

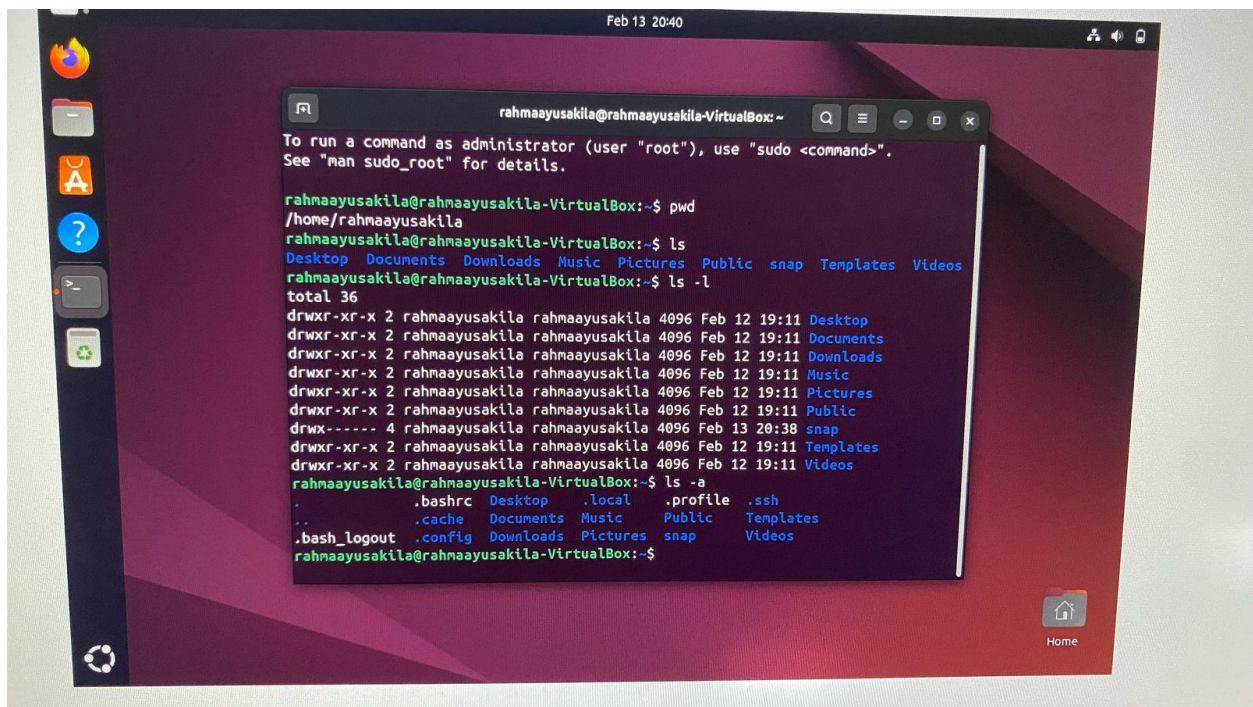
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Mata Kuliah : Sistem Operasi

## LAPORAN 50 COMMANDLINE

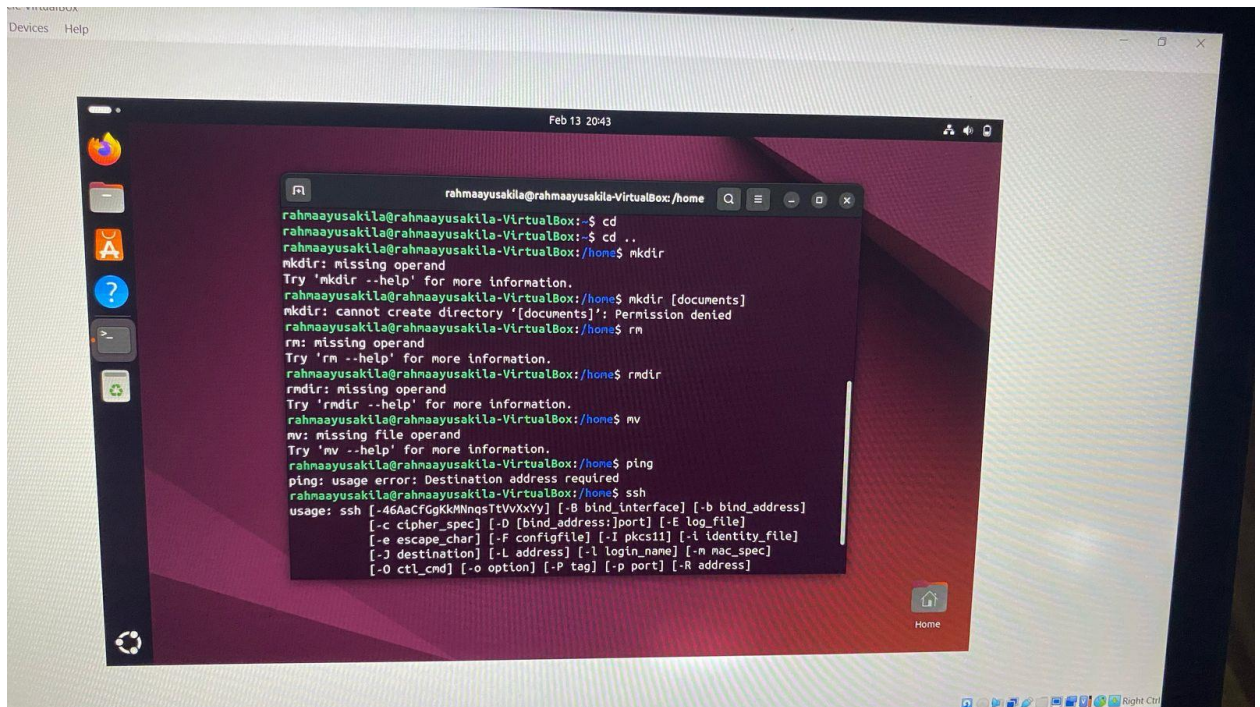


The screenshot shows a terminal window titled "rahmaayusakila@rahmaayusakila-VirtualBox: ~". The terminal output is as follows:

