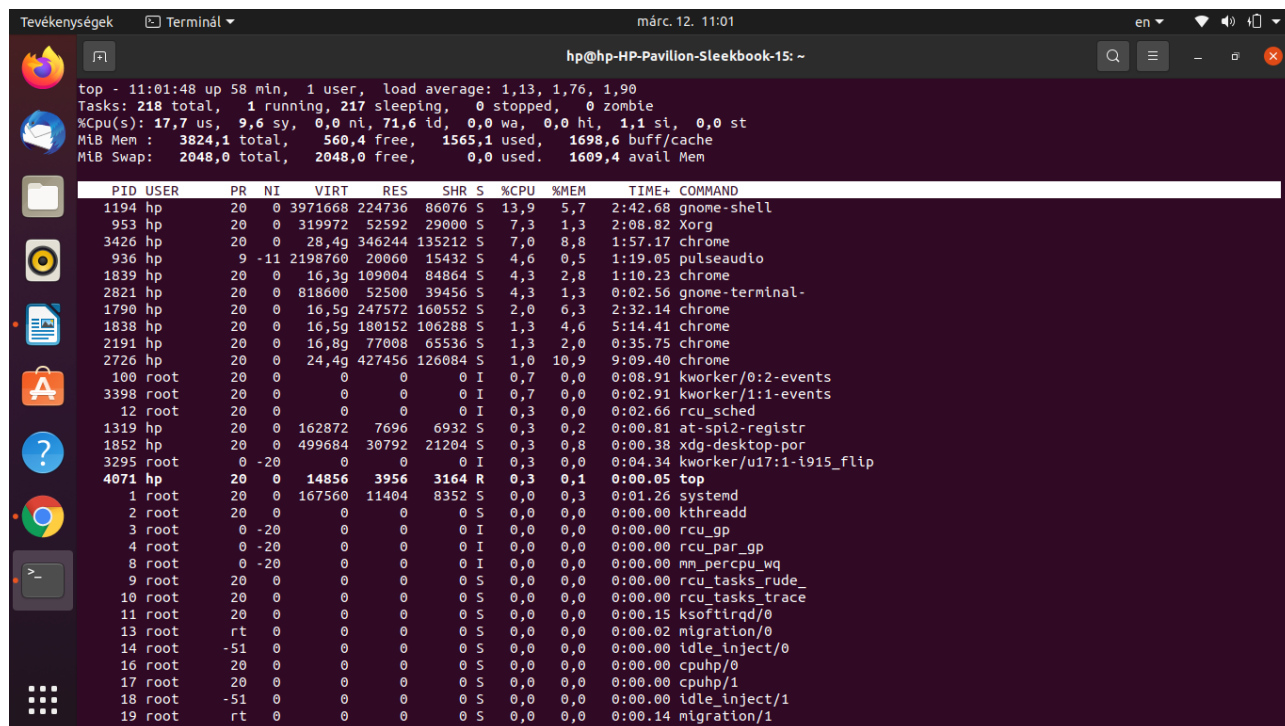


Linux OS parancsok használata

a.) top

Ez az a processz aktivitást mutató parancs, ami dinamikusan, valós idejű módban készít jelentést a futó rendszerről. Ez azt jelenti, hogy mutatja a tényleges aktivitást is.



```
top - 11:01:48 up 58 min, 1 user, load average: 1.13, 1.76, 1.90
Tasks: 218 total, 1 running, 217 sleeping, 0 stopped, 0 zombie
%Cpu(s): 17.7 us, 9.6 sy, 0.0 ni, 71.6 id, 0.0 wa, 0.0 hi, 1.1 si, 0.0 st
MiB Mem : 3824.1 total, 560.4 free, 1565.1 used, 1698.6 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used, 1609.4 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
 1194 hp        20   0 3971668 224736 86076 S   13.9   5.7   2:42.68  gnome-shell
   953 hp        20   0 319972 52592 29000 S    7.3   1.3   2:08.82  Xorg
 3426 hp        20   0 28.4g 346244 135212 S    7.0   8.8   1:57.17  chrome
   936 hp        9  -11 2198760 20060 15432 S    4.6   0.5   1:19.05  pulseaudio
 1839 hp        20   0 16.3g 109004 84864 S    4.3   2.8   1:10.23  chrome
 2821 hp        20   0 818600 52500 39456 S    4.3   1.3   0:02.56  gnome-terminal-
 1790 hp        20   0 16.5g 247572 160552 S    2.0   6.3   2:32.14  chrome
 1838 hp        20   0 16.5g 180152 106288 S    1.3   4.6   5:14.41  chrome
 2191 hp        20   0 16.8g 77008 65536 S    1.3   2.0   0:35.75  chrome
 2726 hp        20   0 24.4g 427456 126084 S    1.0  10.9   9:09.40  chrome
   100 root        20   0 0 0 0 I    0.7   0.0   0:08.91  kworker/0:2-events
 3398 root        20   0 0 0 0 I    0.7   0.0   0:02.91  kworker/1:1-events
   12 root        20   0 0 0 0 I    0.3   0.0   0:02.66  rcu_sched
 1319 hp        20   0 162872 7696 6932 S    0.3   0.2   0:00.81  at-spi2-registr
 1852 hp        20   0 499684 30792 21204 S    0.3   0.8   0:00.38  xdg-desktop-por
 3295 root        0 -20 0 0 0 I    0.3   0.0   0:04.34  kworker/u17:1-i915_flip
 4071 hp        20   0 14856 3956 3164 R    0.3   0.1   0:00.05  top
   1 root        20   0 167560 11404 8352 S    0.0   0.3   0:01.26  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
   8 root        0 -20 0 0 0 I    0.0   0.0   0:00.00  mm_percpu_wq
   9 root        20   0 0 0 0 S    0.0   0.0   0:00.00  rcu_tasks_rude_
  10 root        20   0 0 0 0 S    0.0   0.0   0:00.00  rcu_tasks_trace
  11 root        20   0 0 0 0 S    0.0   0.0   0:00.15  ksoftirqd/0
  13 root        rt   0 0 0 0 S    0.0   0.0   0:00.02  migration/0
  14 root       -51  0 0 0 0 S    0.0   0.0   0:00.00  idle_inject/0
  16 root        20   0 0 0 0 S    0.0   0.0   0:00.00  cpuhp/0
  17 root        20   0 0 0 0 S    0.0   0.0   0:00.00  cpuhp/1
  18 root       -51  0 0 0 0 S    0.0   0.0   0:00.00  idle_inject/1
  19 root        rt   0 0 0 0 S    0.0   0.0   0:00.14  migration/1
```

