LAPORAN PRAKTIKUM
SISTEM OPERASI RD
MODUL 4

Oleh :

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Daftar Isi

1.   **Dasar Teori**

Linux adalah sistem operasi multi-user yang memungkinkan beberapa pengguna berjalan secara bersamaan dengan membedakan setiap proses menggunakan Process ID (PID) dan Parent ID (PPID). Proses dibagi menjadi dua kategori utama: Parent Processes, yang membuat proses lain saat runtime, dan Child Processes, yang dibuat oleh proses lain saat runtime. Kernel Linux adalah inti dari sistem operasi yang mengatur komunikasi antara perangkat keras dan lunak serta mengelola penggunaan memori dan prosesor.

Pengguna Linux berinteraksi dengan sistem menggunakan terminal, memungkinkan mereka untuk menjalankan perintah-perintah seperti `ps` untuk menampilkan daftar proses yang berjalan, `top` untuk melihat pemakaian sumber daya sistem secara real-time, dan `kill` untuk menghentikan proses tertentu. Perintah-perintah ini sering menggunakan argumen dan flag untuk memberikan instruksi tambahan atau mempengaruhi cara kerja perintah tersebut. Misalnya, perintah `sudo` digunakan untuk memberikan hak superuser pada perintah yang memerlukan akses administratif.

Dokumentasi bantuan atau manual juga tersedia untuk banyak perintah Linux, yang dapat diakses dengan perintah `man`, memberikan informasi rinci tentang argumen, flag, dan cara penggunaan perintah tersebut. Dengan memahami dasar-dasar ini, pengguna Linux dapat mengelola sistem mereka dengan lebih efisien dan memanfaatkan kekuatan dan fleksibilitas yang ditawarkan oleh lingkungan terminal.

2.   **Hasil & Jawaban**

Melakukan aktivitas penginstalan aplikasi brave-browser pada linux melalui terminal

```
root@rayhanfadelirwanto:/home/wupxy# sudo apt update
Hit:1 http://id.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://id.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://id.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 https://brave-browser-apt-release.s3.brave.com stable InRelease
Get:5 https://packages.microsoft.com/repos/vscode stable InRelease [3.594 B]
Hit:6 http://security.ubuntu.com/ubuntu jammy-security InRelease
Err:5 https://packages.microsoft.com/repos/vscode stable InRelease
  The following signatures couldn't be verified because the public key is not avail
Reading package lists... Done
N: Skipping acquire of configured file 'main/binary-i386/Packages' as repository 'h
W: GPG error: https://packages.microsoft.com/repos/vscode stable InRelease: The fol
E: The repository 'https://packages.microsoft.com/repos/vscode stable InRelease' is
N: Updating from such a repository can't be done securely, and is therefore disable
N: See apt-secure(8) manpage for repository creation and user configuration details
root@rayhanfadelirwanto:/home/wupxy# sudo apt-get --purge remove brave-browser
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  brave-keyring libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  brave-browser*
0 upgraded, 0 newly installed, 1 to remove and 40 not upgraded.
After this operation, 368 MB disk space will be freed.
Do you want to continue? [Y/n] Y
(Reading database ... 207125 files and directories currently installed.)
root@rayhanfadelirwanto:/home/wupxy# sudo apt install brave-browser
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  brave-browser
0 upgraded, 1 newly installed, 0 to remove and 40 not upgraded.
Need to get 116 MB of archives.
After this operation, 368 MB of additional disk space will be used.
Get:1 https://brave-browser-apt-release.s3.brave.com stable/main amd64 brave-browser amd64
Fetched 116 MB in 11s (10,1 MB/s)
Selecting previously unselected package brave-browser.
(Reading database ... 206905 files and directories currently installed.)
Preparing to unpack .../brave-browser_1.65.123_amd64.deb ...
Unpacking brave-browser (1.65.123) ...
Setting up brave-browser (1.65.123) ...
update-alternatives: using /usr/bin/brave-browser-stable to provide /usr/bin/x-www-browser
update-alternatives: using /usr/bin/brave-browser-stable to provide /usr/bin/gnome-www-brow
update-alternatives: using /usr/bin/brave-browser-stable to provide /usr/bin/brave-browser
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...
```

Melakukan su update dan melakukan penginstalan brave-browser menggunakan sudo apt install <nama_aplikasinya>