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

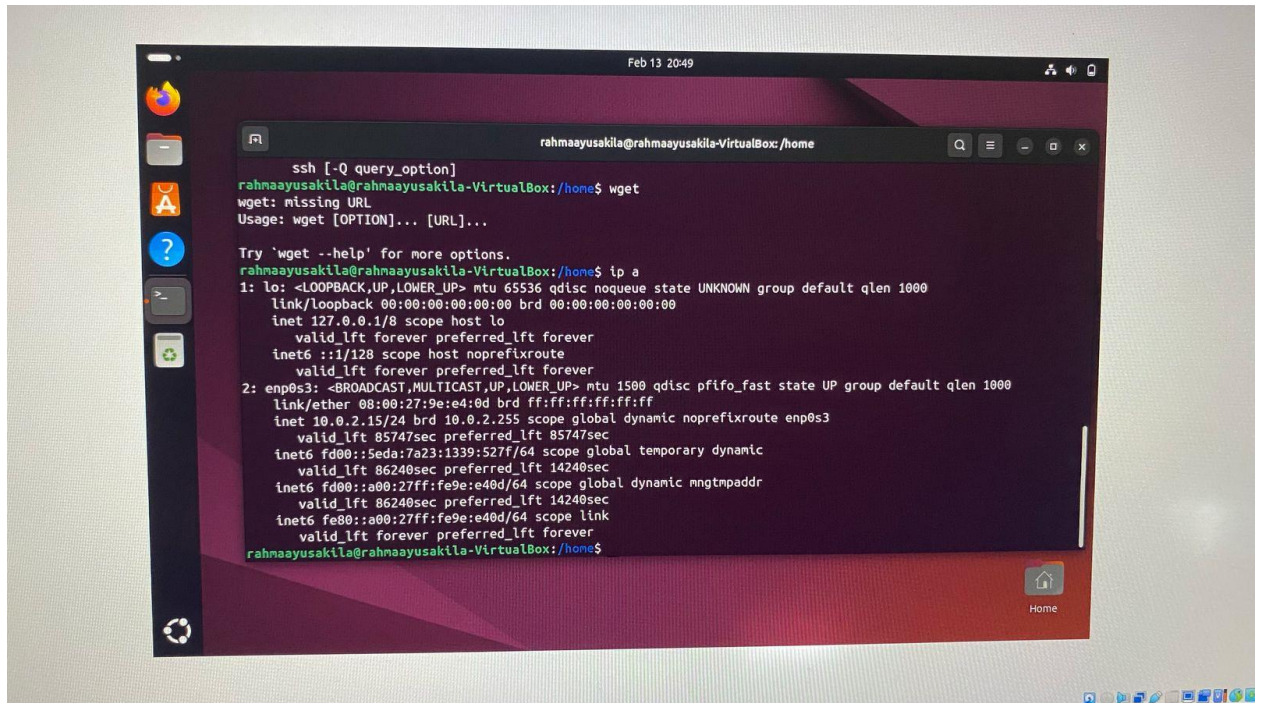
rahmaayusakila@rahmaayusakila-VirtualBox:~$ pwd
/home/rahmaayusakila
rahmaayusakila@rahmaayusakila-VirtualBox:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
rahmaayusakila@rahmaayusakila-VirtualBox:~$ ls -l
total 36
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Desktop
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Documents
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Downloads
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Music
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Pictures
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Public
drwx----- 4 rahmaayusakila rahmaayusakila 4096 Feb 13 20:38 snap
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Templates
drwxr-xr-x 2 rahmaayusakila rahmaayusakila 4096 Feb 12 19:11 Videos
rahmaayusakila@rahmaayusakila-VirtualBox:~$ ls -a
. .bashrc Desktop .local .profile .ssh
.. .cache Documents Music Public Templates
.bash_logout .config Downloads Pictures snap Videos
rahmaayusakila@rahmaayusakila-VirtualBox:~$
```

1. Pwd, menampilkan direktori saat ini
2. ls – Melihat daftar file dalam direktori
3. ls -l – Menampilkan daftar file dengan detail
4. ls -a – Menampilkan semua file, termasuk yang tersembunyi



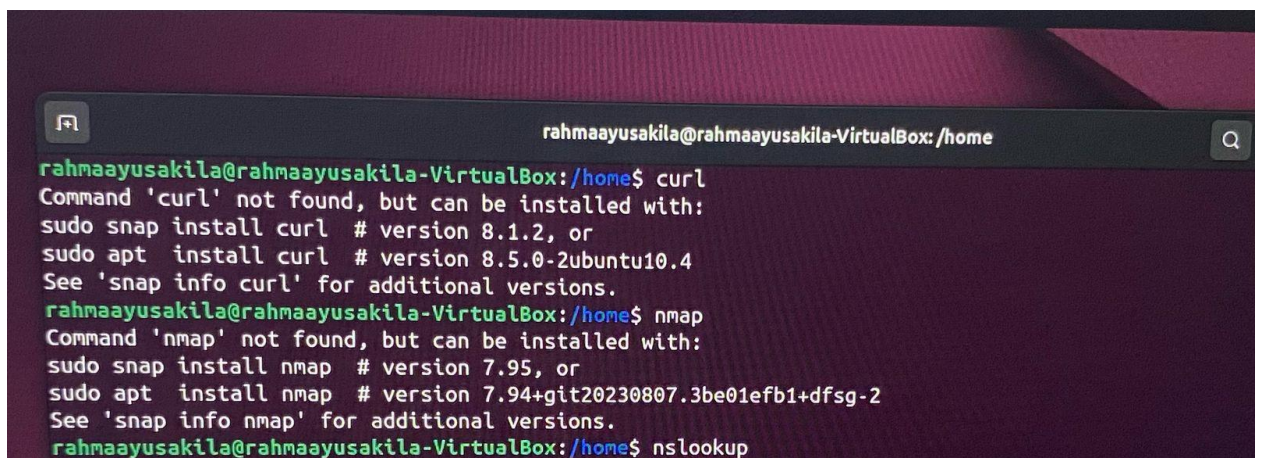
5. `cd [direktori]` – Berpindah ke direktori tertentu
6. `cd ..` – Kembali ke direktori sebelumnya
7. `mkdir [nama_folder]` – Membuat folder baru
8. `rmdir [nama_folder]` – Menghapus folder kosong
9. `rm [nama_file]` – Menghapus file
10. `mv [file_sumber] [file_tujuan]` – Memindahkan file atau mengganti nama
11. `ping [alamat]` – Mengecek koneksi ke suatu server
12. `ssh` – Secure Shell (mengakses server jarak jauh)





13. wget [url] – Mengunduh file dari internet

14. ip a – Menampilkan informasi jaringan



15. curl [url] – Mengunduh konten dari suatu URL

16. nmap [ip] – Melakukan scanning jaringan

17. nslookup [domain] – Melihat informasi DNS