b.) vmstat

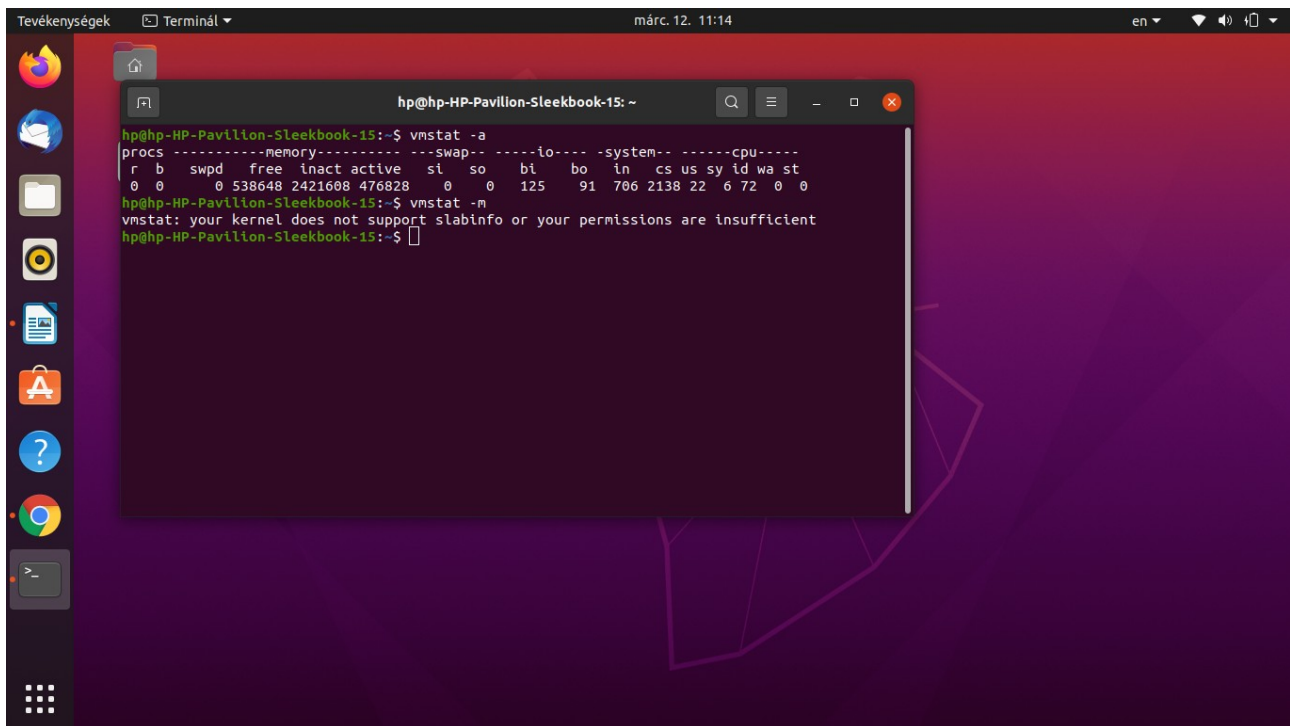
Ez a parancs a rendszer aktivitásról, a hardverről és rendszerről nyújt információkat. A jelentések a folyamatokra, memóriára, blokk input/outputra, CPU tevékenységre és csapdákra vonatkoznak.

vmstat -a

Ennek a parancsnak a kimenet számos adatot tartalmaz. Segítségével a rendszer (különösen az I/O műveletek) könnyen és jól megfigyelhető.

vmstat -m

Az aktív és inaktív memória lapokat mutatja.

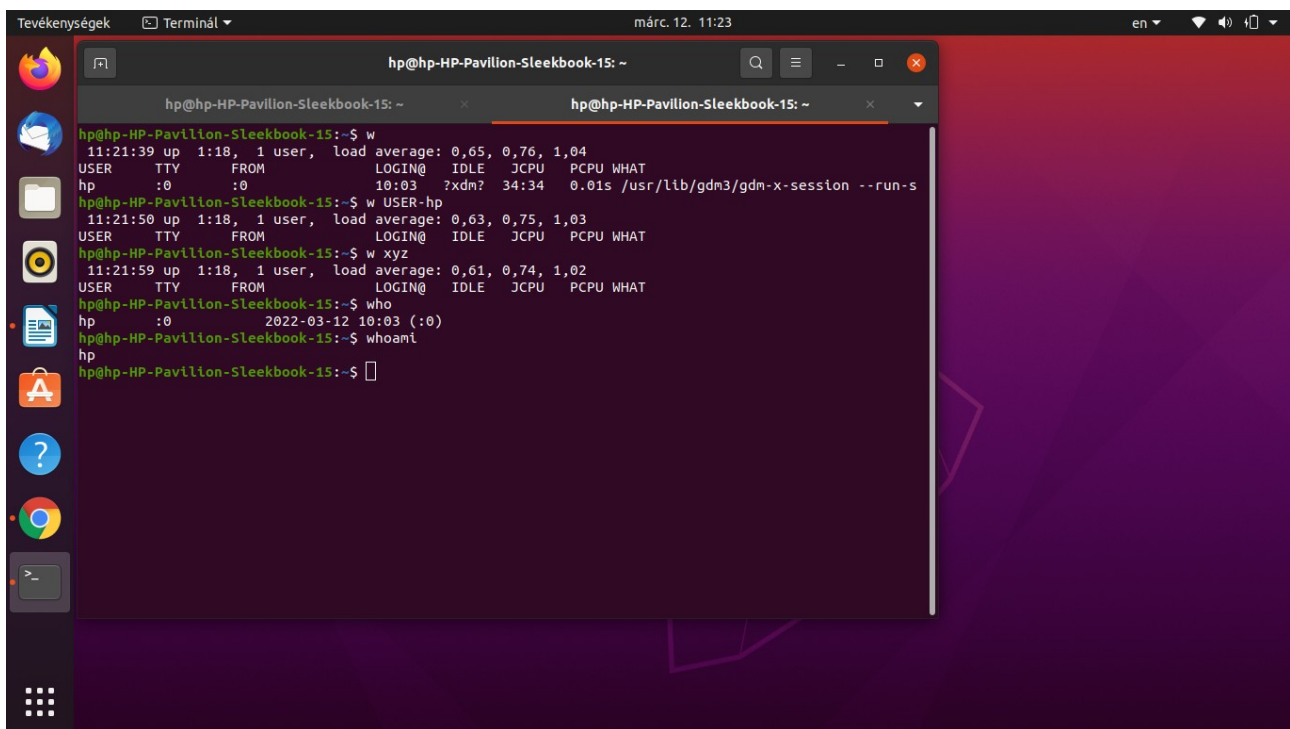


The screenshot shows a Linux desktop with a purple and red background. A terminal window is open, displaying the output of the `vmstat -a` command. The output shows various system statistics including memory, swap, IO, system, and CPU usage. The terminal prompt is `hp@hp-HP-Pavilion-Sleekbook-15: ~`.

