

**SISTEM OPERASI**

**JOBSHEET 4**



**Oleh:**

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**PROGRAM STUDI SISTEM INFORMASI BISNIS**

**JURUSAN TEKNOLOGI INFORMASI**

**POLITEKNIK NEGERI MALANG 2023/2024**

## PERCOBAAN :

### Percobaan 1 : Directory

- Melihat direktori home :

```
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ pwd $home
/home/jaden
```

- Melihat direktori aktual dan parent direktori :

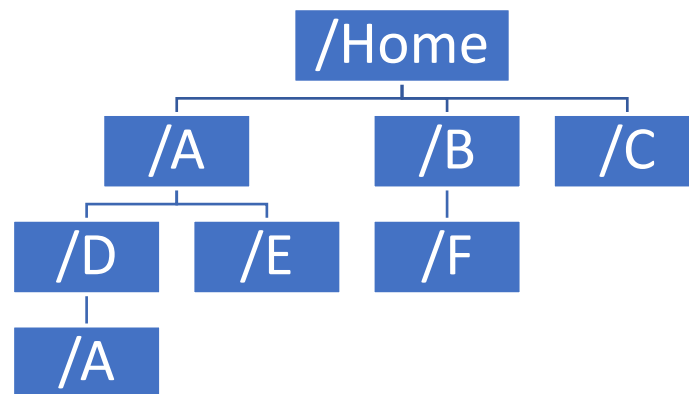
```
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ cd .
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ cd ..
jaden@jaden-virtual-machine:/home$ pwd
/home
jaden@jaden-virtual-machine:/home$ cd
jaden@jaden-virtual-machine:~$
```

- Membuat satu direktori, lebih dari satu direktori atau sub direktori :

```
jaden@jaden-virtual-machine:~$ mkdir A B C A/D A/E B/F A/D/A
jaden@jaden-virtual-machine:~$ ls -l
total 128
drwxrwxr-x 4 jaden jaden 4096 Mar 15 15:49 A
drwxrwxr-x 3 jaden jaden 4096 Mar 15 15:49 B
-rw-rw-r-- 1 jaden jaden 41 Mar 9 18:25 baru
-rw-rw-r-- 1 jaden jaden 4102 Mar 10 15:59 baru.urut.txt
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 C
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
-rw-rw-r-- 1 jaden jaden 4102 Mar 10 15:44 filebaru.txt
-rw-rw-r-- 1 jaden jaden 64 Mar 10 16:30 hello.txt
-rw-rw-r-- 1 jaden jaden 29 Mar 10 16:26 jmlbrskatkar.txt
-rw-rw-r-- 1 jaden jaden 31 Mar 10 10:34 kelas1.txt
-rw-rw-r-- 1 jaden jaden 24 Mar 10 10:34 kelas2.txt
-rw-rw-r-- 1 jaden jaden 55 Mar 10 10:35 kelas.txt
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
-rw-rw-r-- 1 jaden jaden 56 Mar 9 16:44 myerror.txt
-rw-rw-r-- 1 jaden jaden 53 Mar 9 13:33 myfile.txt
-rw-rw-r-- 1 jaden jaden 20 Mar 10 09:29 out
-rw-rw-r-- 1 jaden jaden 0 Mar 10 09:29 output
-rw-rw-r-- 1 jaden jaden 0 Mar 9 16:50 out.txt
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
-rw-rw-r-- 1 jaden jaden 59 Mar 10 16:04 rmdirerror.txt
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
-rw-rw-r-- 1 jaden jaden 13 Mar 9 18:32 surat
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
-rw-rw-r-- 1 jaden jaden 4102 Mar 10 15:51 urutkan
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$
```

```
jaden@jaden-virtual-machine:~$ ls -l A
total 8
drwxrwxr-x 3 jaden jaden 4096 Mar 15 15:49 D
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 E
jaden@jaden-virtual-machine:~$ ls -l A/D
total 4
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 A
jaden@jaden-virtual-machine:~$
```

Berikut merupakan gambaran pohon dari struktur file dan direktori



- Menghapus satu atau lebih direktori hanya dapat dilakukan pada direktori kosong dan hanya dapat dihapus oleh pemiliknya kecuali bila diberikan ijin aksesnya :

```
jaden@jaden-virtual-machine:~$ rmdir B
rmdir: failed to remove 'B': Directory not empty
jaden@jaden-virtual-machine:~$ ls -l B
total 4
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 F
jaden@jaden-virtual-machine:~$ rmdir B/F B
jaden@jaden-virtual-machine:~$ ls -l B
ls: cannot access 'B': No such file or directory
jaden@jaden-virtual-machine:~$
```

Catatan : Pada perintah “`rmdir B`” terjadi error dikarenakan direktori B memiliki file didalamnya. Padahal perintah “`rmdir`” merupakan perintah untuk menghapus direktori kosong. Kemudian pada perintah “`ls -l B`” terjadi error dikarenakan direktori B sudah dihapus beserta isinya, sehingga perintah “`ls`” untuk membuka isi direktori menjadi error.

