1.0   4.3   0:19.94 xfwm4
864 kali       20    0 153000   2704   2224 S   0.7   0.1   0:06.53 VBoxClient
962 kali       20    0 424720 30404 20712 S   0.7   1.2   0:11.31 panel-15-genmon
1133 kali      20    0 313532 10140   7020 S   0.3   0.4   0:00.33 gvfs-afc-volume
913 kali       20    0 933816 107396 77008 R   1.6   4.3   0:19.99 xfwm4
958 kali       20    0 205020 32096 18664 S   1.2   1.3   0:16.51 panel-13-cpugra
962 kali       20    0 424720 30404 20712 S   0.6   1.2   0:11.33 panel-15-genmon
5866 kali      20    0   10404   3992   3312 R   0.6   0.2   0:00.04 top
864 kali       20    0 153000   2704   2224 S   0.3   0.1   0:06.54 VBoxClient
963 kali       20    0 659416 48608 35088 S   0.3   2.0   0:04.53 panel-16-pulsea
2624 kali      20    0 437260 107636 88616 S   0.3   4.3   0:05.66 qterminal
913 kali       20    0 933816 107396 77008 S   1.6   4.3   0:20.04 xfwm4
958 kali       20    0 205020 32096 18664 S   1.0   1.3   0:16.54 panel-13-cpugra
962 kali       20    0 424720 30404 20712 S   0.7   1.2   0:11.35 panel-15-genmon
963 kali       20    0 659416 48608 35088 S   0.7   2.0   0:04.55 panel-16-pulsea
2624 kali      20    0 437260 107636 88616 S   0.7   4.3   0:05.68 qterminal
864 kali       20    0 153000   2704   2224 S   0.3   0.1   0:06.55 VBoxClient
5866 kali      20    0   10404   3992   3312 R   0.3   0.2   0:00.05 top
913 kali       20    0 933816 107396 77008 S   1.3   4.3   0:20.08 xfwm4
958 kali       20    0 205020 32096 18664 S   1.3   1.3   0:16.58 panel-13-cpugra
782 kali       20    0 10324   5668   4528 S   0.7   0.2   0:01.32 dbus-daemon
864 kali       20    0 153000   2704   2224 S   0.7   0.1   0:06.57 VBoxClient
962 kali       20    0 424720 30404 20712 R   0.7   1.2   0:11.37 panel-15-genmon
2624 kali      20    0 437260 107636 88616 S   0.3   4.3   0:05.69 qterminal
5866 kali      20    0   10404   3992   3312 R   0.3   0.2   0:00.06 top
913 kali       20    0 933816 107396 77008 S   0.7   4.3   0:20.10 xfwm4
962 kali       20    0 424720 30404 20712 S   0.7   1.2   0:11.39 panel-15-genmon
864 kali       20    0 153000   2704   2224 S   0.3   0.1   0:06.58 VBoxClient
958 kali       20    0 205020 32096 18664 S   0.3   1.3   0:16.59 panel-13-cpugra
963 kali       20    0 659416 48608 35088 S   0.3   2.0   0:04.56 panel-16-pulsea
2624 kali      20    0 437260 107636 88616 S   0.3   4.3   0:05.70 qterminal
913 kali       20    0 933816 107396 77008 S   2.0   4.3   0:20.16 xfwm4
958 kali       20    0 205020 32096 18664 S   2.0   1.3   0:16.65 panel-13-cpugra
```

4-5)

I punti 4-5 ci chiedevano di creare prima una nuova directory chiamata Epicode_lab nella directory /home/kali/desktop, creeremo la seguente con il comando mkdir. Una volta creata ci sposteremo in questa e con il comando nano creeremo il file Esercizio.txt.

```
(kali@kali)~$ cd Epicode_lab
(kali@kali)~/Epicode_lab$ nano Esercizio.txt
```

6) Modificheremo poi il file con il comando nano infine salveremo le modifiche.

```
GNU nano 6.3
PROVA
PROVA
PROVA
PROVA
```

7)usiamo il comando cat per leggere il file.

```
(kali㉿kali)-[~]  
$ cd Epicode_lab  
  
(kali㉿kali)-[~/Epicode_lab]  
$ cat Esercizio.txt  
PROVA  
PROVA  
PROVA  
PROVA
```

8)controlliamo i permessi con il comando ls -la

```
(kali㉿kali)-[~/Epicode_lab]  
$ ls -la Esercizio.txt  
-rw-r--r-- 1 kali kali 24 Nov  2 10:18 Esercizio.txt
```

9)Modifichiamo poi i privilegi con il comando chmod per permettere a u di avere tutti i privilegi, per far sì che il gruppo abbia :r,w e per far sì che altri abbiano solo lettura

```
(kali㉿kali)-[~/Epicode_lab]  
$ chmod u+x Esercizio.txt  
  
(kali㉿kali)-[~/Epicode_lab]  
$ chmod g+w Esercizio.txt  
  
(kali㉿kali)-[~/Epicode_lab]  
$ ls -la Esercizio.txt  
-rwxrw-r-- 1 kali kali 24 Nov  2 10:18 Esercizio.txt  
  
(kali㉿kali)-[~/Epicode_lab]
```

10)Creiamo un nuovo utente chiamato Prova, il comando sarà sudo useradd, poi inseriamo una password a quest' ultimo con il comando sudo passwd

```
(kali㉿kali)-[~]  
$ sudo useradd Prova  
[sudo] password for kali:  
  
(kali㉿kali)-[~]  
$ passwd Prova  
passwd: You may not view or modify password information for Prova.  
  
