. PS (PROCESS STATUS) COMMAND

PS command is used to list the currently running processes and their PIDs along with some other information depending on different options . it reads the process information from the virtual files in /PROC file - system . / PROC contains virtual files , this is the reason it's referred to as a virtual file system .

PS :-   Shows the process of the current shell .

PID :-   Unique process id .

TITY :-   Terminal type of user logged into .

TIME :-   Amount of CPU in minute and second that process

has been running .

CMD :-   Name of the command that launched the process .

To see all the running processes

* PS -E

* PS -A

*PS -EF (FOR FULL FORMAT)

* **PS AUX :-** To see all the running processes in BSD (

Berkeley software Distribution) format . Ideally it gives you more

Information .

* PS -U (USER_NAME)

* PS -G (GROUP_NAME)

To see the process by the username

Ps -EJH :- To see the process Tree .

```
himanshu@foreman:~$ ps
    PID TTY          TIME CMD
   6576 pts/0    00:00:00 bash
   6592 pts/0    00:00:00 ps
himanshu@foreman:~$
```

```
himanshu@foreman:~$ ps -e
    PID TTY          TIME CMD
      1 ?        00:00:01 systemd
      2 ?        00:00:00 kthreadd
      3 ?        00:00:00 rcu_gp
      4 ?        00:00:00 rcu_par_gp
      5 ?        00:00:00 slub_flushwq
      6 ?        00:00:00 netns
      8 ?        00:00:00 kworker/0:0H-events_highpri
     10 ?        00:00:00 mm_percpu_wq
     11 ?        00:00:00 rcu_tasks_rude_
     12 ?        00:00:00 rcu_tasks_trace
     13 ?        00:00:00 ksoftirqd/0
     14 ?        00:00:02 rcu_sched
     15 ?        00:00:00 migration/0
     16 ?        00:00:00 idle_inject/0
     18 ?        00:00:00 cpuhp/0
     19 ?        00:00:00 cpuhp/1
     20 ?        00:00:00 idle_inject/1
     21 ?        00:00:00 migration/1
     22 ?        00:00:00 ksoftirqd/1
     24 ?        00:00:00 kworker/1:0H-events_highpri
     25 ?        00:00:00 cpuhp/2
     26 ?        00:00:00 idle_inject/2
     27 ?        00:00:00 migration/2
     28 ?        00:00:01 ksoftirqd/2
     30 ?        00:00:00 kworker/2:0H-events_highpri
     31 ?        00:00:00 cpuhp/3
     32 ?        00:00:00 idle_inject/3
     33 ?        00:00:00 migration/3
     34 ?        00:00:00 ksoftirqd/3
     36 ?        00:00:00 kworker/3:0H-events_highpri
     37 ?        00:00:00 kdevtmpfs
     38 ?        00:00:00 inet_frag_wq
     39 ?        00:00:00 kauditd
     40 ?        00:00:00 khungtaskd
     41 ?        00:00:00 oom_reaper
     42 ?        00:00:00 writeback
     43 ?        00:00:00 kcompactd0
     44 ?        00:00:00 ksmd
```

```
himanshu@foreman:~$ ps -ef | more
UID          PID    PPID  C STIME TTY          TIME CMD
root           1       0  0 11:04 ?        00:00:01 /sbin/init splash
root           2       0  0 11:04 ?        00:00:00 [kthreadd]
root           3       2  0 11:04 ?        00:00:00 [rcu_gp]
root           4       2  0 11:04 ?        00:00:00 [rcu_par_gp]
root           5       2  0 11:04 ?        00:00:00 [slub_flushwq]
root           6       2  0 11:04 ?        00:00:00 [netns]
root           8       2  0 11:04 ?        00:00:00 [kworker/0:0H-events_highpri]
root          10       2  0 11:04 ?        00:00:00 [mm_percpu_wq]
root          11       2  0 11:04 ?        00:00:00 [rcu_tasks_rude_]
root          12       2  0 11:04 ?        00:00:00 [rcu_tasks_trace]
root          13       2  0 11:04 ?        00:00:00 [ksoftirqd/0]
root          14       2  0 11:04 ?        00:00:03 [rcu_sched]
root          15       2  0 11:04 ?        00:00:00 [migration/0]
root          16       2  0 11:04 ?        00:00:00 [idle_inject/0]
root          18       2  0 11:04 ?        00:00:00 [cpuhp/0]
root          19       2  0 11:04 ?        00:00:00 [cpuhp/1]
root          20       2  0 11:04 ?        00:00:00 [idle_inject/1]
root          21       2  0 11:04 ?        00:00:00 [migration/1]
root          22       2  0 11:04 ?        00:00:00 [ksoftirqd/1]
root          24       2  0 11:04 ?        00:00:00 [kworker/1:0H-events_highpri]
root          25       2  0 11:04 ?        00:00:00 [cpuhp/2]