Melakukan pmrosesan aktivitas dan pengelolaan aplikasi

```
root@rayhanfadelirwanto:/home/wupxy# ps -e
    PID TTY          TIME CMD
      1 ?        00:00:02 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
     11 ?        00:00:00 mm_percpu_wq
     12 ?        00:00:00 rcu_tasks_kthread
     13 ?        00:00:00 rcu_tasks_rude_kthread
     14 ?        00:00:00 rcu_tasks_trace_kthread
     15 ?        00:00:00 ksoftirqd/0
     16 ?        00:00:03 rcu_preempt
     17 ?        00:00:00 migration/0
     18 ?        00:00:00 idle_inject/0
     19 ?        00:00:00 cpuhp/0
     20 ?        00:00:00 cpuhp/1
     21 ?        00:00:00 idle_inject/1
     22 ?        00:00:00 migration/1
     23 ?        00:00:00 ksoftirqd/1
     25 ?        00:00:00 kworker/1:0H-events_highpri
     26 ?        00:00:00 cpuhp/2
     27 ?        00:00:00 idle_inject/2
     28 ?        00:00:00 migration/2
     29 ?        00:00:00 ksoftirqd/2
     31 ?        00:00:00 kworker/2:0H-kblockd
     32 ?        00:00:00 cpuhp/3
```

```
root@rayhanfadelirwanto:/home/wupxy# ps -f
UID          PID    PPID  C STIME TTY          TIME CMD
root       47738   47737  0 22:21 pts/1    00:00:00 sudo su
root       47739   47738  0 22:21 pts/1    00:00:00 su
root       47740   47739  0 22:21 pts/1    00:00:00 bash
root       49540   47740  0 22:26 pts/1    00:00:00 ps -f
root@rayhanfadelirwanto:/home/wupxy# ps -C brave --sort=-%cpu
    PID TTY          TIME CMD
  49588 ?        00:00:02 brave
  49624 ?        00:00:01 brave
  49683 ?        00:00:01 brave
  49652 ?        00:00:00 brave
  49625 ?        00:00:00 brave
  49598 ?        00:00:00 brave
  49599 ?        00:00:00 brave
  49601 ?        00:00:00 brave
  49637 ?        00:00:00 brave
  49651 ?        00:00:00 brave
root@rayhanfadelirwanto:/home/wupxy# ps -ft $(tty)
UID          PID    PPID  C STIME TTY          TIME CMD
root       47738   47737  0 22:21 pts/1    00:00:00 sudo su
root       47739   47738  0 22:21 pts/1    00:00:00 su
root       47740   47739  0 22:21 pts/1    00:00:00 bash
root       49956   47740  0 22:27 pts/1    00:00:00 ps -ft /dev/pts/1
```