(kali㉿kali)-[~]  
$ sudo passwd Prova  
New password:  
Retype new password:  
passwd: password updated successfully
```

11)Ora con l'utente kali cambiamo i privilegi dell'utente altri per far in modo che questo non possa leggere.

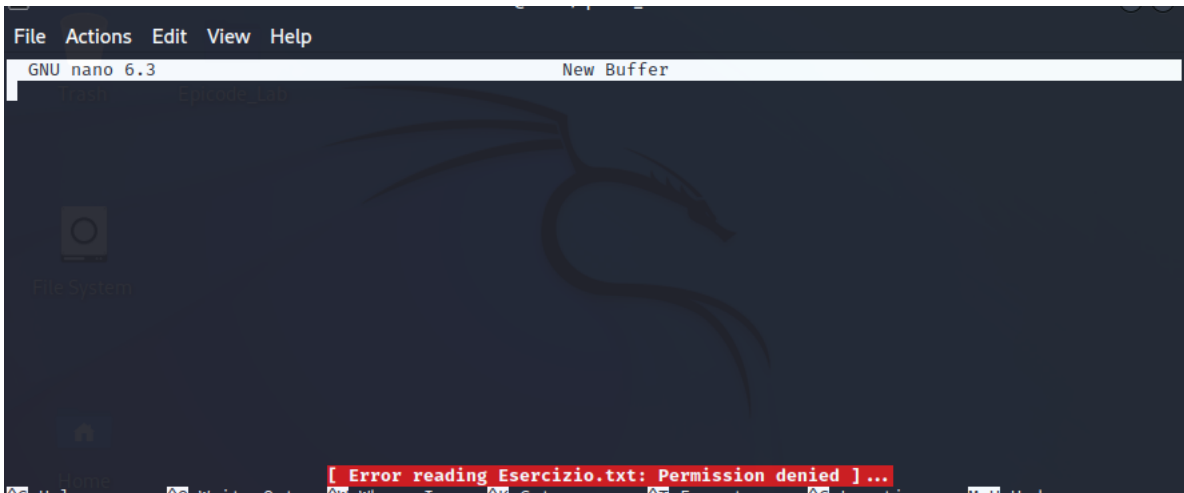
```
(kali㉿kali)-[~/Epicode_Lab]  
$ chmod o-r Esercizio.txt
```

12) Ora cambiamo utente e apriamo il file Esercizio.txt

```
(kali@kali)-[~/Epicode_Lab]
$ su Prova
Password:
$ nano Esercizio.txt
Unable to create directory /home/Prova/.local/share/nano/: No such file or directory.
It is required for saving/loading search history or cursor positions.

$ cd /
$ nano Esercizio.txt
```

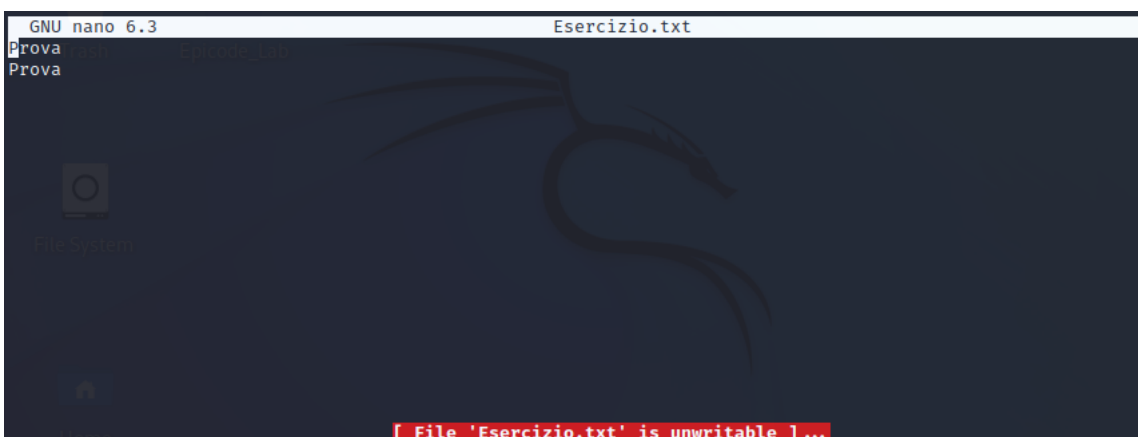
Come possiamo vedere ci da un errore in quanto in questo momento l'utente Prova non ha i permessi per vedere questo file



13) Quindi ritorniamo sul nostro utente kali inseriamo il comando chmod e facciamo o+r Esercizio.txt per dare agli altri utenti il permesso di leggere questo file.

```
(kali@kali)-[/]
$ chmod o+r Esercizio.txt
```

Come vediamo tornando sull'utente Prova adesso possiamo vedere il file esercizio.txt ma non potremo comunque modificarlo in quanto non abbiamo permessi.



14) L'ultima richiesta dell'esercizio era quella di rimuovere tutti gli oggetti creati quindi rimuoviamo il file con il comando rm, rimuoviamo la directory con il comando rmdir e rimuoviamo il nuovo utente con sudo userdel.

```
(kali@kali)-[/]
$ sudo rm Esercizio.txt
[sudo] password for kali:
```

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

```
(kali@kali)-[~]
$ sudo userdel Prova
[sudo] password for kali:
```