- Navigasi direktori dengan instruksi cd untuk pindah dari satu direktori ke direktori lain :

```
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ ls -l
total 56
drwxrwxr-x 4 jaden jaden 4096 Mar 15 15:49 A
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 C
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$ cd A
jaden@jaden-virtual-machine:~/A$ pwd
/home/jaden/A
jaden@jaden-virtual-machine:~/A$ cd ..
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ cd /home/jaden/C
jaden@jaden-virtual-machine:~/C$ pwd
/home/jaden/C
jaden@jaden-virtual-machine:~/C$ cd /jaden/C
bash: cd: /jaden/C: No such file or directory
jaden@jaden-virtual-machine:~/C$ pwd
/home/jaden/C
jaden@jaden-virtual-machine:~/C$
```

Catatan : Pada perintah “cd /<user>/C” terjadi error dikarenakan penulisan alamat yang dituju salah. Jika ingin menuju ke direktori C seharusnya “cd /home/<user>/C”.



## Percobaan 2 : Manipulasi File

- Perintah cp untuk mengkopi file atau seluruh direktori :

```
jaden@jaden-virtual-machine:~$ cat > contoh
Membuat sebuah file
jaden@jaden-virtual-machine:~$ cp contoh contoh1
jaden@jaden-virtual-machine:~$ ls -l
total 64
drwxrwxr-x 4 jaden jaden 4096 Mar 15 15:49 A
drwxrwxr-x 2 jaden jaden 4096 Mar 15 16:18 C
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxrwxr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 praki
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$ cp contoh A
jaden@jaden-virtual-machine:~$ ls -l A
total 12
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh
drwxrwxr-x 3 jaden jaden 4096 Mar 15 15:49 D
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 E
jaden@jaden-virtual-machine:~$ cp contoh contoh1 A/D
jaden@jaden-virtual-machine:~$ ls -l A/D
total 12
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 A
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:20 contoh
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:20 contoh1
jaden@jaden-virtual-machine:~$
```

- Perintah mv untuk memindah file :

```
jaden@jaden-virtual-machine:~$ mv contoh contoh2
jaden@jaden-virtual-machine:~$ ls -l
total 64
drwxrwxr-x 4 jaden jaden 4096 Mar 15 16:19 A
drwxrwxr-x 2 jaden jaden 4096 Mar 15 16:18 C
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh1
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxrwxr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 praki
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$ mv contoh1 contoh2 A/D
jaden@jaden-virtual-machine:~$ ls -l A/D
total 16
drwxrwxr-x 2 jaden jaden 4096 Mar 15 15:49 A
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:20 contoh
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh1
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh2
```

```

jaden@jaden-virtual-machine:~$ cd A/D
jaden@jaden-virtual-machine:~/A/D$ mv contoh contoh1 /home/jaden/C
jaden@jaden-virtual-machine:~/A/D$ cd /home/jaden
jaden@jaden-virtual-machine:~$ ls -l C
total 8
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:20 contoh
-rw-rw-r-- 1 jaden jaden 20 Mar 15 16:19 contoh1
jaden@jaden-virtual-machine:~$ █

```

- Perintah rm untuk menghapus file :

```

jaden@jaden-virtual-machine:~$ rm contoh2
jaden@jaden-virtual-machine:~$ ls -l
total 56
drwxrwxr-x 4 jaden jaden 4096 Mar 15 16:19 A
drwxrwxr-x 2 jaden jaden 4096 Mar 15 16:27 C
-rw-rw-r-- 1 jaden jaden 0 Mar 15 16:49 contoh
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$ rm -i contoh
rm: remove regular empty file 'contoh'? yes
jaden@jaden-virtual-machine:~$ rm -rf A C
jaden@jaden-virtual-machine:~$ ls -l
total 48
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$ █

```

### Percobaan 3 : Symbolic Link

- Membuat shortcut (file link) :

```
jaden@jaden-virtual-machine:~$ echo "hallo apa khabar" > halo.txt
jaden@jaden-virtual-machine:~$ ls -l
total 52
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
-rw-rw-r-- 1 jaden jaden 17 Mar 15 16:52 halo.txt
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
jaden@jaden-virtual-machine:~$ ln halo.txt z
jaden@jaden-virtual-machine:~$ ls -l
total 56
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
-rw-rw-r-- 2 jaden jaden 17 Mar 15 16:52 halo.txt
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 9 13:15 mydir
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
-rw-rw-r-- 2 jaden jaden 17 Mar 15 16:52 z
jaden@jaden-virtual-machine:~$ cat z
hallo apa khabar
jaden@jaden-virtual-machine:~$ ln z mydir/halo.juga

jaden@jaden-virtual-machine:~$ cat mydir/halo.juga
hallo apa khabar
jaden@jaden-virtual-machine:~$ ln -l bye.txt
ln: invalid option -- 'l'
Try 'ln --help' for more information.
jaden@jaden-virtual-machine:~$ ln -s z bye.txt
jaden@jaden-virtual-machine:~$ ls -l bye.txt
lrwxrwxrwx 1 jaden jaden 1 Mar 15 16:54 bye.txt -> z
jaden@jaden-virtual-machine:~$ cat bye.txt
hallo apa khabar
jaden@jaden-virtual-machine:~$
```



