

```
mint@mint:~/Desktop/QMHKMU/tree$ who -b
system boot 2025-03-12 11:16
```

```
mint@mint: ~/Desktop/QMHKMU/tree
top - 12:46:28 up 23:55, 1 user, load average: 0.00, 0.00, 0.02
Tasks: 179 total, 1 running, 178 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.3 us, 1.0 sy, 0.0 ni, 98.5 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem : 3916.1 total, 295.6 free, 1166.7 used, 2900.9 buff/cache
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 2749.4 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 1338 root        20   0  408452  88812 58968 S   2.7   2.2   0:46.08 Xorg
 1828 mint        20   0 3694112 180052 112512 S   2.3   4.5   0:50.51 cinnamon
 2251 mint        20   0  549576  44268 33148 S   1.0   1.1   0:07.49 gnome-t+
 3056 mint        20   0   20552   5888   3712 R   0.7   0.1   0:00.20 top
 1127 root        20   0  258516  14336 12416 S   0.3   0.4   0:03.88 touchegg
 1887 mint        20   0 1186824  69716 44800 S   0.3   1.7   0:04.23 nemo-de+
 3043 root        20   0         0         0      0 I   0.3   0.0   0:00.65 kworker+
   1 root        20   0   22428  13652  9812 S   0.0   0.3   0:06.47 systemd
   2 root        20   0         0         0      0 S   0.0   0.0   0:00.11 kthreadd
   3 root        20   0         0         0      0 S   0.0   0.0   0:00.00 pool_wor
   4 root         0 -20         0         0      0 I   0.0   0.0   0:00.00 kworker+
   5 root         0 -20         0         0      0 I   0.0   0.0   0:00.00 kworker+
   6 root         0 -20         0         0      0 I   0.0   0.0   0:00.00 kworker+
   7 root         0 -20         0         0      0 I   0.0   0.0   0:00.00 kworker+
  10 root         0 -20         0         0      0 I   0.0   0.0   0:00.00 kworker+
  11 root        20   0         0         0      0 I   0.0   0.0   0:00.18 kworker+
  12 root         0 -20         0         0      0 T   0.0   0.0   0:00.00 kworker+
```

```
mint@mint:~/Desktop/QMHKMU/tree$ vmstat -a -d
disk- -----reads----- writes----- IO-----
      total merged sectors      ms total merged sectors      ms    cur    sec
loop0  91344      0 1144080   52831      0      0      0      0      0      52
loop1      0      0      0      0      0      0      0      0      0      0
loop2      0      0      0      0      0      0      0      0      0      0
loop3      0      0      0      0      0      0      0      0      0      0
loop4      0      0      0      0      0      0      0      0      0      0
loop5      0      0      0      0      0      0      0      0      0      0
loop6      0      0      0      0      0      0      0      0      0      0
loop7      0      0      0      0      0      0      0      0      0      0
sr0     30091    364 5880636   78970      0      0      0      0      0      80
sda      202      0    8728    122      0      0      0      0      0      0
```

```
mint@mint:~/Desktop/QMHKMU/tree$
USER      TTY      FROM          LOGIN@      IDLE        JCPU        PCPU        WHAT
mint      -                Mon12       23:57m      0.00s      0.04s      lightdm --sessi
mint@mint:~/Desktop/QMHKMU/tree$
```

Operációs Rendszerek

4. Gyakorlat

2025. 03. 12.