```
rahmaayusakila@rahmaayusakila-VirtualBox:~$ netstat
Command 'netstat' not found, but can be installed with:
sudo apt install net-tools
rahmaayusakila@rahmaayusakila-VirtualBox:~$ traceroute
Command 'traceroute' not found, but can be installed with:
sudo apt install inetutils-traceroute # version 2:2.4-3ubuntu1, or
sudo apt install traceroute          # version 1:2.1.5-1
rahmaayusakila@rahmaayusakila-VirtualBox:~$ nmcli dev status
DEVICE TYPE STATE CONNECTION
enp0s3 ethernet connected (externally) netplan-enp0s3
lo loopback connected (externally) lo
rahmaayusakila@rahmaayusakila-VirtualBox:~$ who -b
system boot 2025-02-12 19:06
rahmaayusakila@rahmaayusakila-VirtualBox:~$ nslookup
> 8.8.8.8
8.8.8.8.in-addr.arpa name = dns.google.

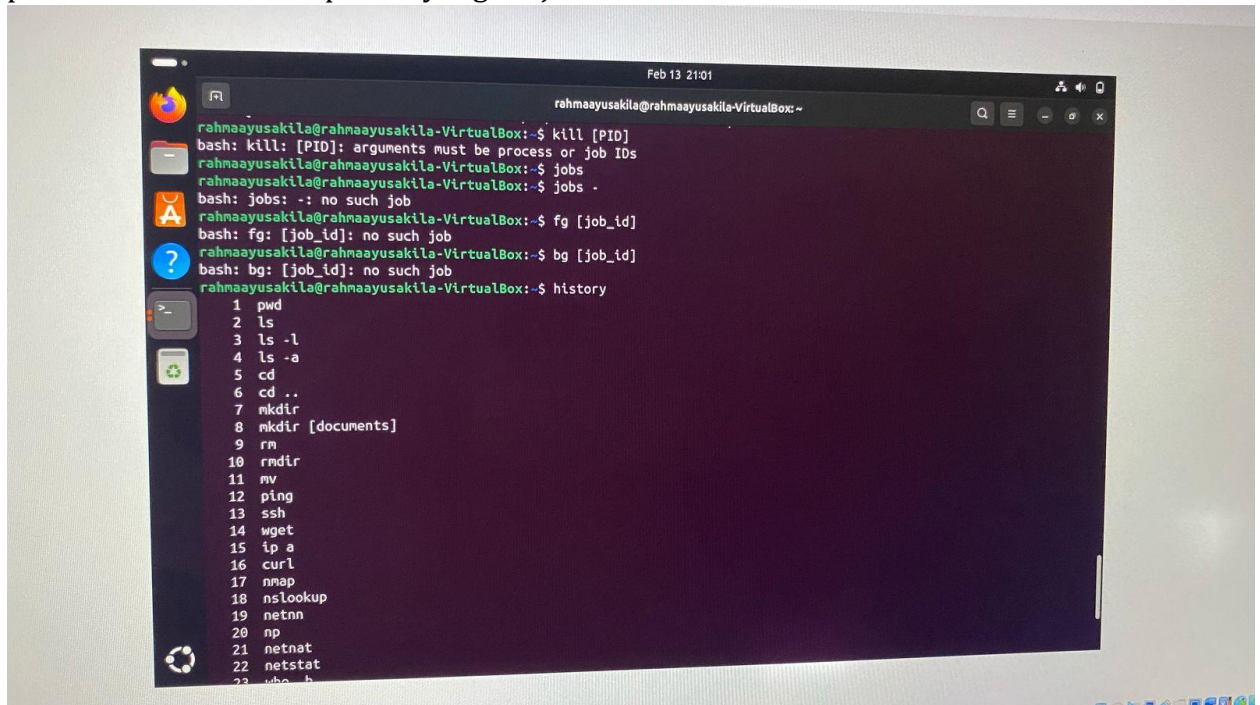
Authoritative answers can be found from:
> rahmaayusakila@rahmaayusakila-VirtualBox:~$
```

- 18. netstat -tulnp – Melihat port yang terbuka
- 19. traceroute [domain] – Melihat jalur koneksi ke server
- 20. nmcli dev status – Mengecek status koneksi jaringan
- 21. who -b – Melihat kapan

```
rahmaayusakila@rahmaayusakila-VirtualBox:~$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.4  0.1 23312 14224 ?        Ss   20:33   0:07 /sbin/init splash
root         2  0.0  0.0      0     0 ?        S    20:33   0:00 [kthreadd]
root         3  0.0  0.0      0     0 ?        S    20:33   0:00 [pool_workqueue_release]
root         4  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-rcu_gp]
root         5  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-sync_wq]
root         6  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-slub_flushwq]
root         7  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-netns]
root        10  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/0:0H-kblockd]
root        11  0.0  0.0      0     0 ?        I    20:33   0:00 [kworker/u4:0-events_unbound]
root        12  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-mm_percpu_wq]
root        13  0.0  0.0      0     0 ?        I    20:33   0:00 [rcu_tasks_kthread]
root        14  0.0  0.0      0     0 ?        I    20:33   0:00 [rcu_tasks_rude_kthread]
root        15  0.0  0.0      0     0 ?        I    20:33   0:00 [rcu_tasks_trace_kthread]
root        16  0.0  0.0      0     0 ?        S    20:33   0:00 [ksoftirqd/0]
root        17  0.0  0.0      0     0 ?        I    20:33   0:00 [rcu_preempt]
root        18  0.0  0.0      0     0 ?        S    20:33   0:00 [rcu_exp_par_gp_kthread_worker/0]
root        19  0.0  0.0      0     0 ?        S    20:33   0:00 [rcu_exp_gp_kthread_worker]
root        20  0.0  0.0      0     0 ?        S    20:33   0:00 [migration/0]
root        21  0.0  0.0      0     0 ?        S    20:33   0:00 [idle_inject/0]
root        22  0.0  0.0      0     0 ?        S    20:33   0:00 [cpuhp/0]
root        23  0.0  0.0      0     0 ?        S    20:33   0:00 [kdevtmpfs]
root        24  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-inet_frag_wq]
root        25  0.1  0.0      0     0 ?        I    20:33   0:01 [kworker/u4:1-events_power_efficient]
root        26  0.0  0.0      0     0 ?        S    20:33   0:00 [kauditd]
root        27  0.0  0.0      0     0 ?        S    20:33   0:00 [khungtaskd]
root        28  0.0  0.0      0     0 ?        S    20:33   0:00 [oom_reaper]
root        30  0.0  0.0      0     0 ?        I<   20:33   0:00 [kworker/R-writeback]
root        31  0.0  0.0      0     0 ?        S    20:33   0:00 [kcompactd0]
```



## 22. ps aux – Melihat daftar proses yang berjalan