#### Percobaan 4 : Melihat isi file

- Perintah ls untuk melihat semua isi file di dalam suatu direktori

```
jaden@jaden-virtual-machine:~$ ls -l
total 56
lrwxrwxrwx 1 jaden jaden 1 Mar 15 16:54 bye.txt -> z
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Downloads
-rw-rw-r-- 3 jaden jaden 17 Mar 15 16:52 halo.txt
drwxrwxr-x 2 jaden jaden 4096 Mar 10 16:03 latihan2
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x 2 jaden jaden 4096 Mar 15 16:53 mydir
drwxr-xr-x 3 jaden jaden 4096 Mar 6 09:02 Pictures
drwxrwxr-x 2 jaden jaden 4096 Mar 1 15:10 prak1
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x 2 jaden jaden 4096 Feb 21 18:43 Videos
-rw-rw-r-- 3 jaden jaden 17 Mar 15 16:52 z
jaden@jaden-virtual-machine:~$ file halo.txt
halo.txt: ASCII text
jaden@jaden-virtual-machine:~$ file bye.txt
bye.txt: symbolic link to z
jaden@jaden-virtual-machine:~$
```



## Percobaan 5 : Mencari File

- Perintah find untuk mencari file yang diinginkan:

```
jaden@jaden-virtual-machine:~$ find /home -name "*.txt" -print > myerror.txt
jaden@jaden-virtual-machine:~$ cat myerror.txt
/home/jaden/.local/share/Trash/files/out.txt
/home/jaden/.local/share/Trash/files/hello.txt
/home/jaden/.local/share/Trash/files/filebaru.txt
/home/jaden/.local/share/Trash/files/prog.txt
/home/jaden/.local/share/Trash/files/rmdirerror.txt
/home/jaden/.local/share/Trash/files/baru.2.urut.txt
/home/jaden/.local/share/Trash/files/myerror.txt
/home/jaden/.local/share/Trash/files/out.2.txt
/home/jaden/.local/share/Trash/files/rmdirerror.2.txt
/home/jaden/.local/share/Trash/files/myfile.2.txt
/home/jaden/.local/share/Trash/files/kelas.txt
/home/jaden/.local/share/Trash/files/myfile.txt
/home/jaden/.local/share/Trash/files/kelas1.txt
/home/jaden/.local/share/Trash/files/baru.urut.txt
/home/jaden/.local/share/Trash/files/myerror.2.txt
/home/jaden/.local/share/Trash/files/jmlbrskatkar.txt
/home/jaden/.local/share/Trash/files/kelas2.txt
/home/jaden/bye.txt
/home/jaden/myerror.txt
/home/jaden/.cache/tracker3/files/first-index.txt
/home/jaden/.cache/tracker3/files/last-crawl.txt
/home/jaden/.cache/tracker3/files/locale-for-miner-apps.txt
/home/jaden/halo.txt
```

```
jaden@jaden-virtual-machine:~$ find . -name "*.txt" -exec wc -l '{}' ';'
0 ./local/share/Trash/files/out.txt
6 ./local/share/Trash/files/hello.txt
72 ./local/share/Trash/files/filebaru.txt
76 ./local/share/Trash/files/prog.txt
2 ./local/share/Trash/files/rmdirerror.txt
72 ./local/share/Trash/files/baru.2.urut.txt
1 ./local/share/Trash/files/myerror.txt
0 ./local/share/Trash/files/out.2.txt
1 ./local/share/Trash/files/rmdirerror.2.txt
2 ./local/share/Trash/files/myfile.2.txt
9 ./local/share/Trash/files/kelas.txt
1 ./local/share/Trash/files/myfile.txt
5 ./local/share/Trash/files/kelas1.txt
0 ./local/share/Trash/files/baru.urut.txt
1 ./local/share/Trash/files/myerror.2.txt
1 ./local/share/Trash/files/jmlbrskatkar.txt
4 ./local/share/Trash/files/kelas2.txt
1 ./bye.txt
23 ./myerror.txt
0 ./cache/tracker3/files/first-index.txt
0 ./cache/tracker3/files/last-crawl.txt
0 ./cache/tracker3/files/locale-for-miner-apps.txt
1 ./halo.txt
jaden@jaden-virtual-machine:~$
```

- Perintah which untuk mencari alamat pada suatu file :

```
jaden@jaden-virtual-machine:~$ which ls
/usr/bin/ls
jaden@jaden-virtual-machine:~$
```