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ vmstat -a
procs -----memory----- --swap-- -----io----- -system-- -----cpu-----
r b swpd free inact active si so bi bo in cs us sy id wa st
0 0 0 538648 2421608 476828 0 0 125 91 706 2138 22 6 72 0 0
hp@hp-HP-Pavilion-Sleekbook-15:~$ vmstat -m
vmstat: your kernel does not support slabinfo or your permissions are insufficient
hp@hp-HP-Pavilion-Sleekbook-15:~$
```

c.) w

Megmutatja, ki van bejelentkezve a rendszerbe, és éppen mit csinál.

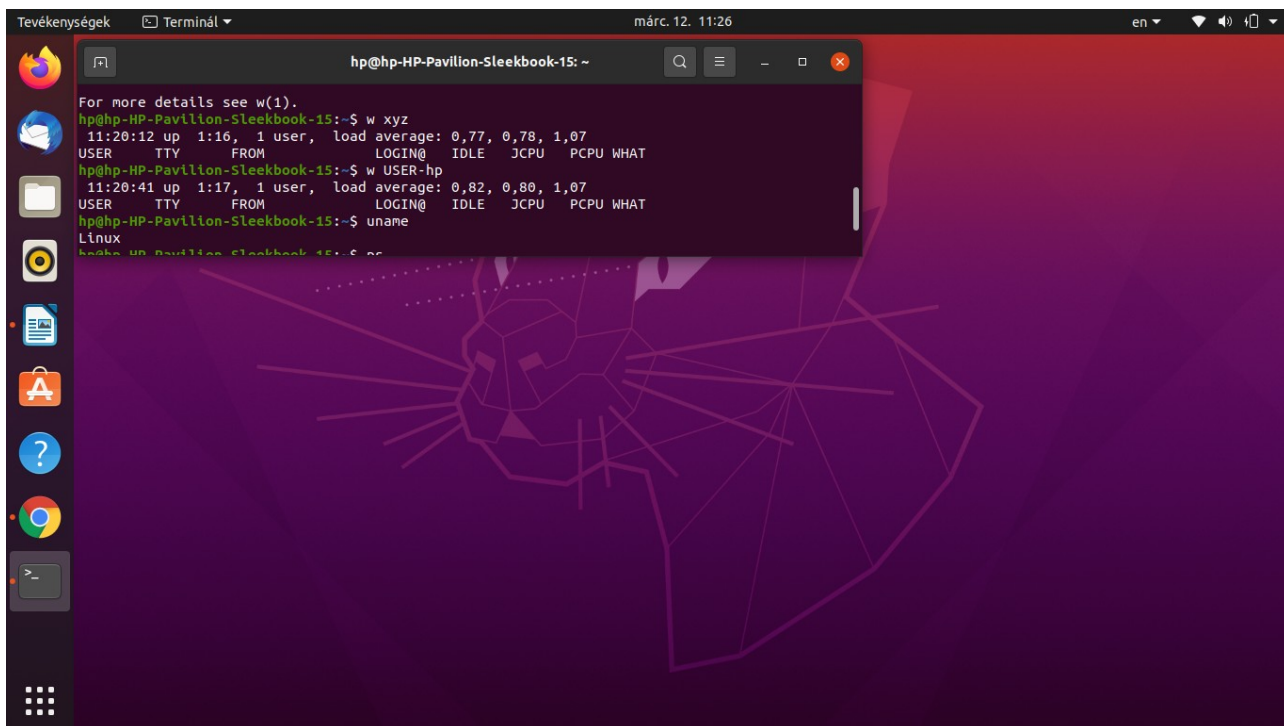


The screenshot shows a Linux desktop with a purple and red background. A terminal window is open, displaying the output of the `w` command. The output shows the current user, login time, load average, and a list of active users. The terminal prompt is `hp@hp-HP-Pavilion-Sleekbook-15: ~`.

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ w
11:21:39 up 1:18, 1 user, load average: 0,65, 0,76, 1,04
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
hp :0 :0 10:03 ?xdm? 34:34 0.01s /usr/lib/gdm3/gdm-x-session --run-s
hp@hp-HP-Pavilion-Sleekbook-15:~$ w USER-hp
11:21:50 up 1:18, 1 user, load average: 0,63, 0,75, 1,03
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
hp@hp-HP-Pavilion-Sleekbook-15:~$ w xyz
11:21:59 up 1:18, 1 user, load average: 0,61, 0,74, 1,02
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
hp@hp-HP-Pavilion-Sleekbook-15:~$ who
hp :0 2022-03-12 10:03 (:0)
hp@hp-HP-Pavilion-Sleekbook-15:~$ whoami
hp
hp@hp-HP-Pavilion-Sleekbook-15:~$
```

d.) uname

Ez a program közli a felhasználónak, hogy mióta fut a szerver. Mutatja a jelenlegi időt, az eltelt időtartamot, pillanatnyilag hány felhasználó van bejelentkezve és a átlagos rendszer terheltséget 1, 5, és 15 perccel ezelőtt.

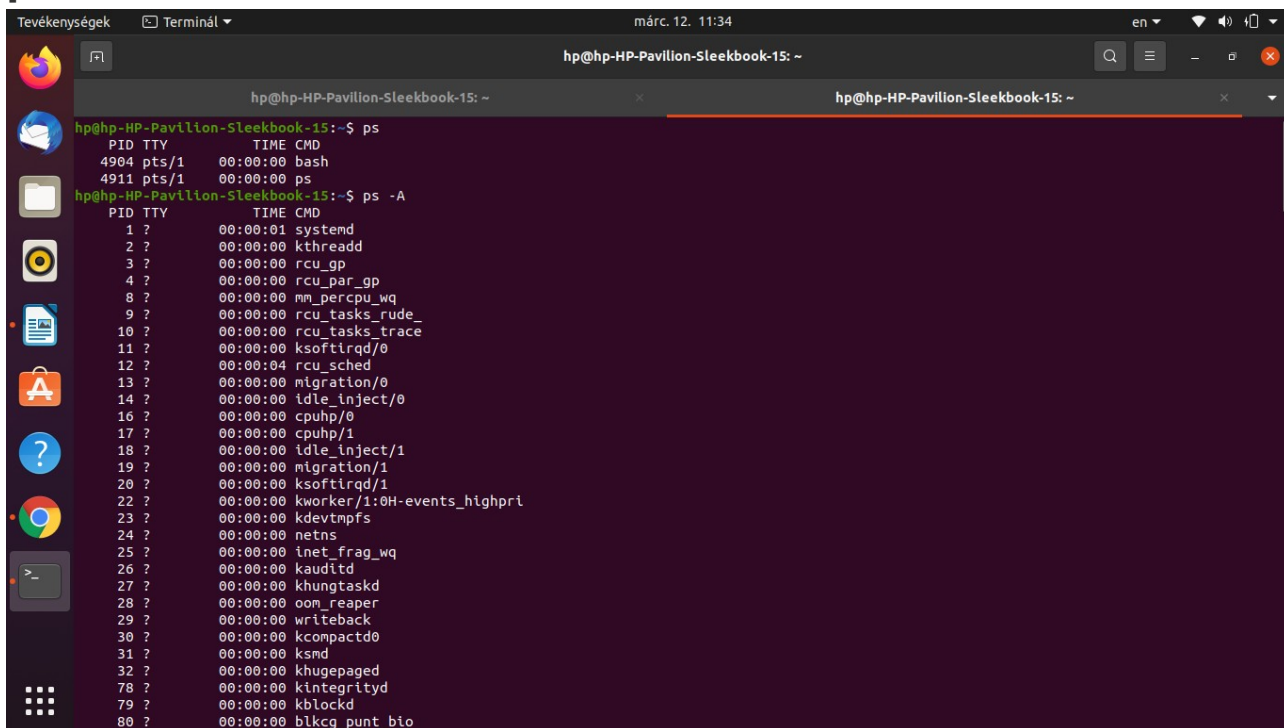


```
hp@hp-HP-Pavilion-Sleekbook-15: ~  
For more details see w(1).  
hp@hp-HP-Pavilion-Sleekbook-15:~$ w xyz  
11:20:12 up 1:16, 1 user, load average: 0,77, 0,78, 1,07  
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT  
hp@hp-HP-Pavilion-Sleekbook-15:~$ w USER-hp  
11:20:41 up 1:17, 1 user, load average: 0,82, 0,80, 1,07  
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT  
hp@hp-HP-Pavilion-Sleekbook-15:~$ uname  
Linux  
hp@hp-HP-Pavilion-Sleekbook-15:~$
```

5. ps

Az aktuális processzekről készít pillanatfelvételt. Használható a -A vagy -e opciók az összes processz kiválasztásához.

