

PRAKTIKUM SO

TUGAS 2

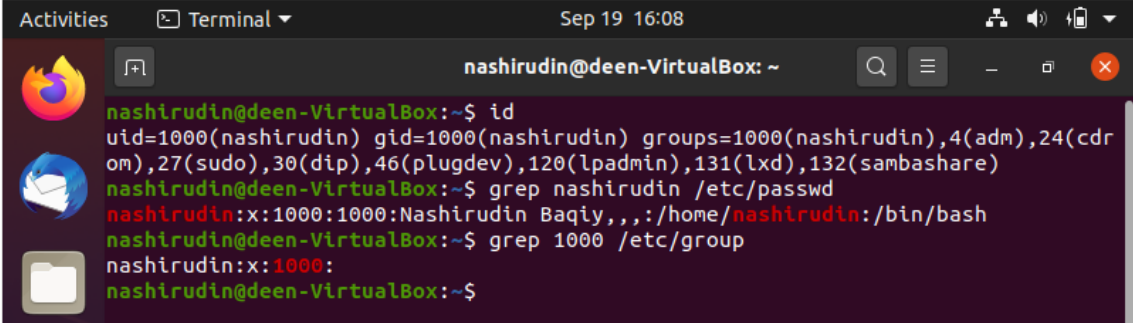
Nama : Nashirudin Baqiy

NIM : 24060119130045

Kelas : A1

Percobaan 1: Ijin Akses

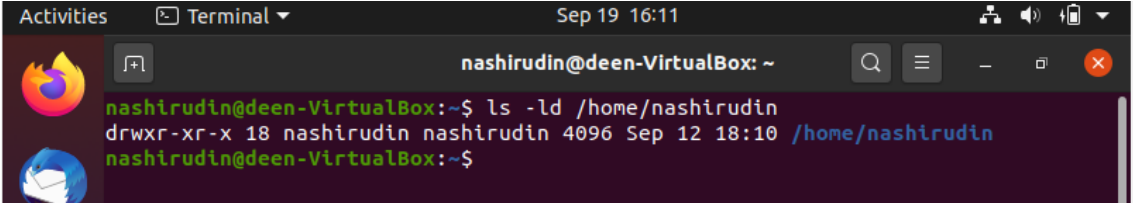
1. Melihat identitas diri melalui `etc/passwd` atau `etc/group`
`$id` (mencari identitas)
`$grep [nama_user]/etc/passwd` (mencari informasi “nashirudin” di `/etc/passwd`)
`$grep [nomor_group_id]/etc/group` (mencari informasi “1000” di `/etc/group`)



```
nashirudin@deen-VirtualBox:~$ id
uid=1000(nashirudin) gid=1000(nashirudin) groups=1000(nashirudin),4(adm),24(cdr
om),27(sudo),30(dip),46(plugdev),120(lpadmin),131(lxd),132(sambashare)
nashirudin@deen-VirtualBox:~$ grep nashirudin /etc/passwd
nashirudin:x:1000:1000:Nashirudin Baqiy,,,:/home/nashirudin:/bin/bash
nashirudin@deen-VirtualBox:~$ grep 1000 /etc/group
nashirudin:x:1000:
nashirudin@deen-VirtualBox:~$
```

Gambar 1.1.1

2. Memeriksa direktori home
`$ls -ld /home/nama_user` (informasi long-list `/home/nashirudin`)

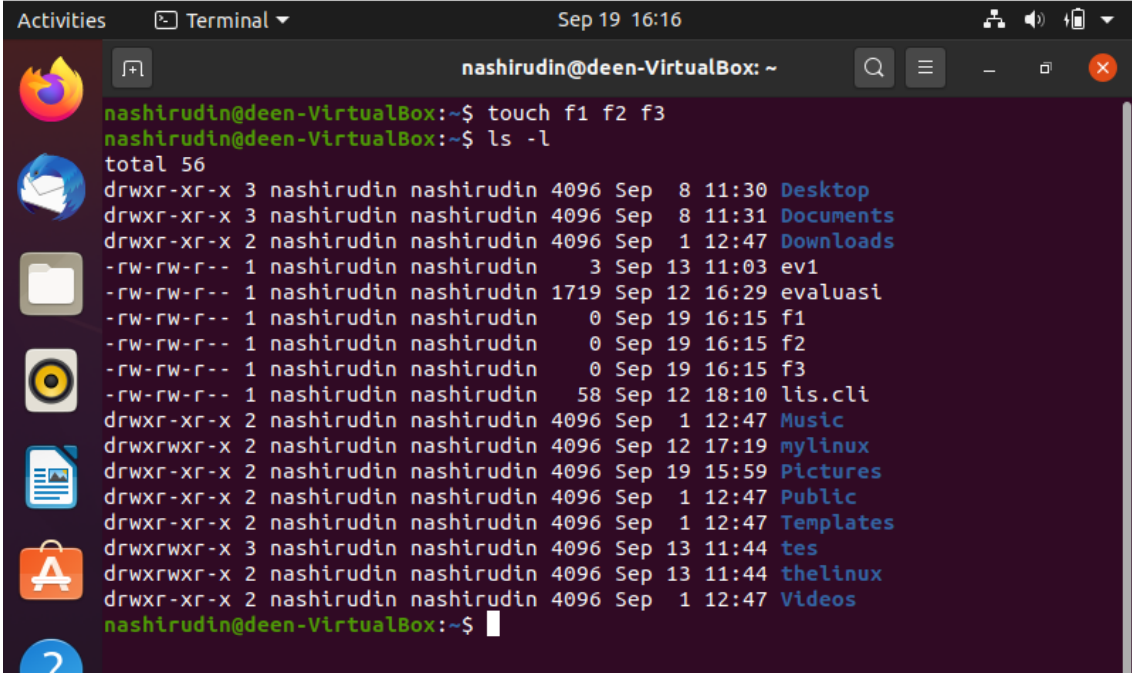


```
nashirudin@deen-VirtualBox:~$ ls -ld /home/nashirudin
drwxr-xr-x 18 nashirudin nashirudin 4096 Sep 12 18:10 /home/nashirudin
nashirudin@deen-VirtualBox:~$
```

Gambar 1.2.1

3. Mengubah Ijin akses (chmod)
`$touch f1 f2 f3` (membuat 3 file kosongan f1 f2 f3)

\$ls -l (informasi long-list dir saat ini)
(catat hasil yang ditampilkan)



```
nashirudin@deen-VirtualBox:~$ touch f1 f2 f3
nashirudin@deen-VirtualBox:~$ ls -l
total 56
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 16:15 f1
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 16:15 f2
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin   58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$
```