- Perintah locate untuk mencari alamat pada suatu file dengan kata kunci :

```
jaden@jaden-virtual-machine:~$ locate "*.txt"
/boot/grub/gfxblacklist.txt
/etc/X11/rgb.txt
/etc/brltty/Input/ba/all.txt
/etc/brltty/Input/bd/all.txt
/etc/brltty/Input/bl/18.txt
/etc/brltty/Input/bl/40_m20_m40.txt
/etc/brltty/Input/ec/all.txt
/etc/brltty/Input/ec/spanish.txt
/etc/brltty/Input/eu/all.txt
/etc/brltty/Input/lb/all.txt
/etc/brltty/Input/lt/all.txt
/etc/brltty/Input/mb/all.txt
/etc/brltty/Input/mn/all.txt
/etc/brltty/Input/no/all.txt
/etc/brltty/Input/tn/all.txt
/etc/brltty/Input/tt/all.txt
/etc/brltty/Input/vd/all.txt
/etc/brltty/Input/vr/all.txt
/etc/brltty/Input/vs/all.txt
/home/jaden/bye.txt
/home/jaden/halo.txt
/home/jaden/myerror.txt
/home/jaden/.cache/tracker3/files/first-index.txt
/home/jaden/.cache/tracker3/files/last-crawl.txt
/home/jaden/.cache/tracker3/files/locale-for-miner-apps.txt
/home/jaden/.local/share/Trash/files/baru.2.urut.txt
/home/jaden/.local/share/Trash/files/baru.urut.txt
/home/jaden/.local/share/Trash/files/filebaru.txt
/home/jaden/.local/share/Trash/files/hello.txt
/home/jaden/.local/share/Trash/files/jmlbrskatkar.txt
/home/jaden/.local/share/Trash/files/kelas.txt
/home/jaden/.local/share/Trash/files/kelas1.txt
/home/jaden/.local/share/Trash/files/kelas2.txt
/home/jaden/.local/share/Trash/files/myerror.2.txt
/home/jaden/.local/share/Trash/files/myerror.txt
/home/jaden/.local/share/Trash/files/myfile.2.txt
/home/jaden/.local/share/Trash/files/myfile.txt
/home/jaden/.local/share/Trash/files/out.2.txt
```

#### Percobaan 6 : Mencari text pada file

- Perintah grep untuk mencari text yang terdapat dalam suatu file

```
jaden@jaden-virtual-machine:~$ grep halo *.txt
bye.txt:halo apa khabar
halo.txt:halo apa khabar
jaden@jaden-virtual-machine:~$
```

## Latihan :

1. Cobalah urutan perintah berikut :

```
$ cd
$ pwd
$ ls -al
$ cd .
$ pwd
$ cd ..
$ pwd
$ ls -al
$ cd ..
$ pwd
$ ls -al
$ cd /etc
$ ls -al | more
$ cat passwd
$ cd -
$ pwd
```

2. Lanjutkan penelusuran pohon pada sistem file menggunakan cd, ls, pwd dan cat.  
Telusuri direktory /bin, /usr/bin, /sbin, /tmp dan /boot.
3. Telusuri direktory /dev. Identifikasi perangkat yang tersedia. Identifikasi tty (terminal) Anda (ketik who am i); siapa pemilih tty Anda (gunakan ls -l).
4. Telusuri direktory /proc. Tampilkan isi file interrupts, devices, cpuinfo, meminfo dan uptime menggunakan perintah cat. Dapatkah Anda melihat mengapa direktory /proc disebut pseudo -filesystem yang memungkinkan akses ke struktur data kernel ?
5. Ubahlah direktory home ke user lain secara langsung menggunakan cd ~username.
6. Ubah kembali ke direktory home Anda.
7. Buat subdirektory work dan play.
8. Hapus subdirektory work.
9. Copy file /etc/passwd ke direktory home Anda.
10. Pindahkan ke subdirektory play.

11. Ubahlah ke subdirektory play dan buat symbolic link dengan nama terminal yang menunjuk ke perangkat tty. Apa yang terjadi jika melakukan hard link ke perangkat tty ?
12. Buatlah file bernama hello.txt yang berisi kata "hello word". Dapatkah Anda gunakan "cp" menggunakan "terminal" sebagai file asal untuk menghasilkan efek yang sama ?
13. Copy hello.txt ke terminal. Apa yang terjadi ?
14. Masih direktory home, copy keseluruhan direktory play ke direktory bernama work menggunakan symbolic link.
15. Hapus direktory work dan isinya dengan satu perintah.

Jawaban :