```
rahmaayusakila@rahmaayusakila-VirtualBox: ~  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ kill [PID]  
bash: kill: [PID]: arguments must be process or job IDs  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ jobs  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ jobs -  
bash: jobs: -: no such job  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ fg [job_id]  
bash: fg: [job_id]: no such job  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ bg [job_id]  
bash: bg: [job_id]: no such job  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ history  
1 pwd  
2 ls  
3 ls -l  
4 ls -a  
5 cd  
6 cd ..  
7 mkdir  
8 mkdir [documents]  
9 rm  
10 rmdir  
11 mv  
12 ping  
13 ssh  
14 wget  
15 ip a  
16 curl  
17 nmap  
18 nslookup  
19 netnn  
20 np  
21 netnat  
22 netstat  
23 who -h
```

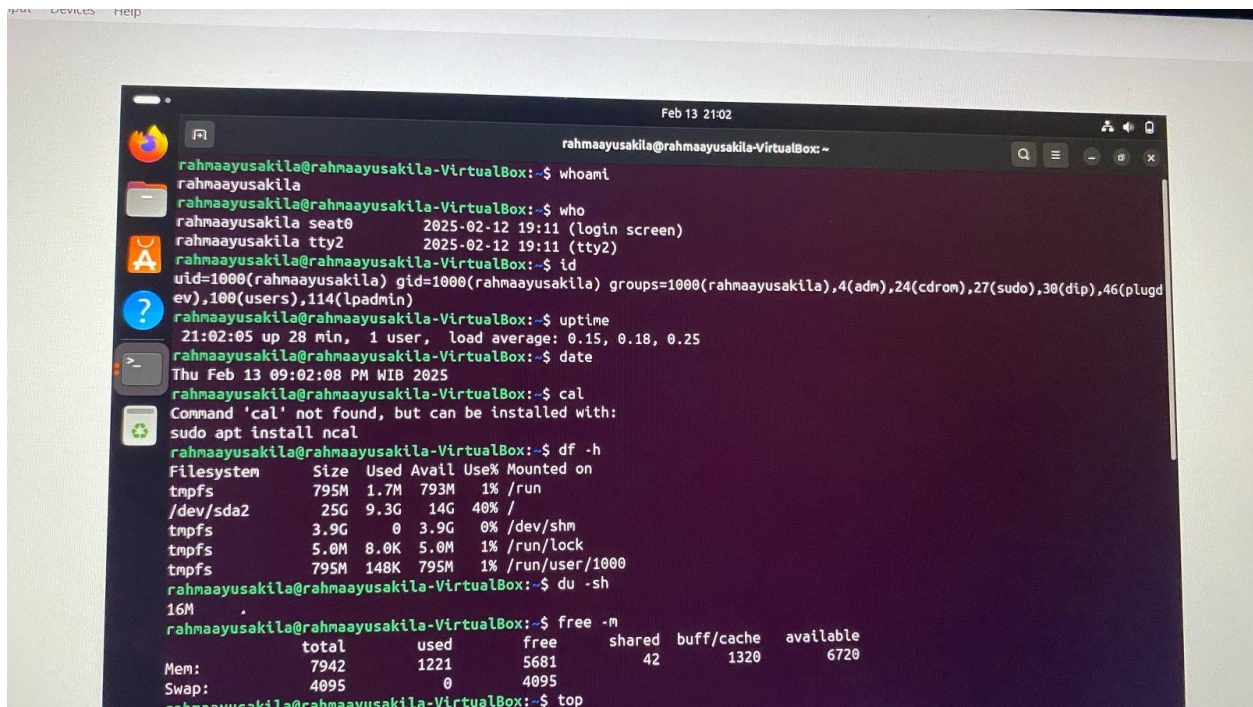
## 23. kill [PID] – Menghentikan proses berdasarkan ID

## 24. jobs – Melihat daftar pekerjaan yang berjalan di background

## 25. fg [job\_id] – Membawa pekerjaan ke foreground

## 26. bg [job\_id] – Menjalankan pekerjaan di background

## 27. history – Menampilkan riwayat perintah yang telah digunakan



```
rahmaayusakila@rahmaayusakila-VirtualBox: ~  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ whoami  
rahmaayusakila  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ who  
rahmaayusakila seat0 2025-02-12 19:11 (login screen)  
rahmaayusakila tty2 2025-02-12 19:11 (tty2)  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ id  
uid=1000(rahmaayusakila) gid=1000(rahmaayusakila) groups=1000(rahmaayusakila),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),100(users),114(lpadmin)  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ uptime  
21:02:05 up 28 min, 1 user, load average: 0.15, 0.18, 0.25  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ date  
Thu Feb 13 09:02:08 PM WIB 2025  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ cal  
Command 'cal' not found, but can be installed with:  
sudo apt install ncal  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ df -h  
Filesystem Size Used Avail Use% Mounted on  
tmpfs 795M 1.7M 793M 1% /run  
/dev/sda2 25G 9.3G 14G 40% /  
tmpfs 3.9G 0 3.9G 0% /dev/shm  
tmpfs 5.0M 8.0K 5.0M 1% /run/lock  
tmpfs 795M 148K 795M 1% /run/user/1000  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ du -sh  
16M .  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ free -m  
total used free shared buff/cache available  
Mem: 7942 1221 5681 42 1320 6720  
Swap: 4095 0 4095  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ top
```

28. whoami – Menampilkan pengguna saat ini
29. who – Menampilkan pengguna yang login
30. id – Menampilkan informasi pengguna
31. uptime – Melihat lama sistem berjalan
32. date – Menampilkan tanggal dan waktu saat ini
33. cal – Menampilkan kalender
34. df -h – Melihat penggunaan disk
35. du -sh [folder] – Melihat ukuran folder
36. free -m – Melihat penggunaan RAM

The screenshot shows a terminal window titled 'rahmaayusakila@rahmaayusakila-VirtualBox: ~' with the command 'top' entered. The output of 'top' displays system statistics and a list of running processes. The system statistics show 185 tasks (1 running, 184 sleeping), 35.9% CPU usage, and 7842.0 MiB of memory. The process list shows various system processes like 'gnome-shell', 'gnome-terminal', 'dbus-daemon', and 'top'.