root          26       2  0 11:04 ?        00:00:00 [idle_inject/2]
root          27       2  0 11:04 ?        00:00:00 [migration/2]
root          28       2  0 11:04 ?        00:00:01 [ksoftirqd/2]
root          30       2  0 11:04 ?        00:00:00 [kworker/2:0H-events_highpri]
root          31       2  0 11:04 ?        00:00:00 [cpuhp/3]
root          32       2  0 11:04 ?        00:00:00 [idle_inject/3]
root          33       2  0 11:04 ?        00:00:00 [migration/3]
root          34       2  0 11:04 ?        00:00:00 [ksoftirqd/3]
root          36       2  0 11:04 ?        00:00:00 [kworker/3:0H-events_highpri]
root          37       2  0 11:04 ?        00:00:00 [kdevtmpfs]
root          38       2  0 11:04 ?        00:00:00 [inet_frag_wq]
root          39       2  0 11:04 ?        00:00:00 [kauditd]
root          40       2  0 11:04 ?        00:00:00 [khungtaskd]
root          41       2  0 11:04 ?        00:00:00 [oom_reaper]
root          42       2  0 11:04 ?        00:00:00 [writeback]
root          43       2  0 11:04 ?        00:00:00 [kcompactd0]
root          44       2  0 11:04 ?        00:00:00 [ksmd]
root          45       2  0 11:04 ?        00:00:00 [khugepaged]
```

```
himanshu@foreman:~$ ps aux | more
USER         PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.1 167156 12328 ?        Ss   11:04   0:01 /sbin/init splash
root           2  0.0  0.0      0     0 ?        S    11:04   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        I<   11:04   0:00 [rcu_gp]
root           4  0.0  0.0      0     0 ?        I<   11:04   0:00 [rcu_par_gp]
root           5  0.0  0.0      0     0 ?        I<   11:04   0:00 [slub_flushwq]
root           6  0.0  0.0      0     0 ?        I<   11:04   0:00 [netns]
root           8  0.0  0.0      0     0 ?        I<   11:04   0:00 [kworker/0:0H-events_highpr
i]
root          10  0.0  0.0      0     0 ?        I<   11:04   0:00 [mm_percpu_wq]
root          11  0.0  0.0      0     0 ?        S    11:04   0:00 [rcu_tasks_rude_]
root          12  0.0  0.0      0     0 ?        S    11:04   0:00 [rcu_tasks_trace]
root          13  0.0  0.0      0     0 ?        S    11:04   0:00 [ksoftirqd/0]
root          14  0.0  0.0      0     0 ?        I    11:04   0:03 [rcu_sched]
root          15  0.0  0.0      0     0 ?        S    11:04   0:00 [migration/0]
root          16  0.0  0.0      0     0 ?        S    11:04   0:00 [idle_inject/0]
root          18  0.0  0.0      0     0 ?        S    11:04   0:00 [cpuhp/0]
root          19  0.0  0.0      0     0 ?        S    11:04   0:00 [cpuhp/1]
root          20  0.0  0.0      0     0 ?        S    11:04   0:00 [idle_inject/1]
root          21  0.0  0.0      0     0 ?        S    11:04   0:00 [migration/1]
root          22  0.0  0.0      0     0 ?        S    11:04   0:00 [ksoftirqd/1]
root          24  0.0  0.0      0     0 ?        I<   11:04   0:00 [kworker/1:0H-events_highpr
i]
root          25  0.0  0.0      0     0 ?        S    11:04   0:00 [cpuhp/2]
root          26  0.0  0.0      0     0 ?        S    11:04   0:00 [idle_inject/2]
root          27  0.0  0.0      0     0 ?        S    11:04   0:00 [migration/2]
root          28  0.0  0.0      0     0 ?        S    11:04   0:01 [ksoftirqd/2]
root          30  0.0  0.0      0     0 ?        I<   11:04   0:00 [kworker/2:0H-events_highpr
i]
root          31  0.0  0.0      0     0 ?        S    11:04   0:00 [cpuhp/3]
root          32  0.0  0.0      0     0 ?        S    11:04   0:00 [idle_inject/3]
root          33  0.0  0.0      0     0 ?        S    11:04   0:00 [migration/3]
root          34  0.0  0.0      0     0 ?        S    11:04   0:00 [ksoftirqd/3]
root          36  0.0  0.0      0     0 ?        I<   11:04   0:00 [kworker/3:0H-events_highpr
i]
root          37  0.0  0.0      0     0 ?        S    11:04   0:00 [kdevtmpfs]
root          38  0.0  0.0      0     0 ?        I<   11:04   0:00 [inet_frag_wq]
root          39  0.0  0.0      0     0 ?        S    11:04   0:00 [kauditd]
root          40  0.0  0.0      0     0 ?        S    11:04   0:00 [khungtaskd]
root          41  0.0  0.0      0     0 ?        S    11:04   0:00 [oom_reaper]