1. Berikut hasil percobaan dari perintah-perintah yang ada pada nomor 1 :

```
jaden@jaden-virtual-machine:~$ cd
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ ls -al
total 112
drwxr-x--- 19 jaden jaden 4096 Mar 15 17:00 .
drwxr-xr-x  3 root  root  4096 Mar  1 14:57 ..
-rw-r----- 1 jaden jaden 6664 Mar 15 17:10 .bash_history
-rw-r--r--  1 jaden jaden  220 Feb 21 18:37 .bash_logout
-rw-r--r--  1 jaden jaden 3771 Feb 21 18:37 .bashrc
lrwxrwxrwx  1 jaden jaden    1 Mar 15 16:54 bye.txt -> z
drwx----- 12 jaden jaden 4096 Mar  9 13:07 .cache
drwx----- 14 jaden jaden 4096 Mar  1 09:58 .config
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Desktop
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Documents
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Downloads
drwx----- 2 jaden jaden 4096 Feb 29 17:49 .gnupg
-rw-rw-r--  3 jaden jaden  17 Mar 15 16:52 halo.txt
drwxrwxr-x  2 jaden jaden 4096 Mar 10 16:03 latihani
-rw-r----- 1 jaden jaden  47 Mar  1 15:51 .lessht
drwx----- 3 jaden jaden 4096 Feb 21 18:43 .local
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Music
drwxrwxr-x  2 jaden jaden 4096 Mar 15 16:53 nydir
-rw-rw-r--  1 jaden jaden 1064 Mar 15 17:00 nyerror.txt
drwxr-xr-x  3 jaden jaden 4096 Mar  6 09:02 Pictures
drwxrwxr-x  2 jaden jaden 4096 Mar  1 15:10 praki
-rw-r--r--  1 jaden jaden  807 Feb 21 18:37 .profile
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Public
drwx----- 4 jaden jaden 4096 Feb 21 18:45 snap
drwx----- 2 jaden jaden 4096 Feb 21 18:49 .ssh
-rw-r--r--  1 jaden jaden    0 Feb 28 10:24 .sudo_as_admin_successful
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Templates
drwxr-xr-x  2 jaden jaden 4096 Feb 21 18:43 Videos
-rw-rw-r--  3 jaden jaden  17 Mar 15 16:52 z
jaden@jaden-virtual-machine:~$ cd .
jaden@jaden-virtual-machine:~$ pwd
/home/jaden
jaden@jaden-virtual-machine:~$ cd ..
```



```

jaden@jaden-virtual-machine:/home$ pwd
/home
jaden@jaden-virtual-machine:/home$ ls -al
total 28
drwxr-xr-x 3 root root 4096 Mar 1 14:57 .
drwxr-xr-x 20 root root 4096 Feb 21 18:30 ..
drwxr-xr-x 19 jaden jaden 4096 Mar 15 17:00 jaden
-rw-r--r-- 1 jaden jaden 1082 Mar 1 15:02 tes1
-rw-r--r-- 1 jaden jaden 1082 Mar 1 15:03 tes2
jaden@jaden-virtual-machine:/home$ cd /etc
jaden@jaden-virtual-machine:/etc$ ls -al | more
total 1184
drwxr-xr-x 132 root root 12288 Mar 15 17:06 .
drwxr-xr-x 20 root root 4096 Feb 21 18:30 ..
drwxr-xr-x 3 root root 4096 Agu 8 2023 acpi
-rw-r--r-- 1 root root 3028 Agu 8 2023 adduser.conf
-rw-r--r-- 1 root root 51 Mar 6 09:41 aliases
-rw-r--r-- 1 root root 12288 Mar 6 09:41 aliases.db
drwxr-xr-x 3 root root 4096 Agu 8 2023 alsa
drwxr-xr-x 2 root root 4096 Mar 15 17:06 alternatives
-rw-r--r-- 1 root root 335 Mar 23 2022 anacrontab
-rw-r--r-- 1 root root 433 Mar 23 2022 apg.conf
drwxr-xr-x 5 root root 4096 Agu 8 2023 apn
drwxr-xr-x 3 root root 4096 Agu 8 2023 apparmor
drwxr-xr-x 7 root root 4096 Mar 1 10:04 apparmor.d
drwxr-xr-x 4 root root 4096 Agu 8 2023 apport
-rw-r--r-- 1 root root 769 Feb 22 2022 appstream.conf
drwxr-xr-x 8 root root 4096 Feb 21 18:42 apt
drwxr-xr-x 3 root root 4096 Mar 1 10:11 avahi
-rw-r--r-- 1 root root 2319 Jan 6 2022 bash.bashrc
-rw-r--r-- 1 root root 45 Nov 11 2021 bash_completion
drwxr-xr-x 2 root root 4096 Agu 8 2023 bash_completion.d
-rw-r--r-- 1 root root 367 Dec 16 2020 bindresvport.blacklist
drwxr-xr-x 2 root root 4096 Apr 8 2022 binfmt.d
drwxr-xr-x 2 root root 4096 Mar 1 10:11 bluetooth
-rw-r--r-- 1 root root 33 Agu 8 2023 brlapi.key
drwxr-xr-x 7 root root 4096 Agu 8 2023 brltty
-rw-r--r-- 1 root root 29219 Jun 28 2022 brltty.conf
drwxr-xr-x 3 root root 4096 Agu 8 2023 ca-certificates

```

```

jaden@jaden-virtual-machine:/etc$ cat passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:nonexistent:/usr/sbin/nologin
tss:x:106:113:TPM software stack,,:/var/lib/tpm:/bin/false
uuidd:x:107:116:run/uuidd:/usr/sbin/nologin
systemd-oom:x:108:117:systemd Userspace OOM Killer,,:/run/systemd:/usr/sbin/nologin
tcpdump:x:109:118:nonexistent:/usr/sbin/nologin
avahi-autoipd:x:110:119:Avahi autoip daemon,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
usbmux:x:111:46:usbmux daemon,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:112:65534:dnsmasq,,:/var/lib/misc:/usr/sbin/nologin
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,:/usr/sbin/nologin

jaden@jaden-virtual-machine:/etc$ cd -
/home
jaden@jaden-virtual-machine:/home$ pwd
/home
jaden@jaden-virtual-machine:/home$

```

2. Berikut adalah cara penelusuran pohon pada sistem file :

➤ Penelusuran pada direktori /bin

```

jaden@jaden-virtual-machine:~$ cd /bin
jaden@jaden-virtual-machine:/bin$ ls
['
aa-enabled          mkmodmap
aa-exec             mknod
aa-features-abi     mksquashfs
aconnect            mktemp
acpi_listen         mkzftree
add-apt-repository  mmcli
addpart             mokutil
airscan-discover    monitor-sensor
alsabat             more
alsaloop            mount
alsamixer           mountpoint
                   mousetweaks

```

➤ Penelusuran pada direktori /usr/bin :