Gambar 1.3.1

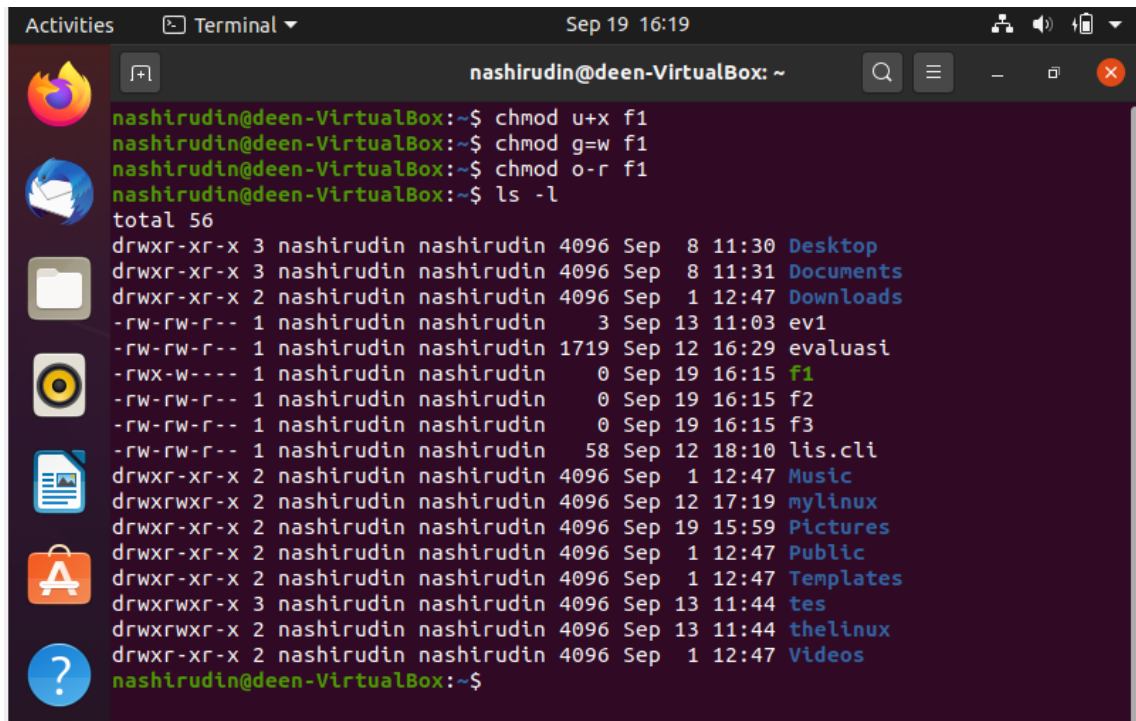
`$chmod u+x f1` (ubah ijin akses user +execute)

`$chmod g=w f1` (ubah ijin akses group hanya write)

`$chmod o-r f1` (ubah ijin akses others -read)

`$ls -l` (catat ijin akses file f1)

Jawab: `-rwx-w----` (ijin akses user read write execute dan group write, others nothing)



The screenshot shows a terminal window titled "nashirudin@deen-VirtualBox: ~" with a search icon and window controls. The terminal output is as follows:

```
nashirudin@deen-VirtualBox:~$ chmod u+x f1
nashirudin@deen-VirtualBox:~$ chmod g=w f1
nashirudin@deen-VirtualBox:~$ chmod o-r f1
nashirudin@deen-VirtualBox:~$ ls -l
total 56
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwx-w---- 1 nashirudin nashirudin   0 Sep 19 16:15 f1
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 16:15 f2
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin   58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$
```

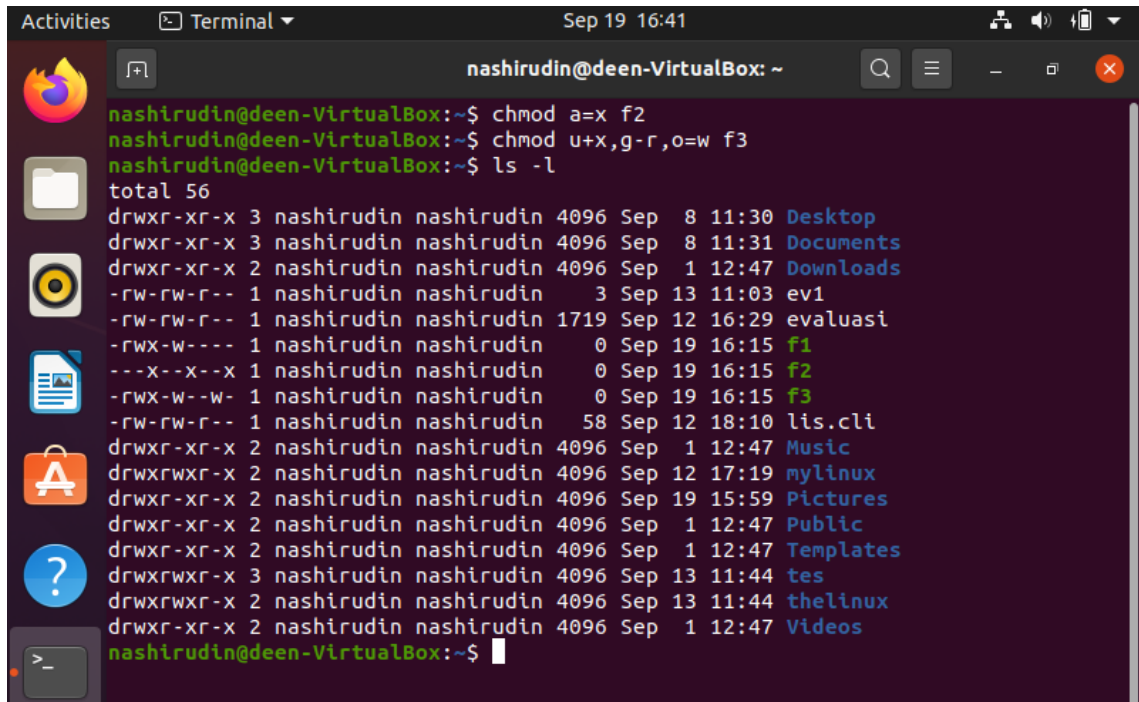
Gambar 1.3.2

`$chmod a=x f2` (ijin akses f2 all=execute)

`$chmod u+x,g-r,o=w f3` (ijin akses f3 user +execute,group -read,others hanya write)

`$ls -l` (catat ijin akses file f2 dan f3)

Jawab: **f2** `---x--x--x` (user -, group execute, others execute), **f3** `-rwx-w--w-` (user read write execute, group write, others write)



The screenshot shows a terminal window titled "nashirudin@deen-VirtualBox: ~" with a search icon and window controls. The terminal output is as follows:

```
nashirudin@deen-VirtualBox:~$ chmod a=x f2
nashirudin@deen-VirtualBox:~$ chmod u+x,g-r,o=w f3
nashirudin@deen-VirtualBox:~$ ls -l
total 56
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwx-w---- 1 nashirudin nashirudin   0 Sep 19 16:15 f1
---x--x--x 1 nashirudin nashirudin   0 Sep 19 16:15 f2
-rwx-w--w- 1 nashirudin nashirudin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin   58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$
```