```

Feb 13 21:02
rahmaayusakila@rahmaayusakila-VirtualBox: ~
rahmaayusakila@rahmaayusakila-VirtualBox:~$ top

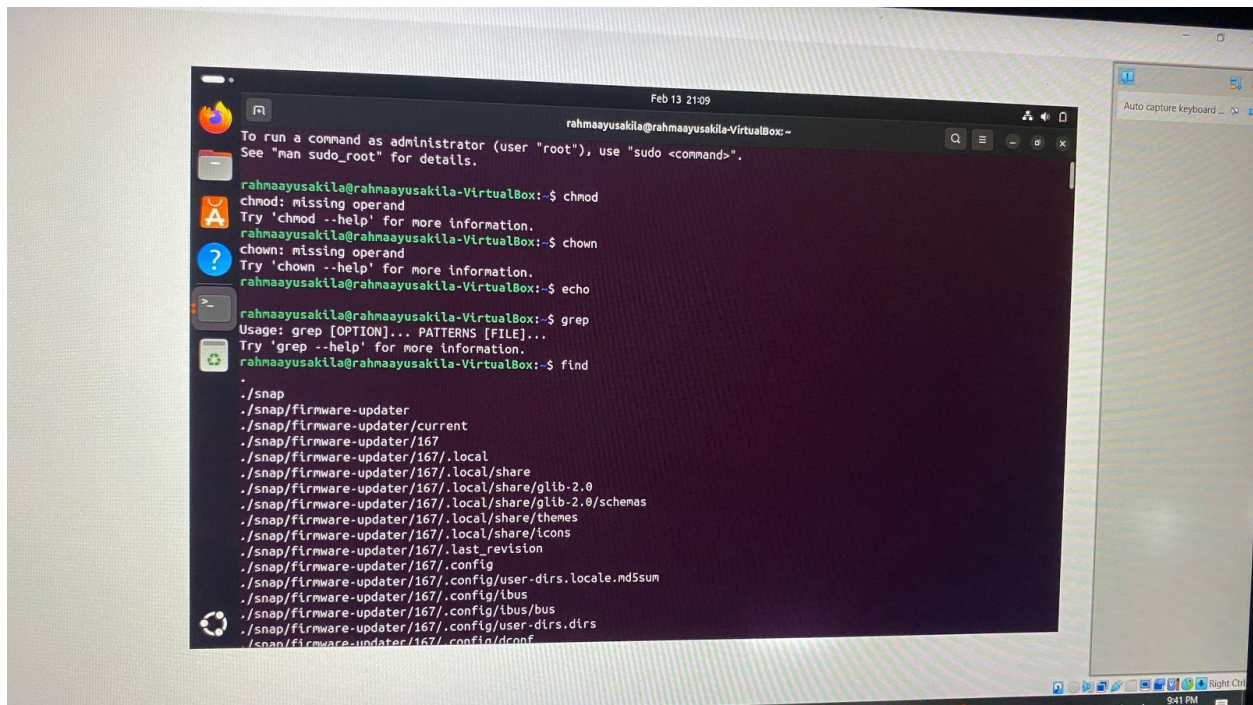
top - 21:02:55 up 29 min, 1 user, load average: 0.07, 0.15, 0.24
Tasks: 185 total, 1 running, 184 sleeping, 0 stopped, 0 zombie
%Cpu(s): 35.9 us, 5.3 sy, 0.0 ni, 59.1 id, 0.0 wa, 0.0 hi, 0.7 si, 0.0 st
MiB Mem : 7842.0 total, 5681.1 free, 1221.3 used, 1320.8 buff/cache
MiB Swap: 4096.0 total, 4096.0 free, 0.0 used, 6720.7 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 2449 rahmaay+  20   0 3461636 345808 141432 S   30.2  4.3   0:59.00 gnome-shell
 5444 rahmaay+  20   0 704176 61824 49204 S    6.6  0.8   0:06.24 gnome-terminal-
 5376 root       20   0 0 0 0 I    2.0  0.0   0:00.76 kworker/u4:2-events_unbound
 2154 rahmaay+  20   0 10828 6596 4676 S    0.3  0.1   0:00.75 dbus-daemon
 5729 rahmaay+  20   0 14516 5868 3692 R    0.3  0.1   0:00.14 top
    1 root       20   0 23312 14224 9488 S    0.0  0.2   0:07.16 systemd
    2 root       20   0 0 0 0 S    0.0  0.0   0:00.00 kthreadd
    3 root       20   0 0 0 0 S    0.0  0.0   0:00.00 pool_workqueue_release
    4 root       0 -20 0 0 0 I    0.0  0.0   0:00.00 kworker/R-rcu_gp
    5 root       0 -20 0 0 0 I    0.0  0.0   0:00.00 kworker/R-sync_wq
    6 root       0 -20 0 0 0 I    0.0  0.0   0:00.00 kworker/R-slub_flushwq
    7 root       0 -20 0 0 0 I    0.0  0.0   0:00.00 kworker/R-netns
   10 root       0 -20 0 0 0 I    0.0  0.0   0:00.21 kworker/0:0H-kblockd
   11 root       20   0 0 0 0 I    0.0  0.0   0:00.71 kworker/u4:0-flush-0:0
   12 root       0 -20 0 0 0 I    0.0  0.0   0:00.00 rcu_tasks_kthread
   13 root       20   0 0 0 0 I    0.0  0.0   0:00.00 rcu_tasks_rude_kthread
   14 root       20   0 0 0 0 I    0.0  0.0   0:00.00 rcu_tasks_trace_kthread
   15 root       20   0 0 0 0 S    0.0  0.0   0:00.52 ksoftirqd/0