- Penelusuran pada direktori /sbin :



```
jaden@jaden-virtual-machine:~$ cd /sbin
jaden@jaden-virtual-machine:/sbin$ ls
aa-remove-unknown  grpunconv          postfix-add-filter
aa-status           grub-bios-setup    postfix-add-policy
aa-teardown         grub-install       postfix-collate
accessdb            grub-macbless      postkick
acpid               grub-mkconfig      postlock
addgnupghome       grub-mkdevicenap   postlog
addgroup            grub-probe          postmap
add-shell           grub-reboot         postmulti
```

[illegible]

- Penelusuran pada direktori /tmp

```
jaden@jaden-virtual-machine:~$ cd /tmp
jaden@jaden-virtual-machine:/tmp$ ls
snap-private-tmp
systemd-private-ea88899973b649bd9887b1b91826db00-color.service-CTEueb
systemd-private-ea88899973b649bd9887b1b91826db00-fwupd.service-ksh0GL
systemd-private-ea88899973b649bd9887b1b91826db00-ModemManager.service-Rx6d9j
systemd-private-ea88899973b649bd9887b1b91826db00-power-profiles-daemon.service-u
cgt9j
systemd-private-ea88899973b649bd9887b1b91826db00-switcheroo-control.service-u63h
fi
systemd-private-ea88899973b649bd9887b1b91826db00-systemd-logind.service-WX3zXI
systemd-private-ea88899973b649bd9887b1b91826db00-systemd-oomd.service-0pKZxf
systemd-private-ea88899973b649bd9887b1b91826db00-systemd-resolved.service-8Te41W
systemd-private-ea88899973b649bd9887b1b91826db00-systemd-timesyncd.service-Xm4Y7
9
systemd-private-ea88899973b649bd9887b1b91826db00-upower.service-cV0crB
jaden@jaden-virtual-machine:/tmp$ pwd
/tmp
jaden@jaden-virtual-machine:/tmp$ cat snap-private-tmp
cat: snap-private-tmp: Permission denied
jaden@jaden-virtual-machine:/tmp$
```

- Penelusuran pada direktori /boot

```
jaden@jaden-virtual-machine:~$ cd /boot
jaden@jaden-virtual-machine:/boot$ ls
config-6.5.0-21-generic  memtest86+.elf
config-6.5.0-25-generic  memtest86+_multiboot.bin
grub                    System.map-6.5.0-21-generic
initrd.img              System.map-6.5.0-25-generic
initrd.img-6.5.0-21-generic  vmlinuz
initrd.img-6.5.0-25-generic  vmlinuz-6.5.0-21-generic
initrd.img.old          vmlinuz-6.5.0-25-generic
memtest86+_bin          vmlinuz.old
jaden@jaden-virtual-machine:/boot$ pwd
/boot
jaden@jaden-virtual-machine:/boot$ cat memtest86+.elf
ELF45e4 (eeeele==+uepu
      eeeS[eeeeee,FeeeeveOR
eDeeeeDeeeDeeeec@e]P: e_eee
eeffeeuuS1eeeeeeX)eeeeeeUe!eeeeeCeeeeeBeeefeeffeeeeeBeeefeeffeeWeeeeBeeffee
eeffeeBeeefeeffeeWeeeeBeeefeeffeeWeeeeBeeefeeffeeWeeeeCeeffeeWeeeeCeeffeeWee
CeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeWee
"CeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffee
WeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffeeWeeeeCeeffeeffee
e[ee]hej]jedj]e^j]xj]eRj]e[j]eFj]e@j]e:6j]  e0j
e,j
e{J
e j}j]e]e}
j]e]j]e]PSORWVUe]D$ePT
e^ ^ ZY[xUve/f
eeeeSVWUe]e8eeee7eeeee
```



3. Berikut merupakan penelusuran pada direktori /dev :

```
jaden@jaden-virtual-machine:/dev$ cd
jaden@jaden-virtual-machine:~$ cd /dev
jaden@jaden-virtual-machine:/dev$ who am i
jaden@jaden-virtual-machine:/dev$ ls -l
total 0
crw-r--r-- 1 root root 10, 235 Mar 18 21:48 autofs
drwxr-xr-x 2 root root 480 Mar 18 21:48 block
drwxr-xr-x 2 root root 100 Mar 18 21:41 bsg
crw----- 1 root root 10, 234 Mar 18 21:41 btrfs-control
drwxr-xr-x 3 root root 60 Mar 18 21:41 bus
lrwxrwxrwx 1 root root 3 Mar 18 21:48 cdrom -> sr0
drwxr-xr-x 2 root root 3720 Mar 18 21:48 char
crw--w---- 1 root tty 5, 1 Mar 18 21:48 console
lrwxrwxrwx 1 root root 11 Mar 18 21:41 core -> /proc/kcore
drwxr-xr-x 4 root root 80 Mar 18 21:41 cpu
crw----- 1 root root 10, 123 Mar 18 21:48 cpu_dma_latency
crw----- 1 root root 10, 203 Mar 18 21:41 cuse
drwxr-xr-x 8 root root 160 Mar 18 21:41 disk
drwxr-xr-x 2 root root 60 Mar 18 21:41 dma_heap
crw-rw---- 1 root audio 14, 9 Mar 18 21:47 dmide
drwxr-xr-x 3 root root 100 Mar 18 21:41 dri
crw----- 1 root root 10, 125 Mar 18 21:48 ecryptfs
crw-rw---- 1 root video 29, 0 Mar 18 21:47 fb0
lrwxrwxrwx 1 root root 13 Mar 18 21:41 fd -> /proc/self/fd
brw-rw---- 1 root disk 2, 0 Mar 18 21:47 fd0
crw-rw-rw- 1 root root 1, 7 Mar 18 21:48 full
crw-rw-rw- 1 root root 10, 229 Mar 18 21:48 fuse
crw----- 1 root root 241, 0 Mar 18 21:47 hidraw0
crw----- 1 root root 10, 228 Mar 18 21:48 hpet
drwxr-xr-x 2 root root 0 Mar 18 21:41 hugepages
crw----- 1 root root 10, 183 Mar 18 21:48 hwrng
lrwxrwxrwx 1 root root 12 Mar 18 21:41 initctl -> /run/initctl
```