Gambar 1.3.3

```

$chmod 751 f1 (ubah ijin akses f1: 7=rwx; 5=rx; 1=x)
$chmod 624 f2 (ubah ijin akses f2: 6=rw; 2=w; 4=r)
$chmod 430 f3 (ubah ijin akses f3: 4=r; 3=wx, 0=nothing)
$ls -l (catat ijin akses f1, f2, f3)
Jawab: r=4,w=2,x=1
f1 -rwxr-x--x (7=rwx; 5=rx; 1=x), f2 -rw--w-r-- (6=rw; 2=w; 4=r), f3 -r---wx--- (4=r; 3=wx, 0=---)

```

The screenshot shows a terminal window titled 'nashirudin@deen-VirtualBox: ~'. The user has executed the following commands: `chmod 751 f1`, `chmod 624 f2`, `chmod 430 f3`, and `ls -l`. The output of `ls -l` shows a directory listing with permissions, owner, group, size, date, and filename. The files `f1`, `f2`, and `f3` are listed with permissions `-rwxr-x--x`, `-rw--w-r--`, and `-r---wx---` respectively.

```

nashirudin@deen-VirtualBox:~$ chmod 751 f1
nashirudin@deen-VirtualBox:~$ chmod 624 f2
nashirudin@deen-VirtualBox:~$ chmod 430 f3
nashirudin@deen-VirtualBox:~$ ls -l
total 56
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 nashirudin nashirudin   0 Sep 19 16:15 f1
-rw--w-r-- 1 nashirudin nashirudin   0 Sep 19 16:15 f2
-r---wx--- 1 nashirudin nashirudin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin   58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$

```

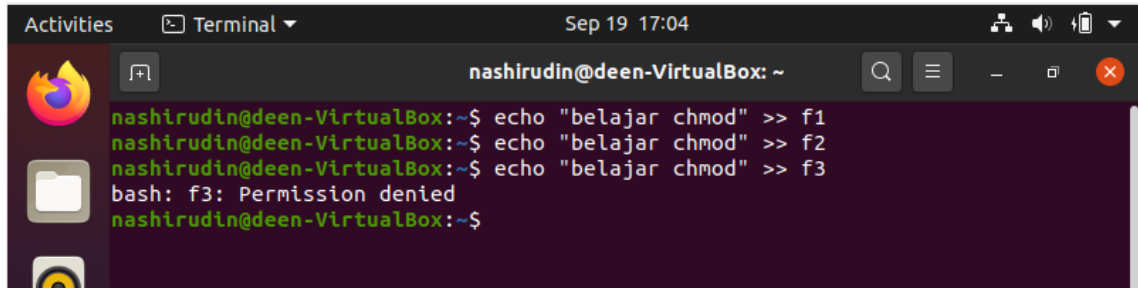
Gambar 1.3.4

4. Menguji ijin akses (chmod)

```

$echo "belajar chmod" >> f1 (write "belajar chmod" ke f1)
$echo "belajar chmod" >> f2 (write "belajar chmod" ke f2)
$echo "belajar chmod" >> f3 (write "belajar chmod" ke f3)
1# Tulis kesimpulan anda pada form praktikum.

```



```
nashirudin@deen-VirtualBox: ~  
nashirudin@deen-VirtualBox:~$ echo "belajar chmod" >> f1  
nashirudin@deen-VirtualBox:~$ echo "belajar chmod" >> f2  
nashirudin@deen-VirtualBox:~$ echo "belajar chmod" >> f3  
bash: f3: Permission denied  
nashirudin@deen-VirtualBox:~$
```

Gambar 1.4.1

Kesimpulan:

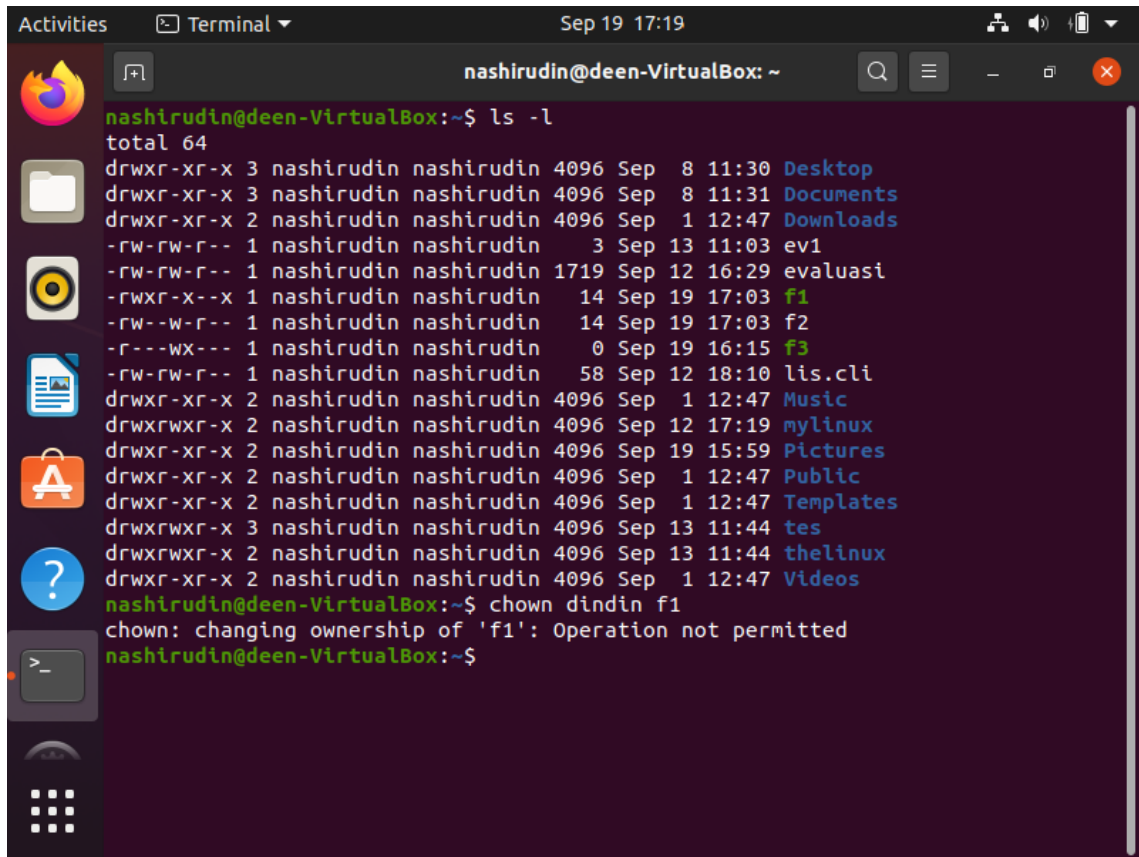
Berdasarkan Gambar 1.3.4 dapat dilihat kondisi terakhir izin akses file f1 f2 f3. Terlihat f1 dan f2 memiliki izin user-write. Karena f3 tidak memilikinya maka write ditolak dan mendapat "Permission denied".