```

```
himanshu@foreman:~$ systemctl status apache2
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: active (running) since Fri 2023-02-17 16:34:05 IST; 4h 12min left
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 840 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
   Main PID: 899 (apache2)
      Tasks: 56 (limit: 9144)
     Memory: 10.8M
        CPU: 249ms
     CGroup: /system.slice/apache2.service
             ├─899 /usr/sbin/apache2 -k start
             ├─901 /usr/sbin/apache2 -k start
             ├─902 /usr/sbin/apache2 -k start
             └─903 /usr/sbin/apache2 -k start

Feb 17 16:34:05 foreman.example.com systemd[1]: Starting The Apache HTTP Server...
Feb 17 16:34:05 foreman.example.com systemd[1]: Started The Apache HTTP Server.
himanshu@foreman:~$ 
```

```
himanshu@foreman:~$ ps -ef | grep apache2
root         899       1  0 11:04 ?        00:00:00 /usr/sbin/apache2 -k start
www-data     901     899  0 11:04 ?        00:00:00 /usr/sbin/apache2 -k start
www-data     902     899  0 11:04 ?        00:00:00 /usr/sbin/apache2 -k start
www-data     903     899  0 11:04 ?        00:00:00 /usr/sbin/apache2 -k start
himanshu    7377    6576  0 12:22 pts/0    00:00:00 grep --color=auto apache2
himanshu@foreman:~$
```

```
imanshu@foreman:~$ ps -u root | more
   PID TTY          TIME CMD
     1 ?        00:00:01 systemd
     2 ?        00:00:00 kthreadd
     3 ?        00:00:00 rcu_gp
     4 ?        00:00:00 rcu_par_gp
     5 ?        00:00:00 slub_flushwq
     6 ?        00:00:00 netns
     8 ?        00:00:00 kworker/0:0H-events_highpri
    10 ?        00:00:00 mm_percpu_wq
    11 ?        00:00:00 rcu_tasks_rude_
    12 ?        00:00:00 rcu_tasks_trace
    13 ?        00:00:00 ksoftirqd/0
    14 ?        00:00:03 rcu_sched
    15 ?        00:00:00 migration/0
    16 ?        00:00:00 idle_inject/0
    18 ?        00:00:00 cpuhp/0
    19 ?        00:00:00 cpuhp/1
    20 ?        00:00:00 idle_inject/1
    21 ?        00:00:00 migration/1
    22 ?        00:00:00 ksoftirqd/1
    24 ?        00:00:00 kworker/1:0H-events_highpri
    25 ?        00:00:00 cpuhp/2
    26 ?        00:00:00 idle_inject/2
    27 ?        00:00:00 migration/2
    28 ?        00:00:01 ksoftirqd/2
    30 ?        00:00:00 kworker/2:0H-events_highpri
    31 ?        00:00:00 cpuhp/3
    32 ?        00:00:00 idle_inject/3
    33 ?        00:00:00 migration/3
    34 ?        00:00:00 ksoftirqd/3
    36 ?        00:00:00 kworker/3:0H-events_highpri
    37 ?        00:00:00 kdevtmpfs
    38 ?        00:00:00 inet_frag_wq
    39 ?        00:00:00 kauditd
    40 ?        00:00:00 khungtaskd
    41 ?        00:00:00 oom_reaper
    42 ?        00:00:00 writeback
    43 ?        00:00:00 kcompactd0
    44 ?        00:00:00 ksmd
    45 ?        00:00:00 khugepaged
```

```
For more details see ps(1).
himanshu@foreman:~$ ps -g | more
   PID TTY      STAT   TIME COMMAND
  1849 tty2     Ssl+   0:00 /usr/libexec/gdm-wayland-session env GNOME_SHELL_SESSION_MODE=ubu
ntu /usr/bin/gnome-session --session=ubuntu
  1852 tty2     Sl+    0:00 /usr/libexec/gnome-session-binary --session=ubuntu
  6576 pts/0    Ss     0:00 bash
  7527 pts/0    R+     0:00 ps -g
  7528 pts/0    S+     0:00 more
himanshu@foreman:~$
```

```
imanshu@foreman:~$ ps -ejh
  1688    1849    1849    1849 tty2         1849 Ssl+  1000    0:00 /usr/libexec/gdm-wayland-se
  1849    1852    1849    1849 tty2         1849 Sl+   1000    0:00 /usr/libexec/gnome-session-
  6558    6576    6576    6576 pts/0        7571 Ss    1000    0:00 bash SYSTEMD_EXEC_PID=2054
  6576    7571    7571    6576 pts/0        7571 R+    1000    0:00 ps -ejh SHELL=/bin/bash SES
imanshu@foreman:~$ ps -ejh
  1688    1849    1849    1849 tty2         1849 Ssl+  1000    0:00 /usr/libexec/gdm-wayland-se
  1849    1852    1849    1849 tty2         1849 Sl+   1000    0:00 /usr/libexec/gnome-session-
  6558    6576    6576    6576 pts/0        7572 Ss    1000    0:00 bash SYSTEMD_EXEC_PID=2054
  6576    7572    7572    6576 pts/0        7572 R+    1000    0:00 ps -ejh SHELL=/bin/bash SES
imanshu@foreman:~$
```