4. Berikut merupakan penelusuran pada direktori /proc :

➤ Membukan file interrupts :

```
jaden@jaden-virtual-machine:~$ cd /proc
jaden@jaden-virtual-machine:/proc$ cat interrupts
```

	CPU0	CPU1			
0:	17	0	IO-APIC	2-edge	timer
1:	60	0	IO-APIC	1-edge	i8042
6:	0	2	IO-APIC	6-edge	floppy
8:	0	1	IO-APIC	8-edge	rtc0
9:	0	0	IO-APIC	9-fasteoi	acpi
12:	0	999	IO-APIC	12-edge	i8042
14:	0	0	IO-APIC	14-edge	ata_piix
15:	0	0	IO-APIC	15-edge	ata_piix
16:	720	0	IO-APIC	16-fasteoi	vmwgfx, snd_ens1371
17:	20566	0	IO-APIC	17-fasteoi	ehci_hcd:usb2, ioc0
18:	64	0	IO-APIC	18-fasteoi	uhci_hcd:usb1
19:	0	2975	IO-APIC	19-fasteoi	ens33
24:	0	0	PCI-MSI-0000:00:15.0	0-edge	PCIe PME, pcieh
p 25:	0	0	PCI-MSI-0000:00:15.1	0-edge	PCIe PME, pcieh
p 26:	0	0	PCI-MSI-0000:00:15.2	0-edge	PCIe PME, pcieh
p 27:	0	0	PCI-MSI-0000:00:15.3	0-edge	PCIe PME, pcieh
p 28:	0	0	PCI-MSI-0000:00:15.4	0-edge	PCIe PME, pcieh
p 29:	0	0	PCI-MSI-0000:00:15.5	0-edge	PCIe PME, pcieh

- Membuka file devices :

```
jaden@jaden-virtual-machine:/proc$ cat devices
Character devices:
 1 mem
 4 /dev/vc/0
 4 tty
 4 ttys
 5 /dev/tty
 5 /dev/console
 5 /dev/ptmx
 5 ttyprintk
 6 lp
 7 vcs
10 misc
13 input
14 sound/midi
14 sound/dmrmidi
21 sg
29 fb
89 i2c
99 ppdev
108 ppp
116 alsa
128 ptm
136 pts
180 usb
189 usb device
```

- Membuka file cpuinfo :

```
jaden@jaden-virtual-machine:/proc$ cat cpuinfo
processor       : 0
vendor_id      : AuthenticAMD
cpu family     : 25
model          : 68
model name     : AMD Ryzen 7 6800HS Creator Edition
stepping       : 1
microcode      : 0xffffffff
cpu MHz        : 3193.915
cache size     : 512 KB
physical id    : 0
siblings       : 1
core id        : 0
cpu cores      : 1
apicid         : 0
initial apicid : 0
fpu            : yes
fpu_exception  : yes
cpuid level    : 13
wp             : yes
flags          : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush mmx fxsr sse sse2 syscall nx mmxext pdpe1gb rdtscp lm constant
_tsc rep_good nopl tsc_reliable nonstop_tsc cpuid extd_apicid tsc_known_freq pni
pclmulqdq ssse3 fma cx16 sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c r
drand hypervisor lahf_lm cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw top
oext ibpb vmcall fsrbase bmi1 avx2 smep bmi2 erms invpcid rdseed adx smap clfl
```

- Membuka file meminfo :

```
jaden@jaden-virtual-machine:/proc$ cat meminfo
MemTotal:      3963584 kB
MemFree:       1766136 kB
MemAvailable:  2750440 kB
Buffers:       43176 kB
Cached:        1143860 kB
SwapCached:    0 kB
Active:        1053356 kB
Inactive:      667012 kB
Active(anon):  538764 kB
Inactive(anon): 32604 kB
Active(file):  514592 kB
Inactive(file): 634408 kB
Unevictable:   0 kB
Mlocked:      0 kB
SwapTotal:     2191356 kB
SwapFree:      2191356 kB
Zswap:         0 kB
Zswapped:      0 kB
Dirty:         0 kB
Writeback:     0 kB
AnonPages:     533348 kB
Mapped:        313600 kB
Shmem:         38036 kB
KReclaimable:  79504 kB
Slab:          200632 kB
```

- Membuka file uptime :

```
jaden@jaden-virtual-machine:/proc$ cat uptime
260.87 381.00
jaden@jaden-virtual-machine:/proc$
```

Jadi pada sistem operasi linux terdapat direktori /proc atau bisa disebut pseudo-filesystem karena /proc adalah sebuah mekanisme yang diperkenalkan oleh kernel Linux untuk memberikan akses ke struktur data kernel kepada pengguna dan proses yang berjalan di atasnya. /proc memberikan akses langsung dan transparan ke informasi sistem yang terkini. Hal ini memungkinkan pengguna dan program untuk memantau dan berinteraksi dengan sistem secara efisien dan efektif.