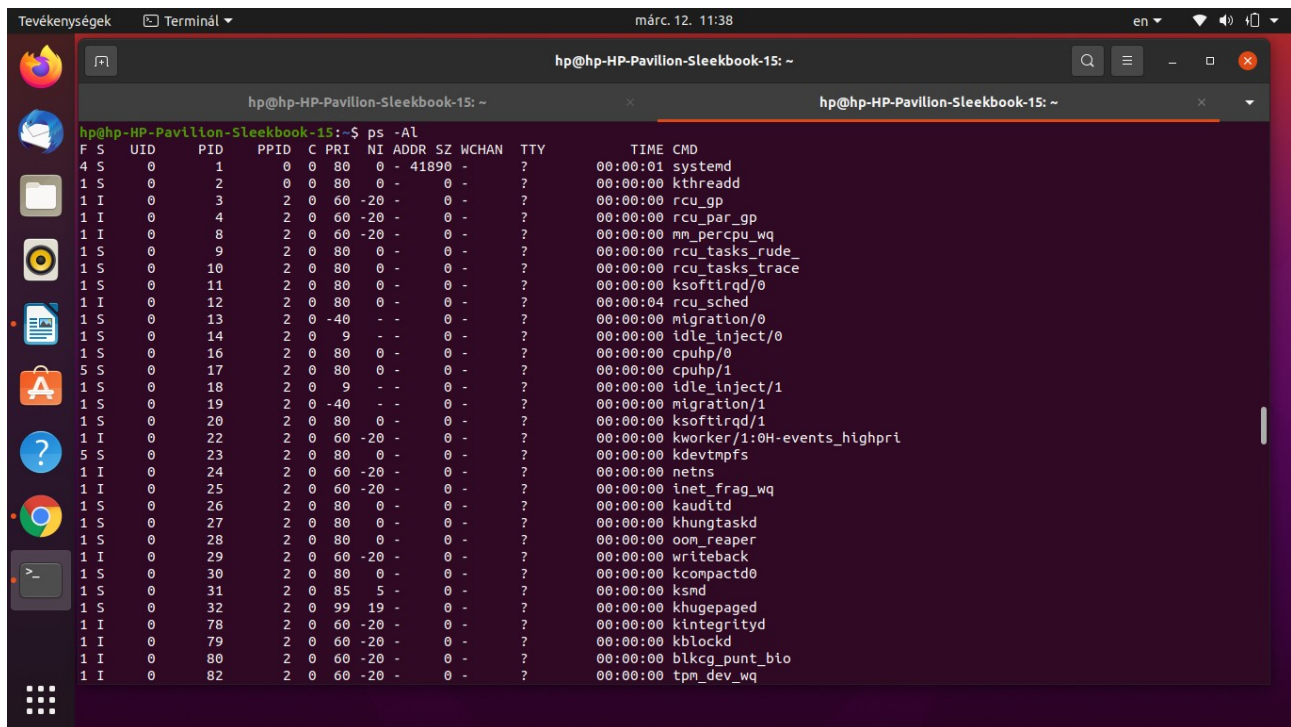
ps -A



```
hp@hp-HP-Pavilion-Sleekbook-15: ~  
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps  
PID TTY      TIME CMD  
4904 pts/1    00:00:00 bash  
4911 pts/1    00:00:00 ps  
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps -A  
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  
8 ?        00:00:00 mm_percpu_wq  
9 ?        00:00:00 rcu_tasks_rude_  
10 ?       00:00:00 rcu_tasks_trace  
11 ?       00:00:00 ksoftirqd/0  
12 ?       00:00:04 rcu_sched  
13 ?       00:00:00 migration/0  
14 ?       00:00:00 idle_inject/0  
16 ?       00:00:00 cpuhp/0  
17 ?       00:00:00 cpuhp/1  
18 ?       00:00:00 idle_inject/1  
19 ?       00:00:00 migration/1  
20 ?       00:00:00 ksoftirqd/1  
22 ?       00:00:00 kworker/1:0H-events_highpri  
23 ?       00:00:00 kdevtmpfs  
24 ?       00:00:00 netns  
25 ?       00:00:00 inet_frag_wq  
26 ?       00:00:00 kauditd  
27 ?       00:00:00 khungtaskd  
28 ?       00:00:00 oom_reaper  
29 ?       00:00:00 writeback  
30 ?       00:00:00 kcompactd0  
31 ?       00:00:00 ksm  
32 ?       00:00:00 khugepaged  
78 ?       00:00:00 kintegrityd  
79 ?       00:00:00 kblockd  
80 ?       00:00:00 blkcg_punt_bio
```