Dengan perintah ps kita bisa melihat pemrosesan apa saja yang terjadi di SO kita

Memantau proses berjalannya aplikasi

```
root@rayhanfadelirwanto:/home/wupxy# top

top - 22:27:26 up  3:34,  2 users,  load average: 0,41, 0,27, 0,18
Tasks: 221 total,   2 running, 219 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0,7 us,  0,3 sy,  0,0 ni, 99,0 id,  0,0 wa,  0,0 hi,  0,0 si,  0,0 st
MiB Mem :   3906,7 total,    638,1 free,    942,0 used,   2326,6 buff/cache
MiB Swap:   2680,0 total,   2339,0 free,    341,0 used.   2591,4 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
   1379 wupxy     20   0 5810188 362292 107920 S   6,3   9,1   8:56.25 gnome-shell
  47695 wupxy     20   0  560660  57832  44288 S   2,3   1,4   0:04.10 gnome-terminal-
  49957 root      20   0   13244   4096   3328 R   0,3   0,1   0:00.01 top
      1 root      20   0  167916  12748   8140 S   0,0   0,3   0:02.71 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
      5 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 slub_flushwq
      6 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 netns
      8 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 kworker/0:0H-events_highpri
     11 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 mm_percpu_wq
     12 root      20   0       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
```

```
root@rayhanfadelirwanto:/home/wupxy# top -n 10

top - 22:27:33 up  3:34,  2 users,  load average: 0,38, 0,26, 0,18
Tasks: 220 total,   1 running, 219 sleeping,   0 stopped,   0 zombie
%Cpu(s):  1,7 us,  1,7 sy,  0,0 ni, 96,7 id,  0,0 wa,  0,0 hi,  0,0 si,  0,0 st
MiB Mem :   3906,7 total,    651,2 free,    931,2 used,   2324,3 buff/cache
MiB Swap:   2680,0 total,   2339,0 free,    341,0 used.   2604,5 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
   1379 wupxy     20   0 5807872 362292 107920 S  33,3   9,1   8:56.88 gnome-shell
  47695 wupxy     20   0  559760  57084  44288 S   6,7   1,4   0:04.22 gnome-terminal-
  49965 root      20   0   13244   4096   3328 R   6,7   0,1   0:00.01 top
      1 root      20   0  167916  12748   8140 S   0,0   0,3   0:02.71 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
      5 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 slub_flushwq
      6 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 netns
      8 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 kworker/0:0H-events_highpri
     11 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 mm_percpu_wq
     12 root      20   0       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   rcu_tasks_trace_kthread
```

```
root@rayhanfadelirwanto:/home/wupxy# ps -aux
USER         PID %CPU %MEM    VSZ    RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.3 167916  12748 ?       Ss   18:53   0:02 /sbin/init splash
root           2  0.0  0.0      0      0 ?       S    18:53   0:00 [kthreadd]
root           3  0.0  0.0      0      0 ?       I<   18:53   0:00 [rcu_gp]
root           4  0.0  0.0      0      0 ?       I<   18:53   0:00 [rcu_par_gp]
root           5  0.0  0.0      0      0 ?       I<   18:53   0:00 [slub_flushwq]
root           6  0.0  0.0      0      0 ?       I<   18:53   0:00 [netns]
root           8  0.0  0.0      0      0 ?       I<   18:53   0:00 [kworker/0:0H-events_highpri]
root          11  0.0  0.0      0      0 ?       I<   18:53   0:00 [mm_percpu_wq]
root          12  0.0  0.0      0      0 ?       I    18:53   0:00 [rcu_tasks_kthread]
root          13  0.0  0.0      0      0 ?       I    18:53   0:00 [rcu_tasks_rude_kthread]
root          14  0.0  0.0      0      0 ?       I    18:53   0:00 [rcu_tasks_trace_kthread]
root          15  0.0  0.0      0      0 ?       S    18:53   0:00 [ksoftirqd/0]
root          16  0.0  0.0      0      0 ?       I    18:53   0:03 [rcu_preempt]
root          17  0.0  0.0      0      0 ?       S    18:53   0:00 [migration/0]
root          18  0.0  0.0      0      0 ?       S    18:53   0:00 [idle_inject/0]
root          19  0.0  0.0      0      0 ?       S    18:53   0:00 [cpuhp/0]
root          20  0.0  0.0      0      0 ?       S    18:53   0:00 [cpuhp/1]
root          21  0.0  0.0      0      0 ?       S    18:53   0:00 [idle_inject/1]
root          22  0.0  0.0      0      0 ?       S    18:53   0:00 [migration/1]
root          23  0.0  0.0      0      0 ?       S    18:53   0:00 [ksoftirqd/1]
root          25  0.0  0.0      0      0 ?       I<   18:53   0:00 [kworker/1:0H-events_highpri]
root          26  0.0  0.0      0      0 ?       S    18:53   0:00 [cpuhp/2]
root          27  0.0  0.0      0      0 ?       S    18:53   0:00 [idle_inject/2]
```

Menghentikan proses aplikasi yang sedang berjalan

```
root       50076  0.0  0.0      0      0 ?       I    22:37   0:00 [kworker/u8:1-flush-8:0]
wupxy      50083 19.6  2.4 1040680  99284 ?      Sl   22:37   0:01 rhythmbox
root       50114  1.0  0.1  14696   6912 ?       Ss   22:37   0:00 /lib/systemd/systemd-hostnamed
wupxy      50115  0.1  0.2 388740   9088 ?       Sl   22:37   0:00 /usr/libexec/gvfsd-network --sp
wupxy      50128  0.0  0.2 316828   8960 ?       Sl   22:37   0:00 /usr/libexec/gvfsd-dnssd --spaw
root       50138  0.0  0.0      0      0 ?       I    22:37   0:00 [kworker/0:1]
root       50139  0.0  0.0  12944   3840 pts/1   R+   22:38   0:00 ps -aux
root@rayhanfadelirwanto:/home/wupxy# sudo kill 50083
root@rayhanfadelirwanto:/home/wupxy# ps -e
```