Készítette:

Jakab Tibor Bsc

Szak: Programtervező Informatikus

QMHKMU

Sárospatak, 2025

1. feladat

Linux parancsok kombinálása

```
mint@mint: ~/Desktop/QMHKMU_0312
bash: cd: /home/mint/Desktop: No such file or directory
mint@mint:~$ cd /home/mint/Desktop/
mint@mint:~/Desktop$ mkdir QMHKMU_0312
mint@mint:~/Desktop$ cd QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ ls lecke6
ls: cannot access 'lecke6': No such file or directory
mint@mint:~/Desktop/QMHKMU_0312$ touch lecke6.txt
mint@mint:~/Desktop/QMHKMU_0312$ ls lecke6
ls: cannot access 'lecke6': No such file or directory
mint@mint:~/Desktop/QMHKMU_0312$ ls lecke6.exe
ls: cannot access 'lecke6.exe': No such file or directory
mint@mint:~/Desktop/QMHKMU_0312$ mkdir saját && rmdir saját
mint@mint:~/Desktop/QMHKMU_0312$ mkdit tmp
Command 'mkdit' not found, did you mean:
  command 'mkdic' from deb canna-utils (3.7p3-20)
  command 'mkdir' from deb coreutils (9.4-2ubuntu2)
  command 'mkdist' from deb libmodule-package-rdf-perl (0.014-2)
Try: sudo apt install <deb name>
mint@mint:~/Desktop/QMHKMU_0312$ mkdir tmp
mint@mint:~/Desktop/QMHKMU_0312$ cd tmp || echo "Error"
mint@mint:~/Desktop/QMHKMU_0312/tmp$ cd
mint@mint:~$ cd /Desktop/QMHKMU_0312
bash: cd: /Desktop/QMHKMU_0312: No such file or directory
mint@mint:~$ cd ~/Desktop/QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ mkdir dir_1 && cd dir_1
mint@mint:~/Desktop/QMHKMU_0312/dir_1$ cd ~/Desktop/QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ cd dir_2 && pwd || mkdir dir_2
bash: cd: dir_2: No such file or directory
mint@mint:~/Desktop/QMHKMU_0312$ cd dir_2 && pwd || mkdir dir_2
/home/mint/Desktop/QMHKMU_0312/dir_2
mint@mint:~/Desktop/QMHKMU_0312/dir_2$ cd ~/Desktop/QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ pwd
/home/mint/Desktop/QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ cd pwd
bash: cd: pwd: No such file or directory
mint@mint:~/Desktop/QMHKMU_0312$ cd dir_3 || mkdir dir_3 && cd dir_3
bash: cd: dir_3: No such file or directory
mint@mint:~/Desktop/QMHKMU_0312/dir_3$ cd ~/Desktop/QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ touch xyz.txt && echo "Jakab Tibor" > xyz.txt
mint@mint:~/Desktop/QMHKMU_0312$ touch www.txt; echo "Jakab Tibor, QMHKMU > www.
txt; cat www.txt > xzy.txt; cat www.txt
> touch www.txt; echo "Jakab Tibor, QMHKMU > www.txt; cat www.txt > xzy.txt; cat
www.txt
Jakab Tibor, QMHKMU > www.txt; cat www.txt > xzy.txt; cat www.txt
touch www.txt; echo Jakab Tibor, QMHKMU
mint@mint:~/Desktop/QMHKMU_0312$ touch www.txt; echo "Jakab Tibor, QMHKMU > www.
txt; cat www.txt > xzy.txt; cat www.txt
```

```
bash: cd: dir_3: No such file or directory
mint@mint:~/Desktop/QMHKMU_0312/dir_3$ cd ~/Desktop/QMHKMU_0312
mint@mint:~/Desktop/QMHKMU_0312$ touch xyz.txt && echo "Jakab Tibor" > xyz.txt
mint@mint:~/Desktop/QMHKMU_0312$ touch www.txt; echo "Jakab Tibor, QMHKMU" > www.
txt; cat www.txt > xzy.txt; cat www.txt
> touch www.txt; echo "Jakab Tibor, QMHKMU" > www.txt; cat www.txt > xzy.txt; cat
www.txt
Jakab Tibor, QMHKMU > www.txt; cat www.txt > xzy.txt; cat www.txt
touch www.txt; echo Jakab Tibor, QMHKMU
mint@mint:~/Desktop/QMHKMU_0312$ touch www.txt; echo "Jakab Tibor, QMHKMU" > www.
txt; cat www.txt > xzy.txt; cat www.txt
touch www.txt; echo "Jakab Tibor, QMHKMU" > www.txt; cat www.txt > xzy.txt; cat
www.txt
> touch www.txt; echo "Jakab Tibor, QMHKMU" > www.txt; cat www.txt > xzy.txt; cat
www.txt
touch www.txt; echo "Jakab Tibor, QMHKMU" > www.txt; cat www.txt > xzy.txt; cat
www.txt
Jakab Tibor, QMHKMU > www.txt; cat www.txt > xzy.txt; cat www.txt
touch www.txt; echo Jakab Tibor, QMHKMU > www.txt; cat www.txt > xzy.txt; cat ww
w.txt
touch www.txt; echo Jakab Tibor, QMHKMU
Jakab Tibor, QMHKMU
mint@mint:~/Desktop/QMHKMU_0312$ top
```