ps -al

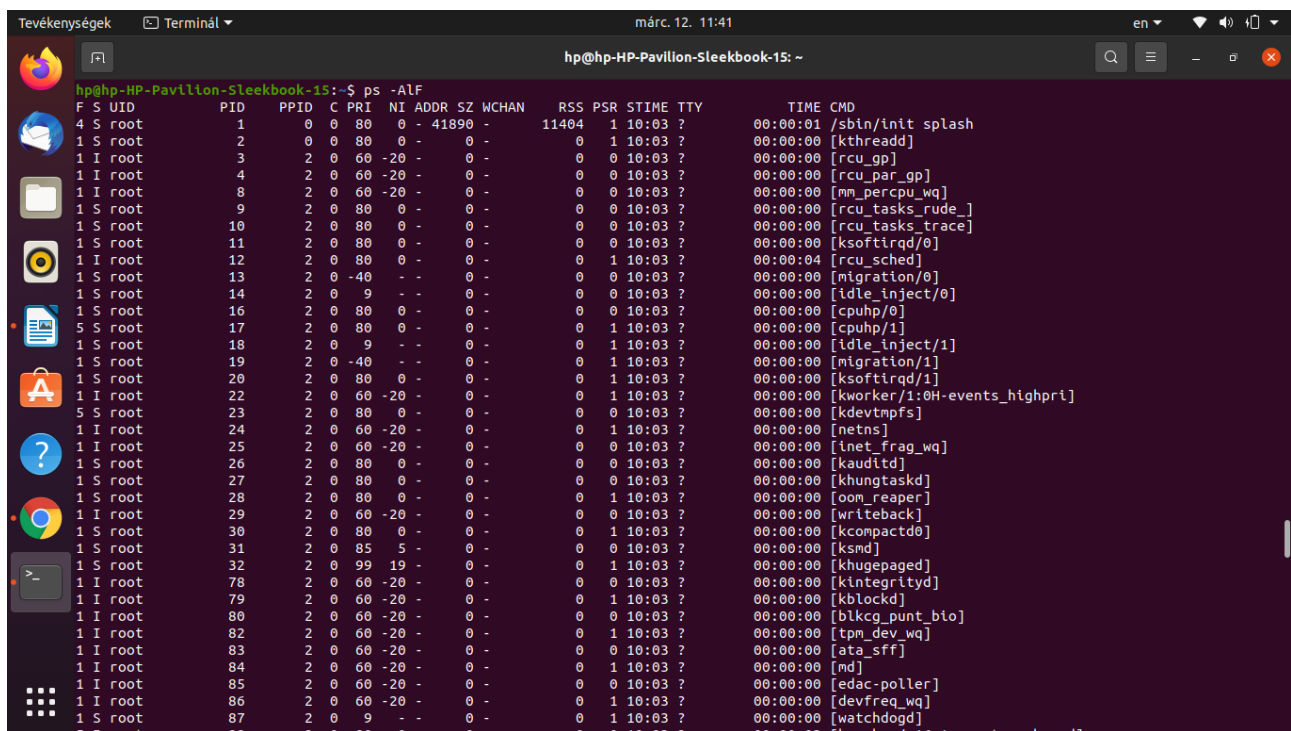
Ha a kimenetet hosszú formátumban szeretné látni.



```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps -al
F S UID PID PPID C PRI NI ADDR SZ WCHAN TTY TIME CMD
4 S 0 1 0 0 80 0 - 41890 - ? 00:00:01 systemd
1 S 0 2 0 0 80 0 - 0 - ? 00:00:00 kthreadd
1 I 0 3 2 0 60 -20 - 0 - ? 00:00:00 rcu_gp
1 I 0 4 2 0 60 -20 - 0 - ? 00:00:00 rcu_par_gp
1 I 0 8 2 0 60 -20 - 0 - ? 00:00:00 mm_percpu_wq
1 S 0 9 2 0 80 0 - 0 - ? 00:00:00 rcu_tasks_rude_
1 S 0 10 2 0 80 0 - 0 - ? 00:00:00 rcu_tasks_trace
1 S 0 11 2 0 80 0 - 0 - ? 00:00:00 ksoftirqd/0
1 I 0 12 2 0 80 0 - 0 - ? 00:00:04 rcu_sched
1 S 0 13 2 0 -40 - - 0 - ? 00:00:00 migration/0
1 S 0 14 2 0 9 - - 0 - ? 00:00:00 idle_inject/0
1 S 0 16 2 0 80 0 - 0 - ? 00:00:00 cpuhp/0
5 S 0 17 2 0 80 0 - 0 - ? 00:00:00 cpuhp/1
1 S 0 18 2 0 9 - - 0 - ? 00:00:00 idle_inject/1
1 S 0 19 2 0 -40 - - 0 - ? 00:00:00 migration/1
1 S 0 20 2 0 80 0 - 0 - ? 00:00:00 ksoftirqd/1
1 I 0 22 2 0 60 -20 - 0 - ? 00:00:00 kworker/1:0H-events_highpri
5 S 0 23 2 0 80 0 - 0 - ? 00:00:00 kdevtmpfs
1 I 0 24 2 0 60 -20 - 0 - ? 00:00:00 netns
1 I 0 25 2 0 60 -20 - 0 - ? 00:00:00 inet_frag_wq
1 S 0 26 2 0 80 0 - 0 - ? 00:00:00 kauditd
1 S 0 27 2 0 80 0 - 0 - ? 00:00:00 khungtaskd
1 S 0 28 2 0 80 0 - 0 - ? 00:00:00 oom_reaper
1 I 0 29 2 0 60 -20 - 0 - ? 00:00:00 writeback
1 S 0 30 2 0 80 0 - 0 - ? 00:00:00 kcompactd0
1 S 0 31 2 0 85 5 - 0 - ? 00:00:00 ksmd
1 S 0 32 2 0 99 19 - 0 - ? 00:00:00 khugepaged
1 I 0 78 2 0 60 -20 - 0 - ? 00:00:00 kintegrityd
1 I 0 79 2 0 60 -20 - 0 - ? 00:00:00 kblockd
1 I 0 80 2 0 60 -20 - 0 - ? 00:00:00 blkcg_punt_bio
1 I 0 82 2 0 60 -20 - 0 - ? 00:00:00 tpm_dev_wq
```

ps -AlF

Ha látni szeretné az egyes processzeknek átadott paramétereket is.



```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps -AlF
F S UID PID PPID C PRI NI ADDR SZ WCHAN TTY TIME CMD RSS PSR STIME TTY
4 S root 1 0 0 80 0 - 41890 - 11404 1 10:03 ? 00:00:01 /sbin/init splash
1 S root 2 0 0 80 0 - 0 - 0 1 10:03 ? 00:00:00 [kthreadd]
1 I root 3 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [rcu_gp]
1 I root 4 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [rcu_par_gp]
1 I root 8 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [mm_percpu_wq]
1 S root 9 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [rcu_tasks_rude_]
1 S root 10 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [rcu_tasks_trace]
1 S root 11 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [ksoftirqd/0]
1 I root 12 2 0 80 0 - 0 - 0 1 10:03 ? 00:00:04 [rcu_sched]
1 S root 13 2 0 -40 - - 0 - 0 0 10:03 ? 00:00:00 [migration/0]
1 S root 14 2 0 9 - - 0 - 0 0 10:03 ? 00:00:00 [idle_inject/0]
1 S root 16 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [cpuhp/0]
5 S root 17 2 0 80 0 - 0 - 0 1 10:03 ? 00:00:00 [cpuhp/1]
1 S root 18 2 0 9 - - 0 - 0 1 10:03 ? 00:00:00 [idle_inject/1]
1 S root 19 2 0 -40 - - 0 - 0 1 10:03 ? 00:00:00 [migration/1]
1 S root 20 2 0 80 0 - 0 - 0 1 10:03 ? 00:00:00 [ksoftirqd/1]
1 I root 22 2 0 60 -20 - 0 - 0 1 10:03 ? 00:00:00 [kworker/1:0H-events_highpri]
5 S root 23 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [kdevtmpfs]
1 I root 24 2 0 60 -20 - 0 - 0 1 10:03 ? 00:00:00 [netns]
1 I root 25 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [inet_frag_wq]
1 S root 26 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [kauditd]
1 S root 27 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [khungtaskd]
1 S root 28 2 0 80 0 - 0 - 0 1 10:03 ? 00:00:00 [oom_reaper]
1 I root 29 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [writeback]
1 S root 30 2 0 80 0 - 0 - 0 1 10:03 ? 00:00:00 [kcompactd0]
1 S root 31 2 0 85 5 - 0 - 0 0 10:03 ? 00:00:00 [ksmd]
1 S root 32 2 0 99 19 - 0 - 0 1 10:03 ? 00:00:00 [khugepaged]
1 I root 78 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [kintegrityd]
1 I root 79 2 0 60 -20 - 0 - 0 1 10:03 ? 00:00:00 [kblockd]
1 I root 80 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [blkcg_punt_bio]
1 I root 82 2 0 60 -20 - 0 - 0 1 10:03 ? 00:00:00 [tpm_dev_wq]
1 I root 83 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [ata_sff]
1 I root 84 2 0 60 -20 - 0 - 0 1 10:03 ? 00:00:00 [md]
1 I root 85 2 0 60 -20 - 0 - 0 0 10:03 ? 00:00:00 [edac-poller]
1 I root 86 2 0 60 -20 - 0 - 0 1 10:03 ? 00:00:00 [devfreq_wq]
1 S root 87 2 0 9 - - 0 - 0 1 10:03 ? 00:00:00 [watchdogd]
5 S root 88 2 0 80 0 - 0 - 0 0 10:03 ? 00:00:00 [kworker/1:0H-events_highpri]
```


ps -ALFH

Ha a szálakat is látni akarjuk.