Menghentikan aplikasi rythmbox

Jalankan aplikasi brave-browser, firefox, dan satu aplikasi(yang ada di sistem operasi)
Lakukan langkah-langkah manajemen pemrosesan dari mulai ps,top, dan kill

```
root@rayhanfadelirwanto:/home/wupxy# ps -e
    PID TTY          TIME CMD
      1 ?        00:00:02 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
     11 ?        00:00:00 mm_percpu_wq
     12 ?        00:00:00 rcu_tasks_kthread
     13 ?        00:00:00 rcu_tasks_rude_kthread
     14 ?        00:00:00 rcu_tasks_trace_kthread
     15 ?        00:00:00 ksoftirqd/0
     16 ?        00:00:03 rcu_preempt
```

```
root@rayhanfadelirwanto:/home/wupxy# ps -f
UID         PID     PPID  C STIME TTY          TIME CMD
root       47738    47737 0 22:21 pts/1    00:00:00 sudo su
root       47739    47738 0 22:21 pts/1    00:00:00 su
root       47740    47739 0 22:21 pts/1    00:00:00 bash
root       50980    47740 0 22:39 pts/1    00:00:00 ps -f
root@rayhanfadelirwanto:/home/wupxy# top

top - 22:39:04 up  3:45,  2 users,  load average: 0,80, 0,28, 0,18
Tasks: 235 total,   1 running, 234 sleeping,   0 stopped,   0 zombie
%Cpu(s):  1,3 us,  4,0 sy,  0,0 ni, 94,7 id,  0,0 wa,  0,0 hi,  0,0 si,  0,0 st
MiB Mem :   3906,7 total,    310,4 free,   1455,0 used,   2141,3 buff/cache
MiB Swap:   2680,0 total,   2319,5 free,    360,5 used.   2077,6 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND

   1379 wupxy     20   0 5830672 381340 126352 S  26,3   9,5   9:17.23 gnome-shell

  47695 wupxy     20   0  560532  58340  44880 S   5,3   1,5   0:06.77 gnome-terminal-

  50981 root      20   0   13244   4224   3328 R   5,3   0,1   0:00.01 top

      1 root      20   0  167916  12748   8140 S   0,0   0,3   0:02.74 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
root@rayhanfadelirwanto:/home/wupxy# top -o %MEM

top - 22:39:26 up  3:46,  2 users,  load average: 0,64, 0,28, 0,18
Tasks: 234 total,   1 running, 233 sleeping,   0 stopped,   0 zombie
%Cpu(s): 21,0 us, 16,1 sy,  0,0 ni, 59,7 id,  1,6 wa,  0,0 hi,  1,6 si,  0,0 st
MiB Mem :   3906,7 total,    247,4 free,   1503,4 used,   2156,0 buff/cache
MiB Swap:   2680,0 total,   2319,5 free,    360,5 used.   2029,5 avail Mem

    PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
   1379 wupxy     20   0 5838560 381088 126100 S  25,0   9,5   9:22.48 gnome-shell
  50640 wupxy     20   0 2854948 354780  88840 S 100,0   8,9   0:14.37 Isolated Web Co
  50153 wupxy     20   0 2997384 290448 143204 S  18,8   7,3   0:09.59 firefox
  49588 wupxy     20   0   32,7g 286300 185580 S   0,0   7,2   0:04.06 brave
  49683 wupxy     20   0 1132,0g 165844 128960 S   0,0   4,1   0:01.67 brave
  49624 wupxy     20   0   32,6g 158180 123868 S   0,0   4,0   0:01.78 brave
  49652 wupxy     20   0 1132,0g 119684  97260 S   0,0   3,0   0:00.24 brave
  50332 wupxy     20   0 2432308 107756  81536 S   0,0   2,7   0:00.37 Privileged Cont
  49625 wupxy     20   0   32,4g 105044  89984 S   0,0   2,6   0:00.24 brave
  50797 wupxy     20   0 2508392  98536  68892 S   6,2   2,5   0:00.83 Isolated Servic
  50875 wupxy     20   0  685192  95996  55924 S   0,0   2,4   0:01.29 rhythmbox
  50489 wupxy     20   0 2428220  90684  69684 S   0,0   2,3   0:00.35 WebExtensions
  49651 wupxy     20   0 1132,0g  70160  53632 S   0,0   1,8   0:00.03 brave
  50815 wupxy     20   0 2388628  69620  57716 S   0,0   1,7   0:00.10 Web Content
  50902 wupxy     20   0 2388636  69620  57460 S   0,0   1,7   0:00.09 Web Content
  50798 wupxy     20   0 2388628  69504  57344 S   0,0   1,7   0:00.09 Web Content
  49599 wupxy     20   0   32,3g  67840  54656 S   0,0   1,7   0:00.02 brave
  49598 wupxy     20   0   32,3g  66560  53504 S   0,0   1,7   0:00.03 brave
  50040 wupxy     20   0 2925932  64532  48416 S   0,0   1,6   0:00.46 gjs
```

```
root@rayhanfadelirwanto:/home/wupxy# top -n 10

top - 22:40:03 up  3:46,  2 users,  load average: 0,74, 0,35, 0,21
Tasks: 234 total,   1 running, 233 sleeping,   0 stopped,   0 zombie
%Cpu(s):  2,3 us,  0,9 sy,  0,0 ni, 96,8 id,  0,0 wa,  0,0 hi,  0,0 si,  0,0 st
MiB Mem :   3906,7 total,    113,3 free,   1547,4 used,   2246,0 buff/cache
MiB Swap:   2680,0 total,   2319,5 free,    360,5 used.   1985,0 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
 1379 wupxy     20   0 5830420 381148 126160 S   6,6   9,5   9:26.80 gnome-shell
50640 wupxy     20   0 2937352 397732  88808 S   4,3   9,9   0:23.88 Isolated Web Co
47695 wupxy     20   0  560660  58116  44504 S   3,3   1,5   0:08.54 gnome-terminal-
50153 wupxy     20   0 2995256 284032 143840 S   1,3   7,1   0:14.17 firefox
49624 wupxy     20   0   32,6g 158208 123868 S   0,3   4,0   0:01.79 brave
49683 wupxy     20   0 1132,0g 166992 129472 S   0,3   4,2   0:01.69 brave
51170 root      20   0   13244   4224   3328 R   0,3   0,1   0:00.07 top
    1 root      20   0  167916  12748   8140 S   0,0   0,3   0:02.74 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
    5 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 slub_flushwq
    6 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 netns
    8 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 kworker/0:0H-events_highpr
   11 root       0 -20       0      0      0 I   0,0   0,0   0:00.00 mm_percpu_wq
   12 root      20   0       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   0:00.28 ksoftirqd/0
   16 root      20   0       0      0      0 I   0,0   0,0   0:03.95 rcu_preempt
   17 root      rt   0       0      0      0 S   0,0   0,0   0:00.05 migration/0
   18 root     -51   0       0      0      0 S   0,0   0,0   0:00.00 idle_inject/0
root@rayhanfadelirwanto:/home/wupxy# sudo kill 49624
root@rayhanfadelirwanto:/home/wupxy# sudo kill 49683
root@rayhanfadelirwanto:/home/wupxy# sudo kill 50153
root@rayhanfadelirwanto:/home/wupxy# nano rayhan.txt
root@rayhanfadelirwanto:/home/wupxy# cat rayhan.txt
Rayhan Fadel Irwanto
122140236
```