5. Untuk mengganti kepemilikan digunakan perintah chown. Beberapa hal yang perlu diperhatikan adalah bahwa hanya root yang dapat menggunakan perintah chown, account biasa tidak diperbolehkan meskipun ia adalah user owner file yang ingin diubah.

```
$ls -l
```

```
$chown [user_Owner_Baru] f1 (ganti user owner file f1)
```

Harus memakai sudo di depan



The screenshot shows a terminal window titled 'nashirudin@deen-VirtualBox: ~'. The user has run the command 'ls -l', which displays a list of files and directories with their permissions, owners, groups, sizes, and timestamps. The files listed are Desktop, Documents, Downloads, ev1, evaluasi, f1, f2, f3, lis.cli, Music, mylinux, Pictures, Public, Templates, tes, thelinux, and Videos. The user then attempts to run 'chown dindin f1', which results in an error message: 'chown: changing ownership of 'f1': Operation not permitted'.

```
nashirudin@deen-VirtualBox:~$ ls -l
total 64
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 nashirudin nashirudin   14 Sep 19 17:03 f1
-rw--w-r-- 1 nashirudin nashirudin   14 Sep 19 17:03 f2
-r---wx--- 1 nashirudin nashirudin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin   58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$ chown dindin f1
chown: changing ownership of 'f1': Operation not permitted
nashirudin@deen-VirtualBox:~$
```

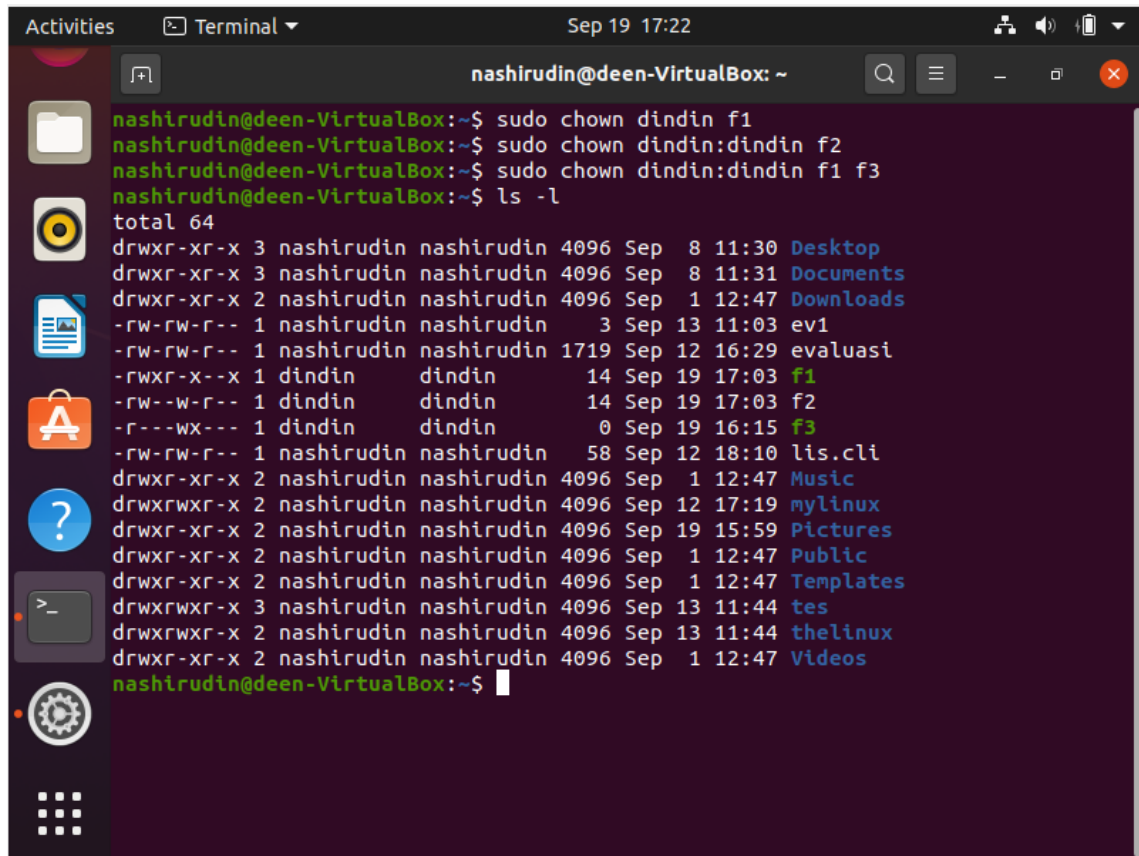
Gambar 1.5.1

\$chown [user_Owner_Baru:grup_Owner_Baru] f2 (ganti user owner dan grup owner file f2)

\$chown [user_Owner_Baru:grup_Owner_Baru] f1f3 (ganti user owner dan grup owner file f3)

\$ls -l

2# Tulis kesimpulananda pada form praktikum.



```
nashirudin@deen-VirtualBox:~$ sudo chown dindin f1
nashirudin@deen-VirtualBox:~$ sudo chown dindin:dindin f2
nashirudin@deen-VirtualBox:~$ sudo chown dindin:dindin f1 f3
nashirudin@deen-VirtualBox:~$ ls -l
total 64
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin    3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin     dindin      14 Sep 19 17:03 f1
-rw--w-r-- 1 dindin     dindin      14 Sep 19 17:03 f2
-r---wx--- 1 dindin     dindin       0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin  58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$
```

Gambar 1.5.2

Kesimpulan:

Berdasarkan Gambar 1.5.1, chown harus memakai sudo agar bisa dijalankan. Baris 1 file f1 userowner menjadi dindin. Baris 2 userowner:grupowner menjadi dindin:dindin pada file f2. Baris ke-3 file f1 dan f3 userowner:grupowner menjadi dindin:dindin. Note: User baru harus dibuat dahulu sebelum menjalankan chown.