   16 root       20   0 0 0 0 I    0.0  0.0   0:01.01 rcu_preempt
   17 root       20   0 0 0 0 S    0.0  0.0   0:00.00 rcu_exp_par_gp_kthread_worker/0
   18 root       20   0 0 0 0 S    0.0  0.0   0:00.00 rcu_exp_gp_kthread_worker
   19 root       20   0 0 0 0 S    0.0  0.0   0:00.00 rcu_exp_gp_kthread_worker

```

37. top – Menampilkan proses yang sedang berjalan





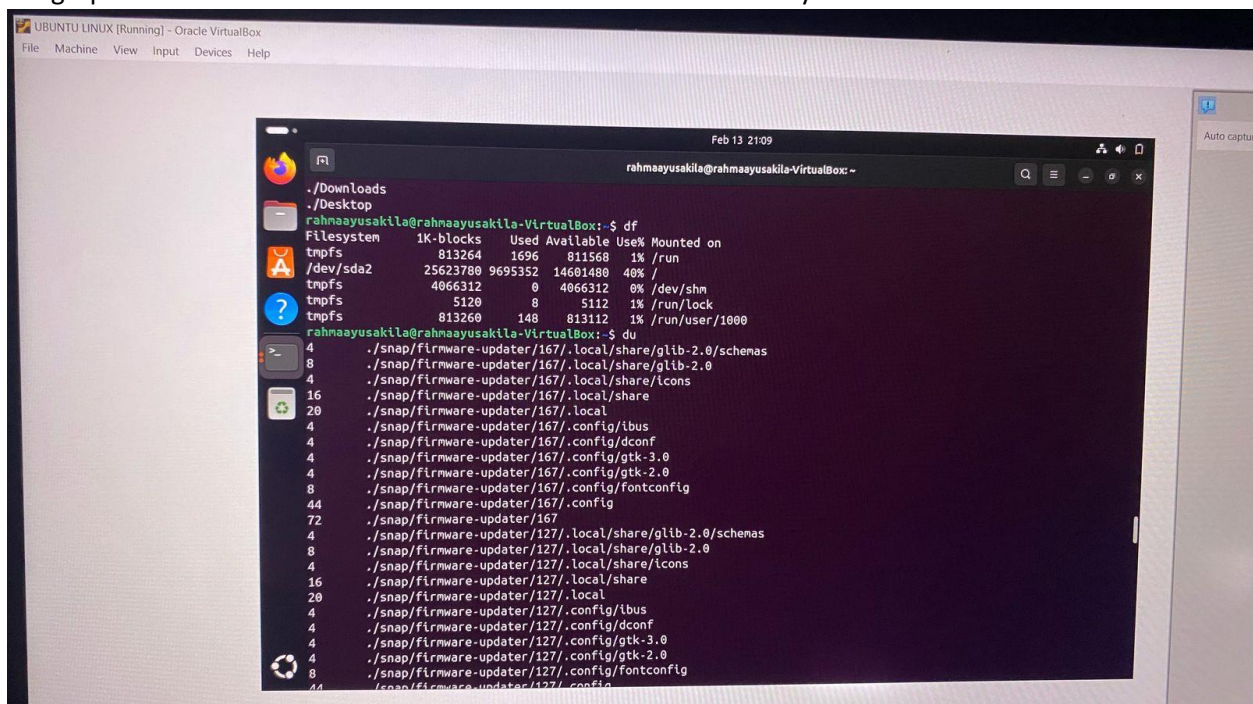
```
rahmaayusakila@rahmaayusakila-VirtualBox:~$ chmod
chmod: missing operand
Try 'chmod --help' for more information.
rahmaayusakila@rahmaayusakila-VirtualBox:~$ chown
chown: missing operand
Try 'chown --help' for more information.
rahmaayusakila@rahmaayusakila-VirtualBox:~$ echo
rahmaayusakila@rahmaayusakila-VirtualBox:~$ grep
Usage: grep [OPTION]... PATTERNS [FILE]...
Try 'grep --help' for more information.
rahmaayusakila@rahmaayusakila-VirtualBox:~$ find
./snap
./snap/firmware-updater
./snap/firmware-updater/current
./snap/firmware-updater/167
./snap/firmware-updater/167/.local
./snap/firmware-updater/167/.local/share
./snap/firmware-updater/167/.local/share/glib-2.0
./snap/firmware-updater/167/.local/share/glib-2.0/schemas
./snap/firmware-updater/167/.local/share/themes
./snap/firmware-updater/167/.local/share/icons
./snap/firmware-updater/167/.last_revision
./snap/firmware-updater/167/.config
./snap/firmware-updater/167/.config/user-dirs.locale.md5sum
./snap/firmware-updater/167/.config/ibus
./snap/firmware-updater/167/.config/ibus/bus
./snap/firmware-updater/167/.config/user-dirs.dirs
./snap/firmware-updater/167/.config/dconf
```

38. chmod mengubah izin akses file

39. chown mengubah kepemilikan file

40. echo menampilkan teks atau menyimpan teks ke dalam file

41. grep mencari teks dalam file 5. find mencari file dalam directory

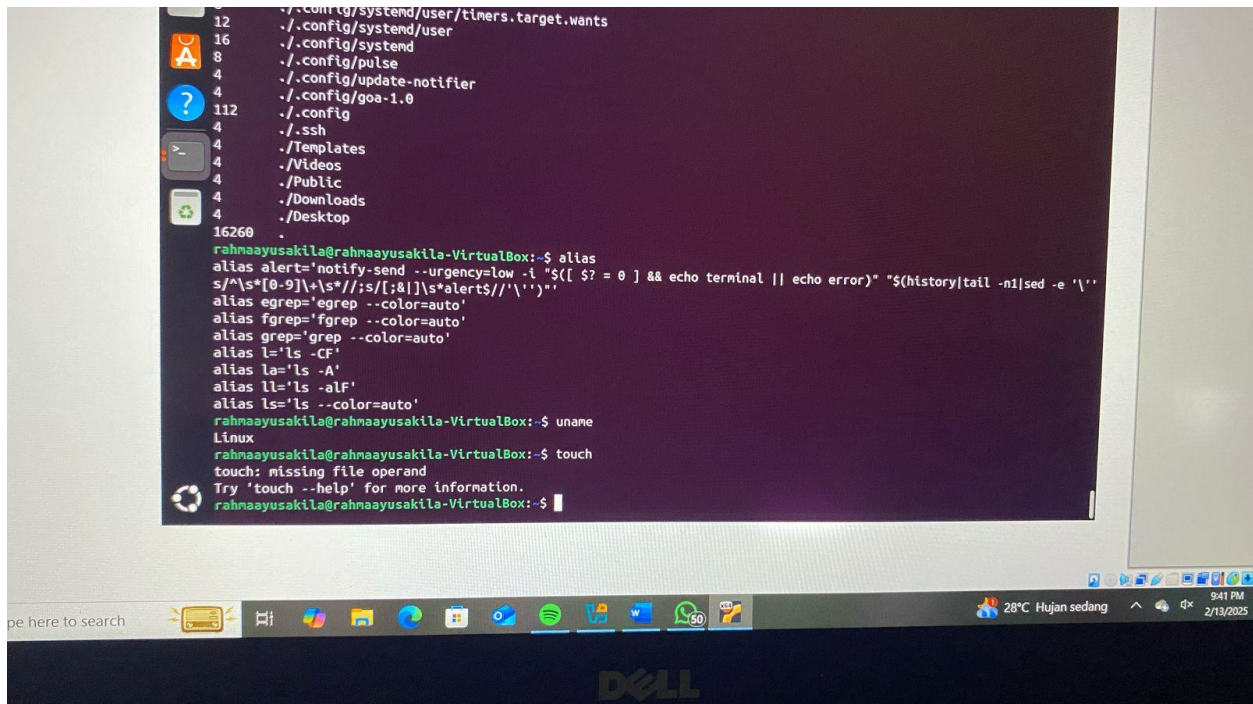