Pada tiap line pemrosesan buat file txt berisikan identitas praktikan

```
root@rayhanfadelirwanto:/home/wupxy# sudo kill 49624
root@rayhanfadelirwanto:/home/wupxy# sudo kill 49683
root@rayhanfadelirwanto:/home/wupxy# sudo kill 50153
root@rayhanfadelirwanto:/home/wupxy# nano rayhan.txt
root@rayhanfadelirwanto:/home/wupxy# cat rayhan.txt
Rayhan Fadel Irwanto
122140236
```

3.   Kesimpulan dan Saran

Setelah mengikuti praktikum Linux, saya memperoleh pemahaman yang mendalam tentang sistem operasi ini. Linux dapat mendukung banyak pengguna secara simultan dengan menggunakan konsep proses untuk pemrosesan aplikasi, sementara kernel berperan mengatur komunikasi antara perangkat keras dan lunak serta mengelola sumber daya seperti memori dan prosesor. Melalui terminal, saya dapat berinteraksi dengan sistem melalui perintah-perintah seperti ps dan top untuk memantau dan mengelola proses yang berjalan, dan juga menggunakan perintah kill untuk menghentikan proses yang tidak diinginkan berdasarkan PID yang sesuai. Saya juga berhasil menginstal aplikasi, menjalankan, dan mengelola hak superuser serta menambahkan flag pada perintah yang diperlukan, sementara pemahaman tentang manajemen proses diperkuat melalui aktivitas praktikum, termasuk pembuatan dan pengelolaan file teks.