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps -ALFH
F S UID        PID     PPID    C  PRI  NI ADDR  SZ  WCHAN  RSS  PSR  STIME  TTY      TIME  CMD
1 S root         2         0    0   80   0  -    0  -    0  1  10:03 ?        00:00:00 [kthreadd]
1 I root         3         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [rcu_gp]
1 I root         4         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [rcu_par_gp]
1 I root         8         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [mm_percpu_wq]
1 S root         9         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:00 [rcu_tasks_rude_]
1 S root        10         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:00 [rcu_tasks_trace]
1 S root        11         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:00 [ksoftirqd/0]
1 I root        12         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:04 [rcu_sched]
1 S root        13         2    0  -40  -  -    0  -    0  0  10:03 ?        00:00:00 [migration/0]
1 S root        14         2    0    9  -  -    0  -    0  0  10:03 ?        00:00:00 [idle_inject/0]
1 S root        16         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:00 [cpuhp/0]
5 S root        17         2    0   80   0  -    0  -    1  1  10:03 ?        00:00:00 [cpuhp/1]
1 S root        18         2    0    9  -  -    0  -    0  1  10:03 ?        00:00:00 [idle_inject/1]
1 S root        19         2    0  -40  -  -    0  -    0  1  10:03 ?        00:00:00 [migration/1]
1 S root        20         2    0   80   0  -    0  -    0  1  10:03 ?        00:00:00 [ksoftirqd/1]
1 I root        22         2    0   60  -20  -    0  -    0  1  10:03 ?        00:00:00 [kworker/1:0H-events_highpri]
5 S root        23         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:00 [kdevtmpfs]
1 I root        24         2    0   60  -20  -    0  -    0  1  10:03 ?        00:00:00 [netns]
1 I root        25         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [inet_frag_wq]
1 S root        26         2    0   80   0  -    0  -    0  0  10:03 ?        00:00:00 [kauditd]
1 S root        27         2    0   80   0  -    0  -    0  1  10:03 ?        00:00:00 [khungtaskd]
1 S root        28         2    0   80   0  -    0  -    0  1  10:03 ?        00:00:00 [oom_reaper]
1 I root        29         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [writeback]
1 S root        30         2    0   80   0  -    0  -    0  1  10:03 ?        00:00:00 [kcompactd0]
1 S root        31         2    0   85   5  -    0  -    0  0  10:03 ?        00:00:00 [ksmd]
1 S root        32         2    0   99  19  -    0  -    0  1  10:03 ?        00:00:00 [khugepaged]
1 I root        78         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [kintegrityd]
1 I root        79         2    0   60  -20  -    0  -    0  1  10:03 ?        00:00:00 [kblockd]
1 I root        80         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [blkcg_punt_bio]
1 I root        82         2    0   60  -20  -    0  -    0  1  10:03 ?        00:00:00 [tpm_dev_wq]
1 I root        83         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [ata_sff]
1 I root        84         2    0   60  -20  -    0  -    0  1  10:03 ?        00:00:00 [md]
1 I root        85         2    0   60  -20  -    0  -    0  0  10:03 ?        00:00:00 [edac-poller]
1 I root        86         2    0   60  -20  -    0  -    0  1  10:03 ?        00:00:00 [devfreq_wq]
1 S root        87         2    0    9  -  -    0  -    0  1  10:03 ?        00:00:00 [watchdogd]
```

ps ax, ps axu

Ha a szerver összes processzeit szeretné megjeleníteni.

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps ax
PID TTY      STAT   TIME COMMAND
1 ?        Ss      0:01 /sbin/init splash
2 ?        S        0:00 [kthreadd]
3 ?        I<       0:00 [rcu_gp]
4 ?        I<       0:00 [rcu_par_gp]
8 ?        I<       0:00 [mm_percpu_wq]
9 ?        S        0:00 [rcu_tasks_rude_]
10 ?       S        0:00 [rcu_tasks_trace]
11 ?       S        0:00 [ksoftirqd/0]
12 ?       I        0:04 [rcu_sched]
13 ?       S        0:00 [migration/0]
14 ?       S        0:00 [idle_inject/0]
16 ?       S        0:00 [cpuhp/0]
17 ?       S        0:00 [cpuhp/1]
18 ?       S        0:00 [idle_inject/1]
19 ?       S        0:00 [migration/1]
20 ?       S        0:00 [ksoftirqd/1]
22 ?       I<       0:00 [kworker/1:0H-events_highpri]
23 ?       S        0:00 [kdevtmpfs]
24 ?       I<       0:00 [netns]
25 ?       I<       0:00 [inet_frag_wq]
26 ?       S        0:00 [kauditd]
27 ?       S        0:00 [khungtaskd]
28 ?       S        0:00 [oom_reaper]
29 ?       I<       0:00 [writeback]
30 ?       S        0:00 [kcompactd0]
31 ?       SN       0:00 [ksmd]
32 ?       SN       0:00 [khugepaged]
78 ?       I<       0:00 [kintegrityd]
79 ?       I<       0:00 [kblockd]
80 ?       I<       0:00 [blkcg_punt_bio]
82 ?       I<       0:00 [tpm_dev_wq]
83 ?       I<       0:00 [ata_sff]
84 ?       I<       0:00 [md]
85 ?       I<       0:00 [edac-poller]
86 ?       I<       0:00 [devfreq_wq]
87 ?       S        0:00 [watchdogd]
```

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps axu
```

USER	PID	%CPU	%MEM	VSZ	RSS	TTY	STAT	START	TIME	COMMAND
root	1	0.0	0.2	167560	11404	?	Ss	10:03	0:01	/sbin/init splash
root	2	0.0	0.0	0	0	?	S	10:03	0:00	[kthreadd]
root	3	0.0	0.0	0	0	?	I<	10:03	0:00	[rcu_gp]
root	4	0.0	0.0	0	0	?	I<	10:03	0:00	[rcu_par_gp]
root	8	0.0	0.0	0	0	?	I<	10:03	0:00	[mm_percpu_wq]
root	9	0.0	0.0	0	0	?	S	10:03	0:00	[rcu_tasks_rude_]
root	10	0.0	0.0	0	0	?	S	10:03	0:00	[rcu_tasks_trace]
root	11	0.0	0.0	0	0	?	S	10:03	0:00	[ksoftirqd/0]
root	12	0.0	0.0	0	0	?	I	10:03	0:04	[rcu_sched]
root	13	0.0	0.0	0	0	?	S	10:03	0:00	[migration/0]
root	14	0.0	0.0	0	0	?	S	10:03	0:00	[idle_inject/0]
root	16	0.0	0.0	0	0	?	S	10:03	0:00	[cpuhp/0]
root	17	0.0	0.0	0	0	?	S	10:03	0:00	[cpuhp/1]
root	18	0.0	0.0	0	0	?	S	10:03	0:00	[idle_inject/1]
root	19	0.0	0.0	0	0	?	S	10:03	0:00	[migration/1]
root	20	0.0	0.0	0	0	?	S	10:03	0:00	[ksoftirqd/1]
root	22	0.0	0.0	0	0	?	I<	10:03	0:00	[kworker/1:0H-events_highpri]
root	23	0.0	0.0	0	0	?	S	10:03	0:00	[kdevtmpfs]
root	24	0.0	0.0	0	0	?	I<	10:03	0:00	[netns]
root	25	0.0	0.0	0	0	?	I<	10:03	0:00	[inet_frag_wq]
root	26	0.0	0.0	0	0	?	S	10:03	0:00	[kauditd]
root	27	0.0	0.0	0	0	?	S	10:03	0:00	[khungtaskd]
root	28	0.0	0.0	0	0	?	S	10:03	0:00	[oom_reaper]
root	29	0.0	0.0	0	0	?	I<	10:03	0:00	[writeback]
root	30	0.0	0.0	0	0	?	S	10:03	0:00	[kcompactd0]
root	31	0.0	0.0	0	0	?	SN	10:03	0:00	[ksmd]
root	32	0.0	0.0	0	0	?	SN	10:03	0:00	[khugepaged]
root	78	0.0	0.0	0	0	?	I<	10:03	0:00	[kntegrityd]
root	79	0.0	0.0	0	0	?	I<	10:03	0:00	[kblockd]
root	80	0.0	0.0	0	0	?	I<	10:03	0:00	[blkcg_punt_bio]
root	82	0.0	0.0	0	0	?	I<	10:03	0:00	[tpm_dev_wq]
root	83	0.0	0.0	0	0	?	I<	10:03	0:00	[ata_sff]
root	84	0.0	0.0	0	0	?	I<	10:03	0:00	[md]
root	85	0.0	0.0	0	0	?	I<	10:03	0:00	[edac-poller]
root	86	0.0	0.0	0	0	?	I<	10:03	0:00	[devfreq_wq]
root	87	0.0	0.0	0	0	?	S	10:03	0:00	[watchdogd]

ps -ejH, ps axjf, pstree

Processz fa kinyomtatása.

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps -ejH
```

