

## MODULE 1

1. Create a file and add executable permission to all users (user, group and others)

```
admin1@admin1-VirtualBox:~$ touch file
admin1@admin1-VirtualBox:~$ chmod 777 file
admin1@admin1-VirtualBox:~$ ls -l file
-rwxrwxrwx 1 admin1 admin1 0 Jan 29 19:14 file
admin1@admin1-VirtualBox:~$
```

2. Create a file and remove write permission for group user alone.

```
admin1@admin1-VirtualBox:~$ touch file_2
admin1@admin1-VirtualBox:~$ chmod g-w file_2
admin1@admin1-VirtualBox:~$ ls -l file_2
-rw-r--r-- 1 admin1 admin1 0 Jan 29 19:17 file_2
admin1@admin1-VirtualBox:~$
```

3. Create a file and add a softlink to the file in different directory (Eg : Create a file in dir1/dir2/file and create a softlink for file inside dir1)

```
admin1@admin1-VirtualBox:~$ mkdir -p dir1/dir2
admin1@admin1-VirtualBox:~$ touch dir1/dir2/file_3.txt
admin1@admin1-VirtualBox:~$ ln -s dir1/dir2/file_3.txt dir1/file_l.txt
admin1@admin1-VirtualBox:~$ ls -l dir1
total 4
drwxrwxr-x 2 admin1 admin1 4096 Jan 29 19:21 dir2
lrwxrwxrwx 1 admin1 admin1 20 Jan 29 19:22 file_l.txt -> dir1/dir2/file_3.txt
admin1@admin1-VirtualBox:~$
```

4. Use ps command with options to display all active process running on the system

```
admin1@admin1-VirtualBox:~$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.4  0.1 167864 12996 ?        Ss   19:07   0:05 /sbin/init splash
root         2  0.0  0.0      0     0 ?        S    19:07   0:00 [kthreadd]
root         3  0.0  0.0      0     0 ?        I<   19:07   0:00 [rcu_gp]
root         4  0.0  0.0      0     0 ?        I<   19:07   0:00 [rcu_par_gp]
root         5  0.0  0.0      0     0 ?        I<   19:07   0:00 [slub_flushwq]
root         6  0.0  0.0      0     0 ?        I<   19:07   0:00 [netns]
root         8  0.0  0.0      0     0 ?        I<   19:07   0:00 [kworker/0:0H-events_highpri]
root        11  0.0  0.0      0     0 ?        I<   19:07   0:00 [mm_percpu_wq]
root        12  0.0  0.0      0     0 ?        I    19:07   0:00 [rcu_tasks_kthread]
root        13  0.0  0.0      0     0 ?        I    19:07   0:00 [rcu_tasks_rude_kthread]
root        14  0.0  0.0      0     0 ?        I    19:07   0:00 [rcu_tasks_trace_kthread]
root        15  0.0  0.0      0     0 ?        S    19:07   0:00 [ksoftirqd/0]
root        16  0.2  0.0      0     0 ?        I    19:07   0:03 [rcu_preempt]
root        17  0.0  0.0      0     0 ?        S    19:07   0:00 [migration/0]
root        18  0.0  0.0      0     0 ?        S    19:07   0:00 [idle_inject/0]
root        19  0.0  0.0      0     0 ?        S    19:07   0:00 [cpuhp/0]
root        20  0.0  0.0      0     0 ?        S    19:07   0:00 [cpuhp/1]
root        21  0.0  0.0      0     0 ?        S    19:07   0:00 [idle_inject/1]
root        22  0.2  0.0      0     0 ?        S    19:07   0:02 [migration/1]
root        23  0.2  0.0      0     0 ?        S    19:07   0:02 [ksoftirqd/1]
root        26  0.0  0.0      0     0 ?        S    19:07   0:00 [kdevtmpfs]
root        27  0.0  0.0      0     0 ?        I<   19:07   0:00 [inet_frag_wq]
root        28  0.7  0.0      0     0 ?        R    19:07   0:07 [kworker/u4:1-events_unbound]
root        29  0.0  0.0      0     0 ?        S    19:07   0:00 [kauditd]
root        30  0.0  0.0      0     0 ?        S    19:07   0:00 [khungtaskd]
root        31  0.0  0.0      0     0 ?        S    19:07   0:00 [oom_reaper]
root        32  0.1  0.0      0     0 ?        I    19:07   0:02 [kworker/u4:2-events_unbound]
root        33  0.0  0.0      0     0 ?        I<   19:07   0:00 [writeback]
root        34  0.0  0.0      0     0 ?        S    19:07   0:00 [kcompactd0]
root        35  0.0  0.0      0     0 ?        SN   19:07   0:00 [ksmd]
root        36  0.0  0.0      0     0 ?        SN   19:07   0:00 [khugepaged]
root        37  0.0  0.0      0     0 ?        I<   19:07   0:00 [kintegrityd]
root        38  0.0  0.0      0     0 ?        I<   19:07   0:00 [kblockd]
root        39  0.0  0.0      0     0 ?        I<   19:07   0:00 [blkcg_punt_bio]
root        40  0.0  0.0      0     0 ?        I<   19:07   0:00 [tpm_dev_wq]
```

5. Create 3 files in a dir1 and re-direct the output of list command with sorted by timestamp of the files to a file

```
admin1@admin1-VirtualBox:~$ mkdir linuxfiles
admin1@admin1-VirtualBox:~$ cd linuxfiles
admin1@admin1-VirtualBox:~/linuxfiles$ touch f1.txt
admin1@admin1-VirtualBox:~/linuxfiles$ sleep 5
admin1@admin1-VirtualBox:~/linuxfiles$ touch f2.txt
admin1@admin1-VirtualBox:~/linuxfiles$ sleep 5
admin1@admin1-VirtualBox:~/linuxfiles$ touch f3.txt
admin1@admin1-VirtualBox:~/linuxfiles$ ls -lt > output.txt
admin1@admin1-VirtualBox:~/linuxfiles$ cat output.txt
total 0
-rw-rw-r-- 1 admin1 admin1 0 Jan 29 19:30 output.txt
-rw-rw-r-- 1 admin1 admin1 0 Jan 29 19:29 f3.txt
-rw-rw-r-- 1 admin1 admin1 0 Jan 29 19:28 f2.txt
-rw-rw-r-- 1 admin1 admin1 0 Jan 29 19:28 f1.txt
admin1@admin1-VirtualBox:~/linuxfiles$
```