```
rahmaayusakila@rahmaayusakila-VirtualBox:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
tmpfs            813264      1696     811568    1% /run
/dev/sda2        25623780  9695352  14601480   40% /
tmpfs            4066312         0    4066312    0% /dev/shm
tmpfs             5120         8       5112    1% /run/lock
tmpfs            813260      148     813112    1% /run/user/1000

rahmaayusakila@rahmaayusakila-VirtualBox:~$ du
4      ./snap/firmware-updater/167/.local/share/glib-2.0/schemas
8      ./snap/firmware-updater/167/.local/share/glib-2.0
4      ./snap/firmware-updater/167/.local/share/icons
16     ./snap/firmware-updater/167/.local/share
20     ./snap/firmware-updater/167/.local
4      ./snap/firmware-updater/167/.config/ibus
4      ./snap/firmware-updater/167/.config/dconf
4      ./snap/firmware-updater/167/.config/gtk-3.0
4      ./snap/firmware-updater/167/.config/gtk-2.0
8      ./snap/firmware-updater/167/.config/fontconfig
44     ./snap/firmware-updater/167/.config
72     ./snap/firmware-updater/127/.local/share/glib-2.0/schemas
4      ./snap/firmware-updater/127/.local/share/glib-2.0
8      ./snap/firmware-updater/127/.local/share/icons
4      ./snap/firmware-updater/127/.local/share
16     ./snap/firmware-updater/127/.local
20     ./snap/firmware-updater/127/.local
4      ./snap/firmware-updater/127/.config/ibus
4      ./snap/firmware-updater/127/.config/dconf
4      ./snap/firmware-updater/127/.config/gtk-3.0
4      ./snap/firmware-updater/127/.config/gtk-2.0
8      ./snap/firmware-updater/127/.config/fontconfig
44     ./snap/firmware-updater/127/.config
```

42. df melihat kapasitas disk yang digunakan

43. du melihat ukuran folder atau file



The screenshot shows a Linux terminal window with a dark background. The terminal displays the output of several commands. At the top, there are several lines of directory listings, likely from the 'du' command, showing file sizes and paths. Below these, the user enters the 'alias' command, which shows a list of aliases including 'alert', 'egrep', 'fgrep', 'grep', 'l', 'la', 'll', and 'ls'. The user then enters the 'uname' command, which returns 'Linux'. Finally, the user enters the 'touch' command, which results in an error message: 'touch: missing file operand. Try 'touch --help' for more information.' The terminal window is open on a desktop environment, with a taskbar at the bottom showing various application icons and system status information (28°C, Hujan sedang, 9:41 PM, 2/13/2025).

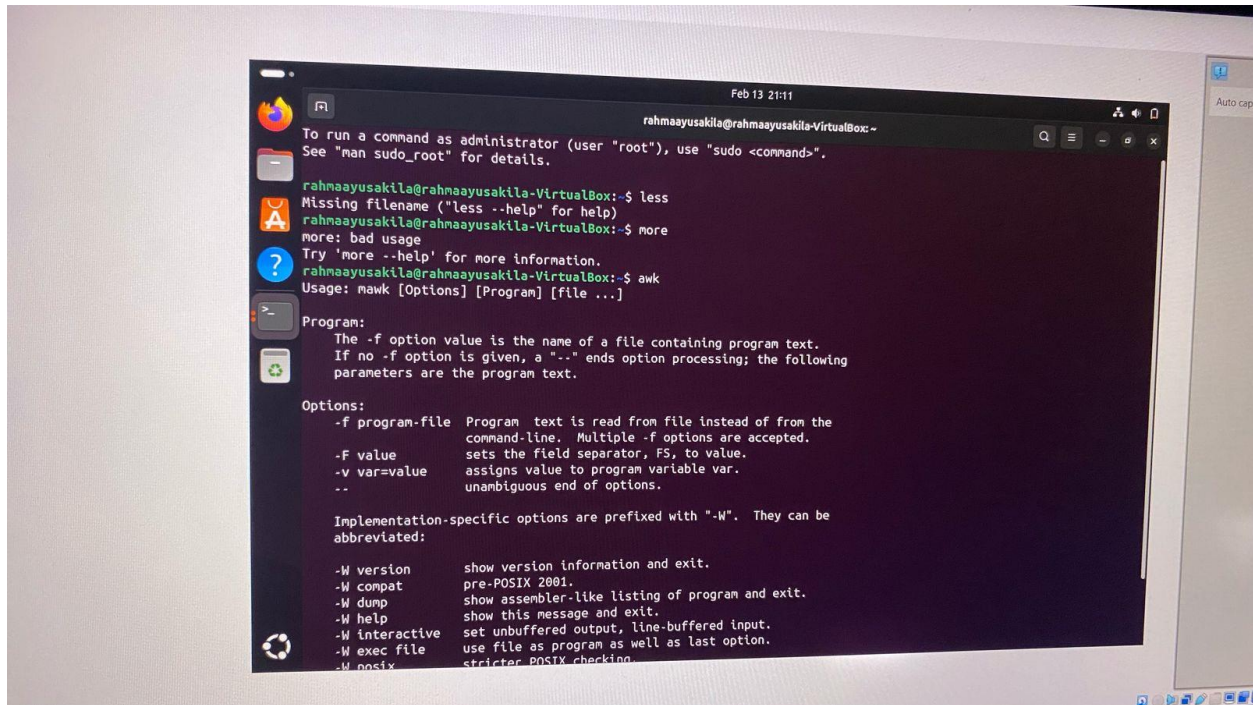
```
12 ./config/systemd/user/timers.target.wants
16 ./config/systemd/user
16 ./config/systemd
8 ./config/pulse
4 ./config/update-notifier