PID	PID	PID	PID	TTY	PGID	STAT	UID	TIME	COMMAND
896	949	949	949	tty2	949	Ssl+	1000	0:00	/usr/lib/gdm3/gdm-x-session --run-script env GNOME_SHELL_SESSION_MODE=ubuntu
949	953	949	949	tty2	949	Sl+	1000	4:31	/usr/lib/Xorg/Xorg vt2 -displayfd 3 -auth /run/user/1000/gdm/Xauthority -ba
949	1042	949	949	tty2	949	Sl+	1000	0:00	/usr/libexec/gnome-session-binary --systemd --systemd --session=ubuntu USER
4473	4904	4904	4904	pts/1	5341	Ss	1000	0:00	bash GJS_DEBUG_TOPICS=JS ERROR;JS LOG SSH_AUTH_SOCK=/run/user/1000/keyring/
4904	5341	5341	4904	pts/1	5341	R+	1000	0:00	ps -ejH SHELL=/bin/bash SESSION_MANAGER=local/hp-HP-Pavilion-Sleekbook-15:@

```
hp@hp-HP-Pavilion-Sleekbook-15:~$ ps axjf
```

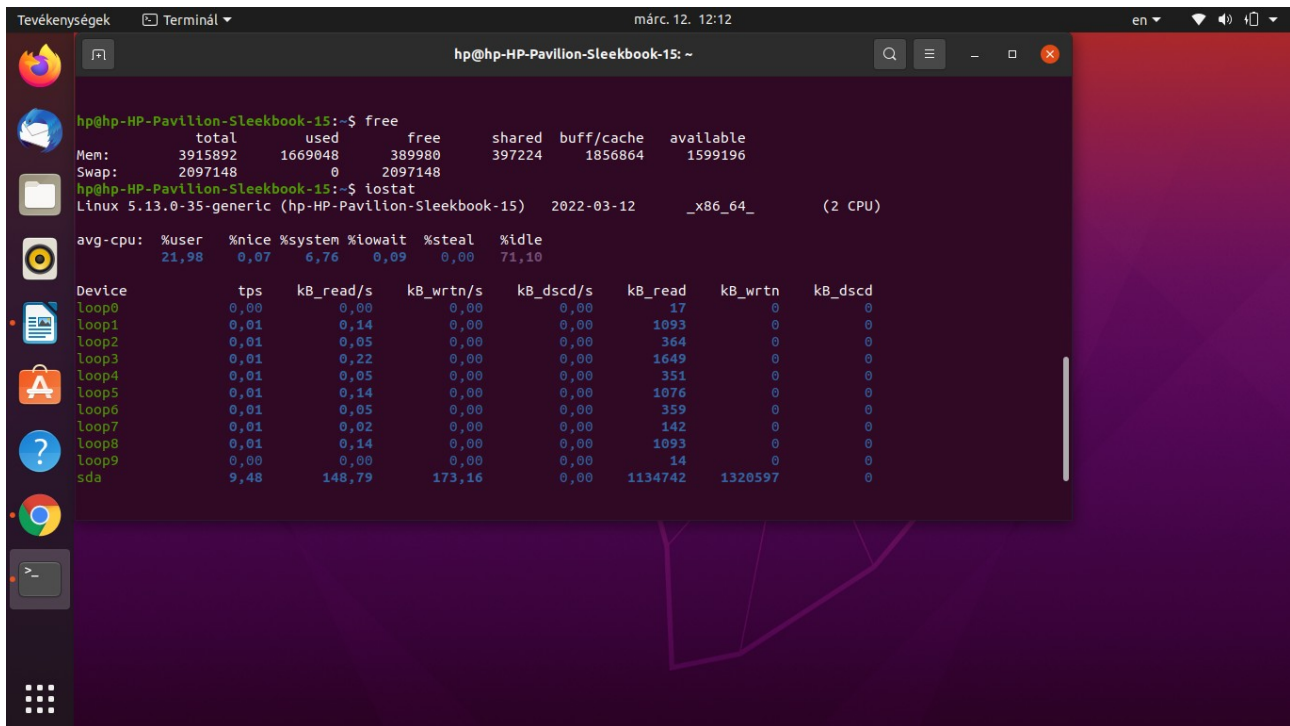
PPID	PID	PGID	SID	TTY	TPGID	STAT	UID	TIME	COMMAND
0	2	0	0	?	-1	S	0	0:00	[kthreadd]
2	3	0	0	?	-1	I<	0	0:00	\ [rcu_gp]
2	4	0	0	?	-1	I<	0	0:00	\ [rcu_par_gp]
2	8	0	0	?	-1	I<	0	0:00	\ [mm_percpu_wq]
2	9	0	0	?	-1	S	0	0:00	\ [rcu_tasks_rude_]
2	10	0	0	?	-1	S	0	0:00	\ [rcu_tasks_trace]
2	11	0	0	?	-1	S	0	0:00	\ [ksoftirqd/0]
2	12	0	0	?	-1	I	0	0:04	\ [rcu_sched]
2	13	0	0	?	-1	S	0	0:00	\ [migration/0]
2	14	0	0	?	-1	S	0	0:00	\ [idle_inject/0]
2	16	0	0	?	-1	S	0	0:00	\ [cpuhp/0]
2	17	0	0	?	-1	S	0	0:00	\ [cpuhp/1]
2	18	0	0	?	-1	S	0	0:00	\ [idle_inject/1]
2	19	0	0	?	-1	S	0	0:00	\ [migration/1]
2	20	0	0	?	-1	S	0	0:00	\ [ksoftirqd/1]
2	22	0	0	?	-1	I<	0	0:00	\ [kworker/1:0H-eve
2	23	0	0	?	-1	S	0	0:00	\ [kdevtmpfs]
2	24	0	0	?	-1	I<	0	0:00	\ [netns]
2	25	0	0	?	-1	I<	0	0:00	\ [inet_frag_wq]
2	26	0	0	?	-1	S	0	0:00	\ [kauditd]
2	27	0	0	?	-1	S	0	0:00	\ [khungtaskd]
2	28	0	0	?	-1	S	0	0:00	\ [oom_reaper]
2	29	0	0	?	-1	I<	0	0:00	\ [writeback]
2	30	0	0	?	-1	S	0	0:01	\ [kcompactd0]
2	31	0	0	?	-1	SN	0	0:00	\ [ksmd]
2	32	0	0	?	-1	SN	0	0:00	\ [khugepaged]
2	78	0	0	?	-1	I<	0	0:00	\ [kntegrityd]
2	79	0	0	?	-1	I<	0	0:00	\ [kblockd]
2	80	0	0	?	-1	I<	0	0:00	\ [blkcg_punt_bio]
2	82	0	0	?	-1	I<	0	0:00	\ [tpm_dev_wq]
2	83	0	0	?	-1	I<	0	0:00	\ [ata_sff]