6. Mengubah group hanya dapat dilakukan oleh pemilik file/direktori tersebut dengan perintah `chgrp`

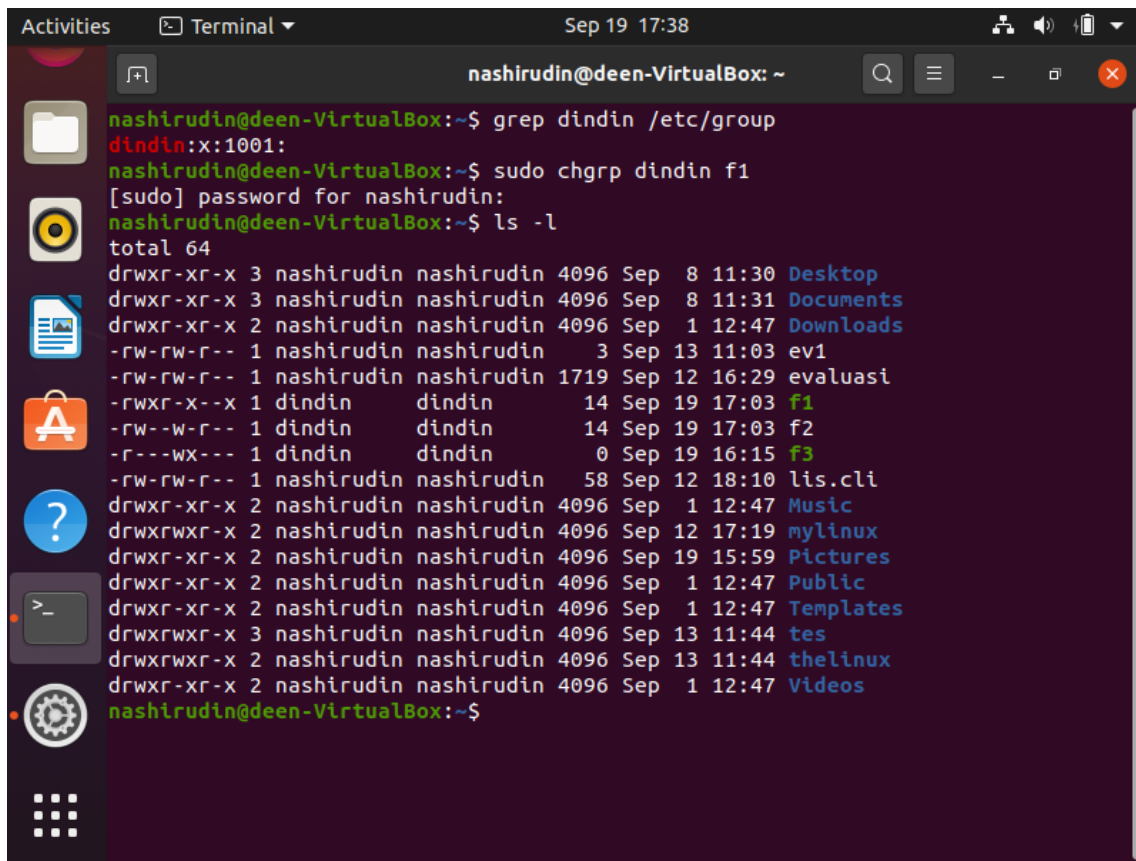
Melihat nama grup yang terdaftar:

```
$grep [nama_group_yang_dicari] /etc/group
```

```
$chgrp [group_owner_baru] f1
```

```
$ls -l
```


Mengubah groupowner file f1 menjadi dindin



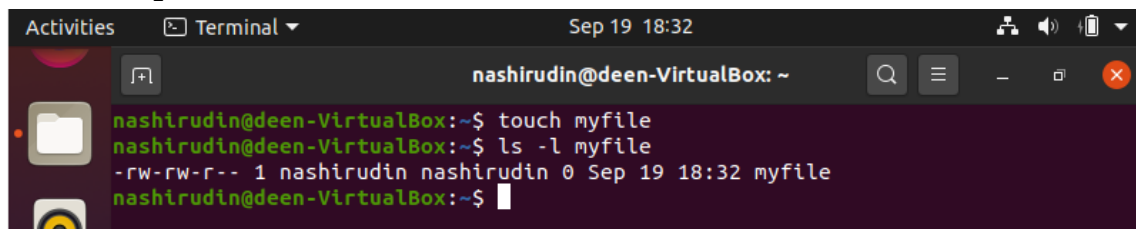
```
nashirudin@deen-VirtualBox:~$ grep dindin /etc/group
dindin:x:1001:
nashirudin@deen-VirtualBox:~$ sudo chgrp dindin f1
[sudo] password for nashirudin:
nashirudin@deen-VirtualBox:~$ ls -l
total 64
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin     dindin      14 Sep 19 17:03 f1
-rw--w-r-- 1 dindin     dindin      14 Sep 19 17:03 f2
-r---wx--- 1 dindin     dindin       0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin  58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$
```

Gambar 1.6.1

Percobaan 2: Umask (User file-creation mode mask)

1. Menentukan ijin akses awal pada saat file atau direktori dibuat

```
$touch myfile
$ls -l myfile
```



```
nashirudin@deen-VirtualBox:~$ touch myfile
nashirudin@deen-VirtualBox:~$ ls -l myfile
-rw-rw-r-- 1 nashirudin nashirudin 0 Sep 19 18:32 myfile
nashirudin@deen-VirtualBox:~$
```

Gambar 2.1.1

2. Melihat nilai umask

```
$umask atau $umask -S
```

```

nashirudin@deen-VirtualBox: ~$ umask
0002
nashirudin@deen-VirtualBox:~$ umask -S
U=rwx,g=rwx,o=rx
nashirudin@deen-VirtualBox:~$

```

Gambar 2.2.1

3. Modifikasi nilai umask

\$umask 027

\$umask

\$touch newfile

\$mkdir mydir

\$ls -l

(bandingkan ijin akses file myfile dengan newfile)

```

nashirudin@deen-VirtualBox:~$ umask 027
nashirudin@deen-VirtualBox:~$ umask
0027
nashirudin@deen-VirtualBox:~$ touch newfile
nashirudin@deen-VirtualBox:~$ mkdir mydir
nashirudin@deen-VirtualBox:~$ ls -l
total 68
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin      dindin      14 Sep 19 17:03 f1
-rw-rw-r-- 1 dindin      dindin      14 Sep 19 17:03 f2
-r---wx--- 1 dindin      dindin       0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin   58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxr-x--x 2 nashirudin nashirudin 4096 Sep 19 18:38 mydir
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 18:32 myfile
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
-rw-r----- 1 nashirudin nashirudin   0 Sep 19 18:38 newfile
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 17:40 s1
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$

```

Gambar 2.3.1

777-027=750,dir u-rwx g-rx o-nothing

666-027=639->640,file u-rw g-r o-nothing

639 dibulatkan ke atas sampai 8 atau 9 hilang akhirnya menjadi 640. Lebih tepat dikatakan 027 menggunakan nilai ijin akses file umask 026.

- a. myfile u-rw g-rw o-r (default 002)
- b. newfile u-rw g-r o-nothing (027-->639->640)