2. Feladat

```
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU   WHAT
mint      -                Mon12   23:57m  0.00s  0.04s  lightdm --sessi

mint@mint:~/Desktop/QMHKMU/tree$
mint@mint:~/Desktop/QMHKMU/tree$ vmstat -a -d
disk- -----reads-----writes-----IO-----
      total merged sectors      ms   total merged sectors      ms   cur   sec
loop0  91344      0 1144080   52831      0      0      0      0      0      0      52
loop1      0      0      0      0      0      0      0      0      0      0      0
loop2      0      0      0      0      0      0      0      0      0      0      0
loop3      0      0      0      0      0      0      0      0      0      0      0
loop4      0      0      0      0      0      0      0      0      0      0      0
loop5      0      0      0      0      0      0      0      0      0      0      0
loop6      0      0      0      0      0      0      0      0      0      0      0
loop7      0      0      0      0      0      0      0      0      0      0      0
sr0     30091     364 5880636   78970      0      0      0      0      0      0     80
sda      202      0    8728    122      0      0      0      0      0      0      0
mint@mint:~/Desktop/QMHKMU/tree$
```

```
mint@mint: ~/Desktop/QMHKMU/tree
top - 12:46:28 up 23:55, 1 user, load average: 0.00, 0.00, 0.02
Tasks: 179 total, 1 running, 178 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.3 us, 1.0 sy, 0.0 ni, 98.5 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem : 3916.1 total, 295.6 free, 1166.7 used, 2900.9 buff/cache
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 2749.4 avail Mem

  PID USER      PR  NI   VIRT   RES    SHR S  %CPU  %MEM    TIME+  COMMAND
 1338 root       20   0  408452  88812 58968 S   2.7   2.2   0:46.08 Xorg
 1828 mint       20   0 3694112 180052 112512 S   2.3   4.5   0:50.51 cinnamon
 2251 mint       20   0  549576  44268 33148 S   1.0   1.1   0:07.49 gnome-t+
 3056 mint       20   0   20552   5888   3712 R   0.7   0.1   0:00.20 top
 1127 root       20   0  258516  14336 12416 S   0.3   0.4   0:03.88 touchegg
 1887 mint       20   0 1186824  69716 44800 S   0.3   1.7   0:04.23 nemo-de+
 3043 root       20   0      0      0      0 I   0.3   0.0   0:00.65 kworker+
    1 root       20   0   22428  13652  9812 S   0.0   0.3   0:06.47 systemd
    2 root       20   0      0      0      0 S   0.0   0.0   0:00.11 kthreadd
    3 root       20   0      0      0      0 S   0.0   0.0   0:00.00 pool_wor+
    4 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
    5 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
    6 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
    7 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
   10 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
   11 root       20   0      0      0      0 I   0.0   0.0   0:00.18 kworker+
   12 root        0 -20      0      0      0 T   0.0   0.0   0:00.00 kworker+

mint@mint:~/Desktop/QMHKMU/tree$ who -b
system boot 2025-03-12 11:16
```