f.) free

Megmutatja a fizikai memória és a cserehely (swap) használt és szabad területét, ezek összegét. Szintén megmutatja a kernel által használt puffereket. Megjeleníti a szabad pufferek számát is.

g.) iostat

CPU statisztika és a számítógép I/O eszközei, a hálózati fájlrendszerek és a partíciókat kijelzi.



```
hp@hp-HP-Pavillon-Sleekbook-15:~$ free
              total        used        free      shared    buff/cache   available
Mem:           3915892      1669048       389980       397224       1856864      1599196
Swap:          2097148           0       2097148

hp@hp-HP-Pavillon-Sleekbook-15:~$ iostat
Linux 5.13.0-35-generic (hp-HP-Pavillon-Sleekbook-15) 2022-03-12      _x86_64_      (2 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           21,98    0,07    6,76    0,09    0,00   71,10

Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_wrtn    kB_dscd
loop0              0,00         0,00         0,00         0,00         17         0         0
loop1              0,01         0,14         0,00         0,00        1093         0         0
loop2              0,01         0,05         0,00         0,00         364         0         0
loop3              0,01         0,22         0,00         0,00        1649         0         0
loop4              0,01         0,05         0,00         0,00         351         0         0
loop5              0,01         0,14         0,00         0,00        1076         0         0
loop6              0,01         0,05         0,00         0,00         359         0         0
loop7              0,01         0,02         0,00         0,00         142         0         0
loop8              0,01         0,14         0,00         0,00        1093         0         0
loop9              0,00         0,00         0,00         0,00          14         0         0
sda                9,48        148,79        173,16         0,00     1134742     1320597         0
```

h.) sar

Ez a parancs szolgál a rendszer aktivitási adatok jelzésére és összegyűjtésére és egyben ezeket menti is.

i.) mpstat

A több processzoros használat kimutatására használják, megjeleníti mindegyik elérhető processzor aktivitását.


```
hp@hp-HP-Pavilion-Sleekbook-15: ~  
Linux 5.13.0-35-generic (hp-HP-Pavilion-Sleekbook-15) 2022-03-12 _x86_64_ (2 CPU)  
12:24:50 CPU %user %nice %system %iowait %steal %idle  
12:24:54 all 13,53 0,00 4,77 0,13 0,00 81,57  
12:24:58 all 16,43 0,00 5,69 0,00 0,00 77,88  
12:25:02 all 25,73 0,00 9,08 0,25 0,00 64,94  
12:25:06 all 16,58 0,00 4,94 0,00 0,00 78,48  
12:25:10 all 21,91 0,00 6,19 0,00 0,00 71,91  
Átlag: all 18,85 0,00 6,14 0,08 0,00 74,94  
hp@hp-HP-Pavilion-Sleekbook-15:~$ mpstat  
Linux 5.13.0-35-generic (hp-HP-Pavilion-Sleekbook-15) 2022-03-12 _x86_64_ (2 CPU)  
12:25:18 CPU %usr %nice %sys %iowait %irq %soft %steal %guest %gnice %idle  
12:25:18 all 21,12 0,07 6,08 0,09 0,00 0,46 0,00 0,00 0,00 72,18  
hp@hp-HP-Pavilion-Sleekbook-15:~$
```

j.) pmap

Processz memória használatát jelzi.

```
hp@hp-HP-Pavilion-Sleekbook-15: ~  
Linux 5.13.0-35-generic (hp-HP-Pavilion-Sleekbook-15) 2022-03-12 _x86_64_ (2 CPU)  
12:25:18 CPU %usr %nice %sys %iowait %irq %soft %steal %guest %gnice %idle  
12:25:18 all 21,12 0,07 6,08 0,09 0,00 0,46 0,00 0,00 0,00 72,18  
hp@hp-HP-Pavilion-Sleekbook-15:~$ pmap $$  
5755: bash  
0000560a7834e000 180K r---- bash  
0000560a7837b000 708K r-x-- bash  
0000560a7842c000 220K r---- bash  
0000560a78463000 16K r---- bash  
0000560a78467000 36K rw--- bash  
0000560a78470000 40K rw--- [ anon ]  
0000560a79358000 1168K rw--- [ anon ]  
00007ff427076000 12K r---- libnss_files-2.31.so  
00007ff427079000 28K r-x-- libnss_files-2.31.so  
00007ff427080000 8K r---- libnss_files-2.31.so  
00007ff427082000 4K r---- libnss_files-2.31.so  
00007ff427083000 4K rw--- libnss_files-2.31.so  
00007ff427084000 24K rw--- [ anon ]  
00007ff42709a000 8444K r---- locale-archive  
00007ff4278d9000 12K rw--- [ anon ]  
00007ff4278dc000 136K r---- libc-2.31.so  
00007ff4278fe000 1504K r-x-- libc-2.31.so  
00007ff427a76000 312K r---- libc-2.31.so  
00007ff427ac4000 16K r---- libc-2.31.so  
00007ff427ac8000 8K rw--- libc-2.31.so  
00007ff427aca000 16K rw--- [ anon ]  
00007ff427ace000 4K r---- libdl-2.31.so  
00007ff427acf000 8K r-x-- libdl-2.31.so  
00007ff427ad1000 4K r---- libdl-2.31.so  
00007ff427ad2000 4K r---- libdl-2.31.so  
00007ff427ad3000 4K rw--- libdl-2.31.so  
00007ff427ad4000 56K r---- libtinfo.so.6.2  
00007ff427ae2000 60K r-x-- libtinfo.so.6.2  
00007ff427af1000 56K r---- libtinfo.so.6.2  
00007ff427aff000 16K r---- libtinfo.so.6.2  
00007ff427b03000 4K rw--- libtinfo.so.6.2  
00007ff427b04000 8K rw--- [ anon ]  
00007ff427b0f000 28K r--s- gconv-modules.cache  
00007ff427b16000 4K r---- ld-2.31.so  
00007ff427b17000 140K r-x-- ld-2.31.so  
00007ff427b3a000 32K r---- ld-2.31.so  
00007ff427b3b000 4K r---- ld-2.31.so
```