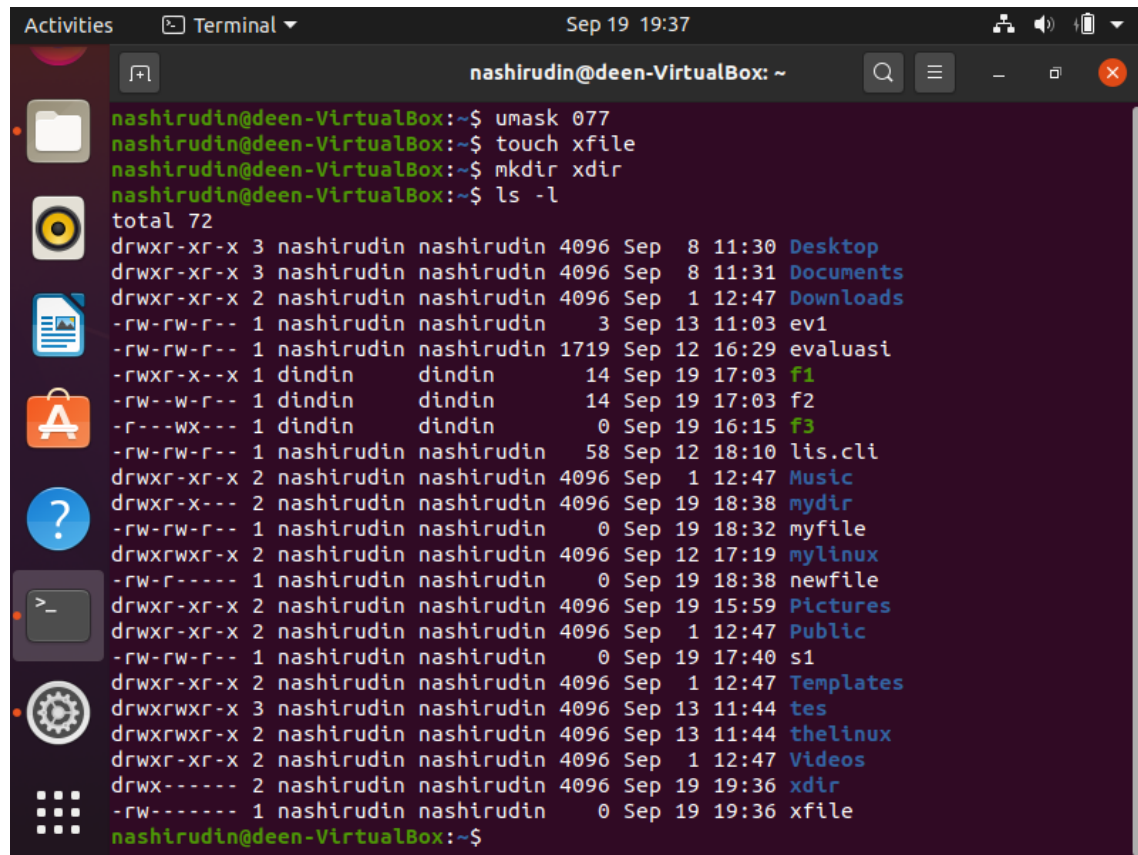
```
$umask 077
```

```
$touch xfile
```

```
$mkdir xdir
```

```
$ls -l
```

(analisa nilai izin akses file xfile dan direktori xdir)



```
nashirudin@deen-VirtualBox:~$ umask 077
nashirudin@deen-VirtualBox:~$ touch xfile
nashirudin@deen-VirtualBox:~$ mkdir xdir
nashirudin@deen-VirtualBox:~$ ls -l
total 72
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin     dindin     14 Sep 19 17:03 f1
-rw--w-r-- 1 dindin     dindin     14 Sep 19 17:03 f2
-r---wx--- 1 dindin     dindin      0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin  58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxr-x--- 2 nashirudin nashirudin 4096 Sep 19 18:38 mydir
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 18:32 myfile
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
-rw-r----- 1 nashirudin nashirudin   0 Sep 19 18:38 newfile
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 17:40 s1
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
drwx----- 2 nashirudin nashirudin 4096 Sep 19 19:36 xdir
-rw----- 1 nashirudin nashirudin   0 Sep 19 19:36 xfile
nashirudin@deen-VirtualBox:~$
```

Gambar 2.3.2

Analisa:

777-077=700, dir u-rwx g-nothing o-nothing

666-077=589->600, file u-rw g-nothing o-nothing

Sama seperti sebelumnya, 589 dibulatkan ke atas sampai 8 atau 9 hilang dan akhirnya menjadi 600. Lebih tepat dikatakan 077 menggunakan nilai izin akses file umask 066.

3# Tulis kesimpulan anda pada form praktikum.

Kesimpulan:

umask mengatur izin akses file atau dir yang akan dibuat dengan aturan dir 777-inputumask dan file 666-inputumask.

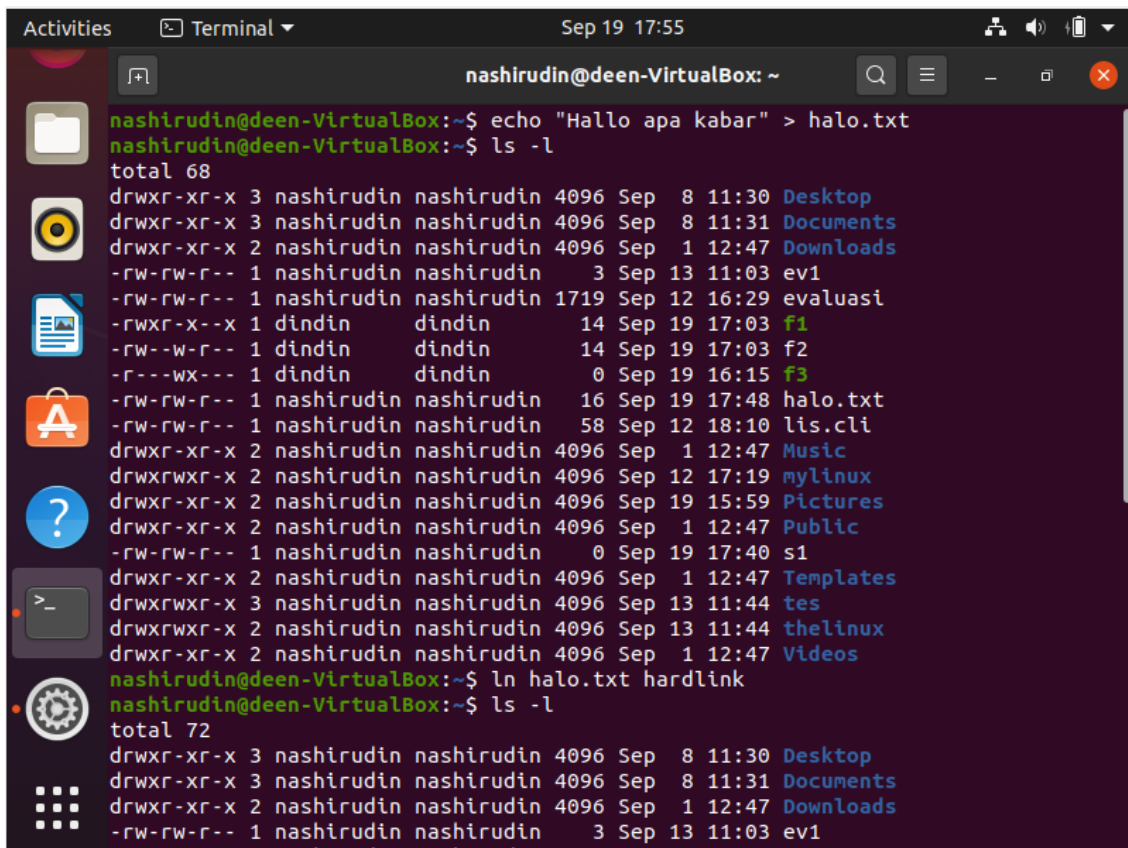
umask menggunakan aturan octal yaitu angka 0 sampai 7. Bila hasil kurang dari 777 dengan input di luar bilangan octal akan ditolak. Untuk aturan 666 juga sama menggunakan aturan octal tetapi tidak menolak angka selain 0 sampai 7 melainkan dibulatkan ke atas sampai 8 atau 9 hilang.