5. Berikut cara merubah direktori home pada user lain :

```
jaden@jaden-virtual-machine:~$ su - eden
Password:
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

eden@jaden-virtual-machine:~$ cd ~eden
eden@jaden-virtual-machine:~$
```

6. Berikut cara mengubah Kembali ke direktori home user sebelumnya

```
eden@jaden-virtual-machine:~$ su - jaden
Password:
jaden@jaden-virtual-machine:~$ cd ~jaden
jaden@jaden-virtual-machine:~$
```

7. - Membuat subdirectory work :

```
jaden@jaden-virtual-machine:~$ mkdir /home/jaden/work
```

- Membuat subdirectory play :

```
jaden@jaden-virtual-machine:~$ mkdir /home/jaden/play
```

8. Menghapus subdirectory work :

```
jaden@jaden-virtual-machine:~$ rmdir work
```

9. Mengcopy file etc/passwd ke directory home :

```
jaden@jaden-virtual-machine:~$ cp /etc/passwd /home/jaden/  
jaden@jaden-virtual-machine:~$
```

10. Memindah file etc/passwd ke dalam subdirectory play :

```
jaden@jaden-virtual-machine:~$ mv passwd /home/jaden/play  
jaden@jaden-virtual-machine:~$
```

11. Berikut cara membuat symbolic link :

```
jaden@jaden-virtual-machine:~/play$ ln /dev/tty terminal  
ln: failed to create hard link 'terminal' => '/dev/tty': Invalid cross-device link  
jaden@jaden-virtual-machine:~/play$ ln -s /dev/tty terminal  
jaden@jaden-virtual-machine:~/play$
```

Catatan : Pada saat membuat hardlink terjadi gagal. Hard link hanya dapat dibuat untuk file biasa, bukan untuk perangkat khusus seperti tty. Ketika Anda mencoba membuat hard link ke perangkat tty, Anda akan menerima pesan kesalahan yang menyatakan bahwa hard link tidak dapat dibuat untuk perangkat spesifik tersebut.

12. Tidak, cp pada dasarnya digunakan untuk menyalin isi dari sebuah file ke file lainnya di dalam sistem file. Perangkat tty tidak dimodelkan sebagai file biasa di sistem file, jadi tidak dapat menggunakan cp secara langsung pada perangkat tersebut. Namun dapat menggunakan perintah dibawah ini :

```
hello world  
jaden@jaden-virtual-machine:~/play$ echo "hello world" > hello.txt  
jaden@jaden-virtual-machine:~/play$ cat hello.txt  
hello world  
jaden@jaden-virtual-machine:~/play$
```

13. Tidak terjadi apa-apa, tidak akan ada kesalahan yang ditampilkan, tetapi juga tidak akan terjadi apa-apa yang dapat dilihat pada terminal.

```
jaden@jaden-virtual-machine:~/play$ cp hello.txt terminal  
hello world  
jaden@jaden-virtual-machine:~/play$
```

14. Berikut merupakan cara mengcopy subdirectory play beserta isinya menggunakan symbolic link :

```
jaden@jaden-virtual-machine:~$ cp -rs /home/jaden/play work  
jaden@jaden-virtual-machine:~$ cd work  
jaden@jaden-virtual-machine:~/work$ ls  
hello.txt passwd terminal  
jaden@jaden-virtual-machine:~/work$
```



15. Berikut cara menghapus direktori work beserta isinya dengan sekali perintah :

```
jaden@jaden-virtual-machine:~$ rm -r work
jaden@jaden-virtual-machine:~$ ls
bye.txt  Documents  halo.txt  Music  myerror.txt  play  Public  Templates  z
Desktop  Downloads  latihan2  mydir  Pictures     prak1  snap    Videos
```

## KESIMPULAN :

Berdasarkan hasil percobaan praktikum yang dilakukan, kesimpulan yang dapat diambil adalah:

- Pentingnya memahami perintah-perintah dasar seperti pwd, cd, mkdir, rmdir untuk navigasi dan manipulasi direktori.
- Perintah-perintah manipulasi file seperti cp, mv, rm penting untuk mengelola file-file dalam sistem.
- Perbedaan antara symbolic link dan hard link perlu dipahami untuk pengelolaan file yang efisien.
- Perintah-perintah seperti file, find, which, locate, dan grep sangat berguna dalam mencari, mengidentifikasi, dan memanipulasi file dalam sistem Linux.
- Melalui praktikum, mahasiswa dapat memahami struktur file dan direktori pada sistem operasi Linux serta melakukan operasi-operasi dasar terkait file dan direktori.

Dengan demikian, praktikum ini memberikan pemahaman yang baik tentang pengelolaan file dan struktur direktori dalam sistem Linux.