. UPTIME LAST REBOOT COMMAND

Uptime gives a one line display of the following information . The current Time , how long the system has been running , how many users are currently logged on , and the system load averages for the past 1,5, and 15 minutes . This is the same information contained in the header line displayed by W(1) .

*   UPTIME

*   UPTIME -P

*   UPTIME -S

*   UPTIME -V

```
himanshu@foreman:~$ uptime
 12:43:53 up  1:39,  1 user,  load average: 0.27, 0.44, 0.58
himanshu@foreman:~$ uptime -h

Usage:
 uptime [options]

Options:
 -p, --pretty    show uptime in pretty format
 -h, --help      display this help and exit
 -s, --since     system up since
 -V, --version   output version information and exit

For more details see uptime(1).
himanshu@foreman:~$ uptime -p
up 1 hour, 41 minutes
himanshu@foreman:~$ uptime -s
2023-02-17 11:04:03
himanshu@foreman:~$ uptime -v
uptime: invalid option -- 'v'

Usage:
 uptime [options]

Options:
 -p, --pretty    show uptime in pretty format
 -h, --help      display this help and exit
 -s, --since     system up since
 -V, --version   output version information and exit

For more details see uptime(1).
himanshu@foreman:~$ uptime -v
uptime: invalid option -- 'v'

Usage:
 uptime [options]

Options:
 -p, --pretty    show uptime in pretty format
 -h, --help      display this help and exit
 -s, --since     system up since
```