Percobaan 3: Link

1. Hard link

```
$echo "Hallo apa kabar" > halo.txt
$ls -l
$ln halo.txt hardlink
$ls -l
$cat hardlink
$mkdir newdir
$ln hardlink newdir/halo.juga
$cat newdir/halo.juga
$ls -l newdir/halo.juga
```

4# Tulis analisa anda pada form praktikum.



```
Activities Terminal Sep 19 17:55
nashirudin@deen-VirtualBox: ~
nashirudin@deen-VirtualBox:~$ echo "Hallo apa kabar" > halo.txt
nashirudin@deen-VirtualBox:~$ ls -l
total 68
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin dindin 14 Sep 19 17:03 f1
-rw-rw-r-- 1 dindin dindin 14 Sep 19 17:03 f2
-r---wx--- 1 dindin dindin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin 16 Sep 19 17:48 halo.txt
-rw-rw-r-- 1 nashirudin nashirudin 58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 17:40 s1
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$ ln halo.txt hardlink
nashirudin@deen-VirtualBox:~$ ls -l
total 72
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin   3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin dindin 14 Sep 19 17:03 f1
-rw-rw-r-- 1 dindin dindin 14 Sep 19 17:03 f2
-r---wx--- 1 dindin dindin   0 Sep 19 16:15 f3
-rw-rw-r-- 1 nashirudin nashirudin 16 Sep 19 17:48 halo.txt
-rw-rw-r-- 1 nashirudin nashirudin 58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 17:40 s1
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
```

Gambar 3.1.1

```
Activities Terminal Sep 19 17:55
nashirudin@deen-VirtualBox: ~
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin  3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin dindin 14 Sep 19 17:03 f1
-rw--w-r-- 1 dindin dindin 14 Sep 19 17:03 f2
-r---wx--- 1 dindin dindin  0 Sep 19 16:15 f3
-rw-rw-r-- 2 nashirudin nashirudin 16 Sep 19 17:48 halo.txt
-rw-rw-r-- 2 nashirudin nashirudin 16 Sep 19 17:48 hardlink
-rw-rw-r-- 1 nashirudin nashirudin 58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
-rw-rw-r-- 1 nashirudin nashirudin  0 Sep 19 17:40 s1
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
nashirudin@deen-VirtualBox:~$ cat hardlink
Hallo apa kabar
nashirudin@deen-VirtualBox:~$ mkdir newdir
nashirudin@deen-VirtualBox:~$ ln hardlink newdir/halo.juga
nashirudin@deen-VirtualBox:~$ cat newdir/halo.juga
Hallo apa kabar
nashirudin@deen-VirtualBox:~$ ls -l newdir/halo.juga
-rw-rw-r-- 3 nashirudin nashirudin 16 Sep 19 17:48 newdir/halo.juga
nashirudin@deen-VirtualBox:~$
```

Gambar 3.1.2

Analisa singkat:

Isi halo.txt sumbernya, minimal jumlah hardlink 1. Tiap membuat hardlink jumlah bertambah. File hardlink dapat membuka isi halo.txt

Analisa lengkap:

ln merupakan perintah link. Percobaan di atas menggunakan hardlink. Hardlink mirip dengan fungsi copy namun lebih efisien karena tidak membuat ulang isi file di ruang baru. Hardlink membuat isi dari file sumber menjadi permanen pada suatu ruang sampai semua dari sumber ke ujung-ujung cabang dihapus semua.

Jadi proses yang dicoba barusan yaitu isi halo.txt menjadi sumber (jumlah hardlink 1, hardlink permanen yang tidak akan hilang meski halo.txt dihapus dan jumlah hardlink tidak akan berkurang), hardlink merupakan hardlink kedua (jumlah hardlink menjadi 2) lalu halo.juga pada dir newdir merupakan hardlink ketiga (jumlah hardlink menjadi 3).

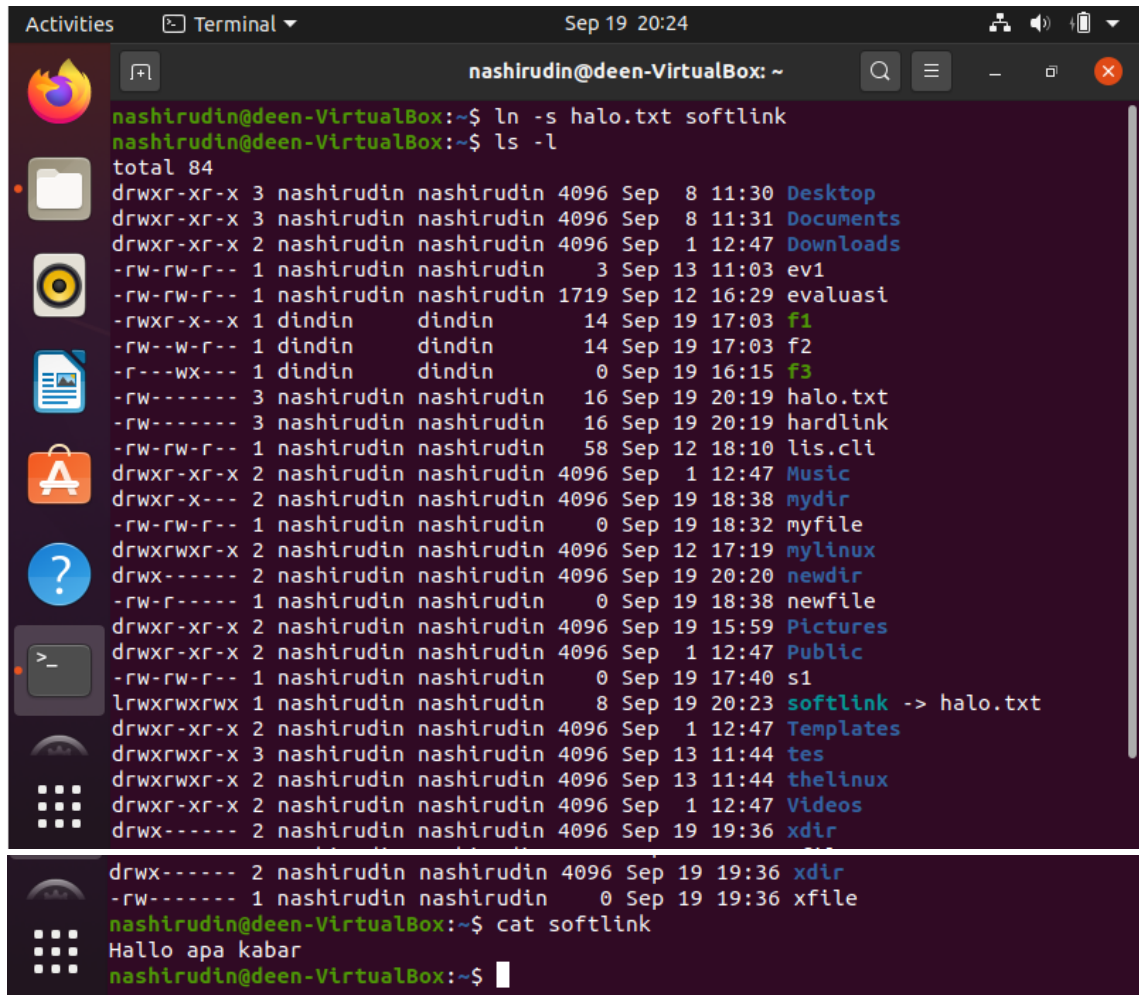
2. Soft Link (Symbolic link)

```
$ln -s halo.txt softlink
```

```
$ls -l
```

```
$cat softlink
```

5# Tulis analisa anda pada form praktikum.