4 ./config/goa-1.0
112 ./config
4 ./ssh
4 ./Templates
4 ./Videos
4 ./Public
4 ./Downloads
4 ./Desktop
16260 .
rahmaayusakila@rahmaayusakila-VirtualBox:~$ alias
alias alert='notify-send --urgency=low -i "${[ $? = 0 ]} && echo terminal || echo error" "$(history|tail -n1|sed -e '\''
s/^\s*[0-9]\+\s*//;s/;;s/[:&]\s*alert$/'\'' )"'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
rahmaayusakila@rahmaayusakila-VirtualBox:~$ uname
Linux
rahmaayusakila@rahmaayusakila-VirtualBox:~$ touch
touch: missing file operand
Try 'touch --help' for more information.
rahmaayusakila@rahmaayusakila-VirtualBox:~$
```

44. alias membuat shortcut perintah

45. uname menampilkan informasi sistem

46. touch membuat file baru



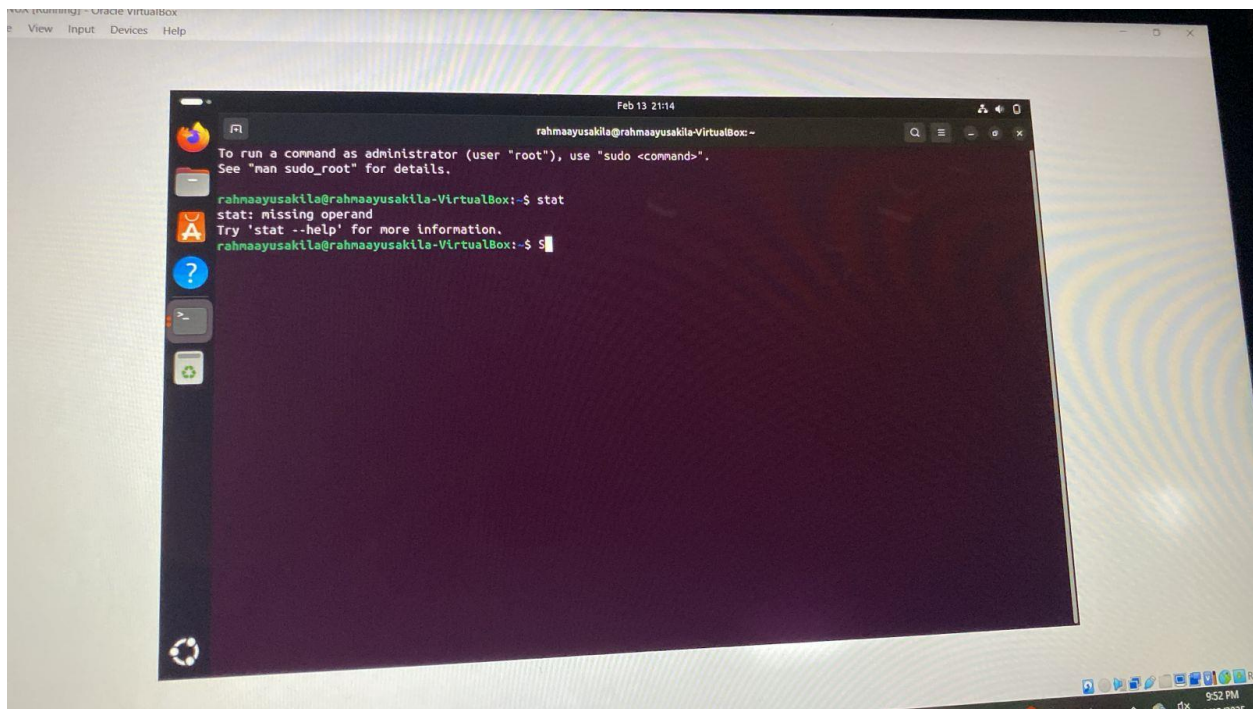


```
rahmaayusakila@rahmaayusakila-VirtualBox: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ less  
Missing filename ("less --help" for help)  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ more  
more: bad usage  
Try 'more --help' for more information.  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ awk  
Usage: mawk [Options] [Program] [file ...]  
  
Program:  
The -f option value is the name of a file containing program text.  
If no -f option is given, a "-" ends option processing; the following  
parameters are the program text.  
  
Options:  
-f program-file  Program text is read from file instead of from the  
                  command-line. Multiple -f options are accepted.  
-F value        sets the field separator, FS, to value.  
-v var=value     assigns value to program variable var.  
--              unambiguous end of options.  
  
Implementation-specific options are prefixed with "-W". They can be  
abbreviated:  
  
-W version      show version information and exit.  
-W compat       pre-POSIX 2001.  
-W dump         show assembler-like listing of program and exit.  
-W help         show this message and exit.  
-W interactive  set unbuffered output, line-buffered input.  
-W exec file    use file as program as well as last option.  
-W posix        stricter POSIX checking.
```

47. less menampilkan isi file dengan navigasi scroll ke atas atau bawah

48. more menampilkan isi file satu halaman pertampilan

49. awk menampilkan isi file dengan kontrol lebih lanjut termasuk menambahkan nomor baris



```
rahmaayusakila@rahmaayusakila-VirtualBox: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
rahmaayusakila@rahmaayusakila-VirtualBox:~$ stat  
stat: missing operand  
Try 'stat --help' for more information.  
rahmaayusakila@rahmaayusakila-VirtualBox:~$
```

50. stat – Menampilkan informasi detail tentang suatu file atau direktori.