The screenshot shows a terminal window titled "nashirudin@deen-VirtualBox: ~" with a timestamp of "Sep 19 20:24". The user enters the command `ln -s halo.txt softlink`. Then, they run `ls -l`, which displays a list of files and directories. The entry for `softlink` is shown as `lrwxrwxrwx 1 nashirudin nashirudin 8 Sep 19 20:23 softlink -> halo.txt`. Finally, the user runs `cat softlink`, and the output is `Hallo apa kabar`.

```
nashirudin@deen-VirtualBox:~$ ln -s halo.txt softlink
nashirudin@deen-VirtualBox:~$ ls -l
total 84
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:30 Desktop
drwxr-xr-x 3 nashirudin nashirudin 4096 Sep  8 11:31 Documents
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Downloads
-rw-rw-r-- 1 nashirudin nashirudin  3 Sep 13 11:03 ev1
-rw-rw-r-- 1 nashirudin nashirudin 1719 Sep 12 16:29 evaluasi
-rwxr-x--x 1 dindin     dindin      14 Sep 19 17:03 f1
-rw--w-r-- 1 dindin     dindin      14 Sep 19 17:03 f2
-r---wx--- 1 dindin     dindin       0 Sep 19 16:15 f3
-rw----- 3 nashirudin nashirudin  16 Sep 19 20:19 halo.txt
-rw----- 3 nashirudin nashirudin  16 Sep 19 20:19 hardlink
-rw-rw-r-- 1 nashirudin nashirudin  58 Sep 12 18:10 lis.cli
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Music
drwxr-x--x 2 nashirudin nashirudin 4096 Sep 19 18:38 mydir
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 18:32 myfile
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 12 17:19 mylinux
drwx----- 2 nashirudin nashirudin 4096 Sep 19 20:20 newdir
-rw-r----- 1 nashirudin nashirudin   0 Sep 19 18:38 newfile
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep 19 15:59 Pictures
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Public
-rw-rw-r-- 1 nashirudin nashirudin   0 Sep 19 17:40 s1
lrwxrwxrwx 1 nashirudin nashirudin   8 Sep 19 20:23 softlink -> halo.txt
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Templates
drwxrwxr-x 3 nashirudin nashirudin 4096 Sep 13 11:44 tes
drwxrwxr-x 2 nashirudin nashirudin 4096 Sep 13 11:44 thelinux
drwxr-xr-x 2 nashirudin nashirudin 4096 Sep  1 12:47 Videos
drwx----- 2 nashirudin nashirudin 4096 Sep 19 19:36 xdir
drwx----- 2 nashirudin nashirudin 4096 Sep 19 19:36 xdir
-rw----- 1 nashirudin nashirudin   0 Sep 19 19:36 xfile
nashirudin@deen-VirtualBox:~$ cat softlink
Hallo apa kabar
nashirudin@deen-VirtualBox:~$
```

Gambar 3.2.1

Analisa singkat:

```
$ln -s halo.txt softlink
```

Membuat file berisi link yang menuju halo.txt, file softlink ditampilkan dengan arah linknya seperti Gambar 3.2.1.

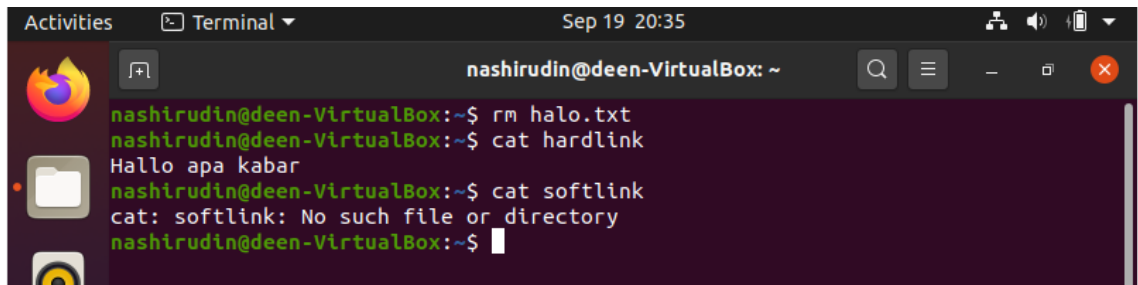
Analisa lengkap:

Soft Link/Symbolic Link bekerja dengan menciptakan suatu tipe khusus dari file yang berisi pointer teks ke referensi file atau direktori. Dalam hal ini, mereka beroperasi dalam banyak cara yang sama seperti Windows shortcut.

Terlihat bahwa symbolic link tidak menambah jumlah hardlink, file softlink hanyalah link saja. Bila softlink dihapus maka hanya link softlink ke halo.txt hilang, isi halo.txt tetap bisa dibuka pada halo.txt. Tetapi bila file halo.txt dihapus maka file softlink tidak dapat link ke halo.txt membuka isinya.

3. Menghapus link

```
$rm halo.txt  
$cat hardlink  
$cat softlink
```

A screenshot of a Linux terminal window titled 'Terminal' with a timestamp of 'Sep 19 20:35'. The user is 'nashirudin@deen-VirtualBox: ~'. The terminal shows the following commands and output:
1. `rm halo.txt`
2. `cat hardlink` outputs 'Hallo apa kabar'
3. `cat softlink` outputs 'cat: softlink: No such file or directory'
The terminal window has a dark purple background and standard Linux window controls.

Gambar 3.3.1

6# Tulis kesimpulan anda pada form praktikum.

Kesimpulan:

Jika file halo.txt dihapus, maka hardlink tetap bekerja namun softlink tidak.

ln merupakan perintah link. Percobaan di atas menggunakan hardlink. Hardlink mirip dengan fungsi copy namun lebih efisien karena tidak membuat ulang isi file di ruang baru. Hardlink membuat isi dari file sumber menjadi permanen pada suatu ruang sampai semua dari sumber ke ujung-ujung cabang dihapus semua.

Soft Link/Symbolic Link bekerja dengan menciptakan suatu tipe khusus dari file yang berisi pointer teks ke referensi file atau direktori. Dalam hal ini, mereka beroperasi dalam banyak cara yang sama seperti Windows shortcut.

Note: Ini saya ngerjain urut, trus kaget liat nomer terakhir ternyata harusnya taroh sini semua.. Yaudah saya copas aja analisa sebelum2nya lalu saya buat analisa singkat..

Jadi biar ga pusing, analisa lengkap baca paragraf 2nya saja kalau mau...