OSG202 LAB 02

ASSIGNMENT REPORT

Using Basic Linux Commands

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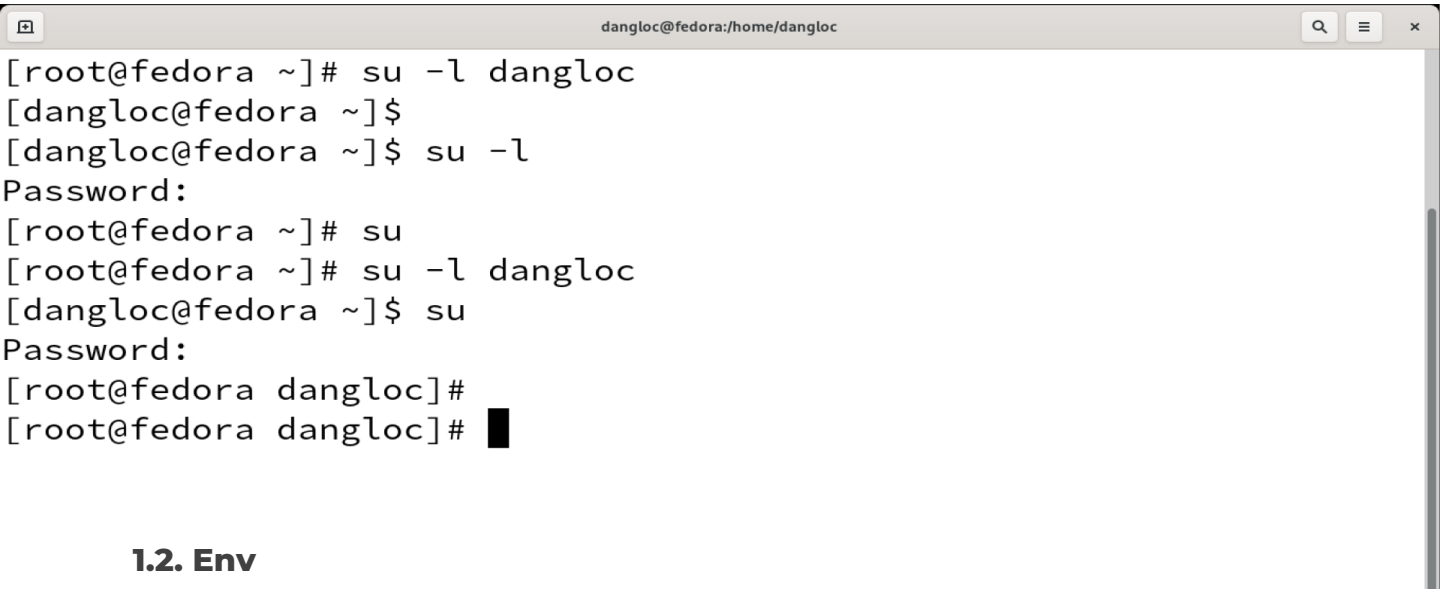
1. COMMAND LINE IN LINUX

1.1. Su

Syntax: **su** [OPTIONS]...[-]....[USER [ARG...]]

Description: allows commands to be run with a substitute user and group ID

Example:

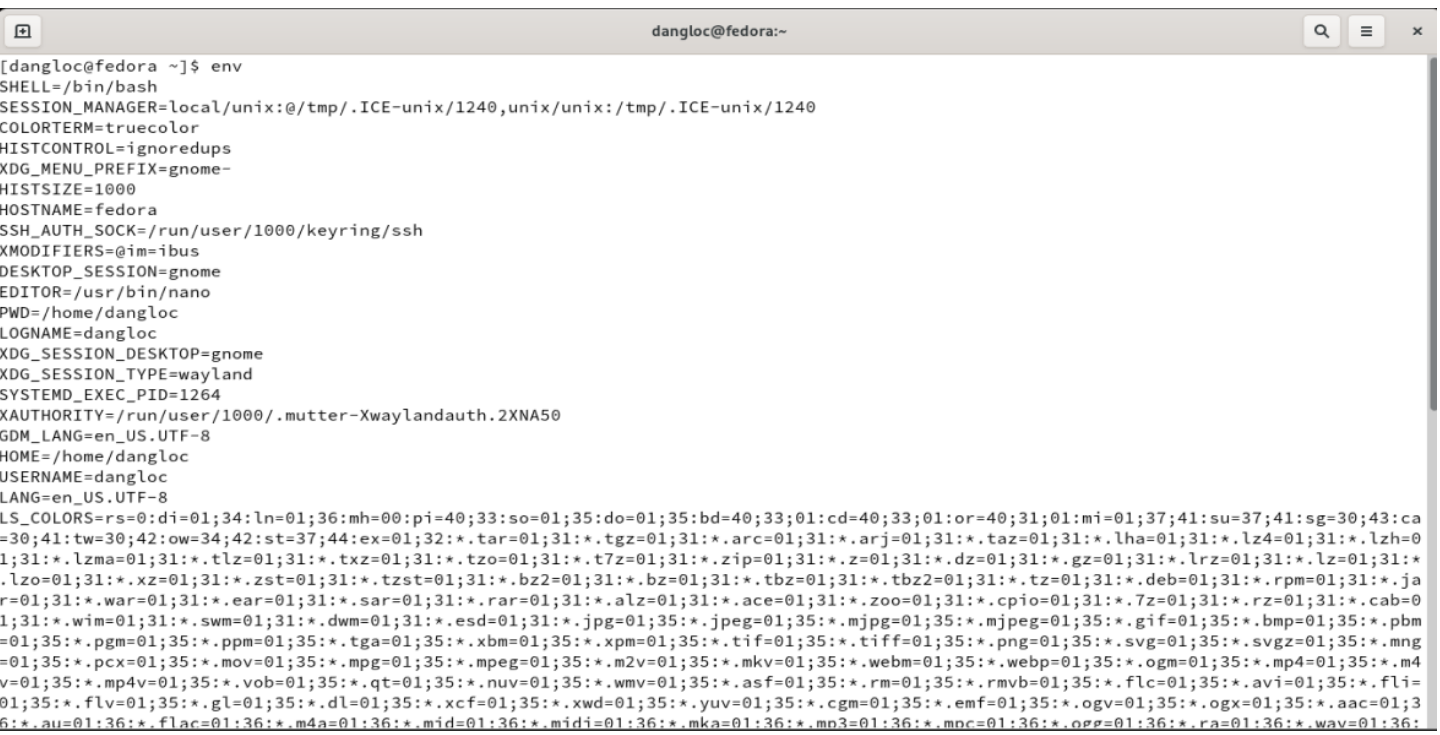


1.2. Env

Syntax: **env** [OPTION]... [-] [NAME=VALUE... [COMMAND [ARG]...]

Description: set each NAME to VALUE in the envitonment and after that run COMMAND

Example:



Display all the environment variables with the comman '**ENV**' (no arg)

1.3. mkdir

Syntax: **mkdir** [OPTIONS]... DIRECTORY...

Description: Create the DIRECTORYq(ies), if they do not already exist

Example:

Folder '**lab02DangLoc**' was created in /home/dangloc

1.4. cp

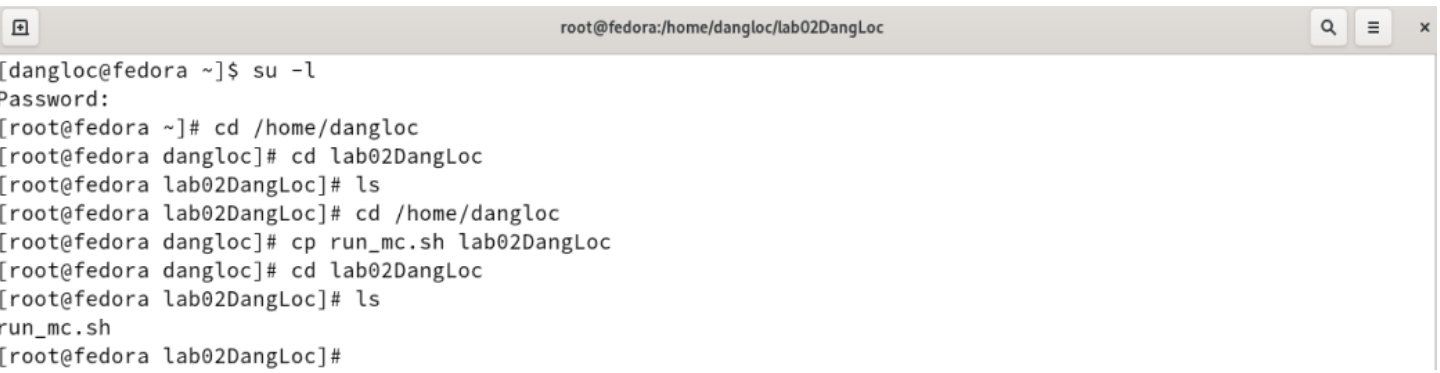
Syntax: **cp** [OPTION]... [-T] SOURCE DEST

cp [OPTION]... SOURCE... DIRECTORY

cp [OPTION]... -t DIRECTORY SOURCE...

Description: Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY

Example:



File '**run_mc.sh**' was copied from **dangloc** to its subfolder **lab02DangLoc**

1.5. mv

Syntax: **mv** [OPTION]... [-T] SOURCE DEST

mv [OPTION]... SOURCE... DIRECTORY

mv [OPTION]... -t DIRECTORY SOURCE

Description: rename SOURCE to DEST, or move SOURCE(s) to DIRECTORY

Example:

There is 2 file has the same name '**text.txt**' in both **/home/dangloc** and **/home/dangloc/lab02DangLoc**

'mv' command moved the 'text.txt' file from dangloc to lab02DangLoc and renamed it to 'text2.txt'

Now, the folder lab02DangLoc contain 'text.txt' and 'text2.txt' simultanously

1.6. rmdir

Syntax: **mrdir** [OPTION]... DIRECTORY

Description: remove the DIRECTORY(ies), if they are empty

Example:

There are 3 subfolders in lab02DangLoc: folder1, folder2, folder3

The folder1 contains ancestors. Hence, if we want to delete the entire folder1, we have to use option **'-p'** – remove directory and its ancestors.

If the command miss the '-p', it will display an error message and the folder won't be removed.

1.7. ln

Syntax: **ln** [OPTION]... [-T] TARGET LINK_NAME — 1st form

ln [OPTION]... TARGET — 2nd form

ln [OPTION]... TARGET... DIRECTORY — 3rd form

ln [OPTION]... -t DIRECTORY TARGET... — 4th form

Description:

1st form: create a link to TARGET with the name LINK_NAME.

2nd for:, create a link to TARGET in the current directory.

3rd, 4th forms: create links to each TARGET in DIRECTORY.

Example:

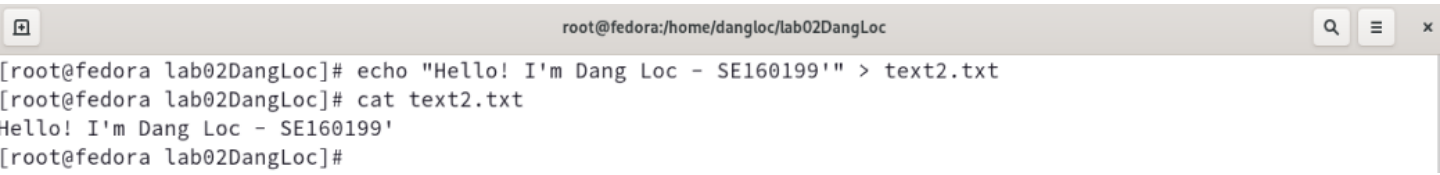
A softlink was created between 'text.txt' and 'link.txt'

1.8. cat

Syntax: **cat** [OPTION]... [FILE]...

Description: Concatenate FILE(s), or standard input, to standard output

Example:



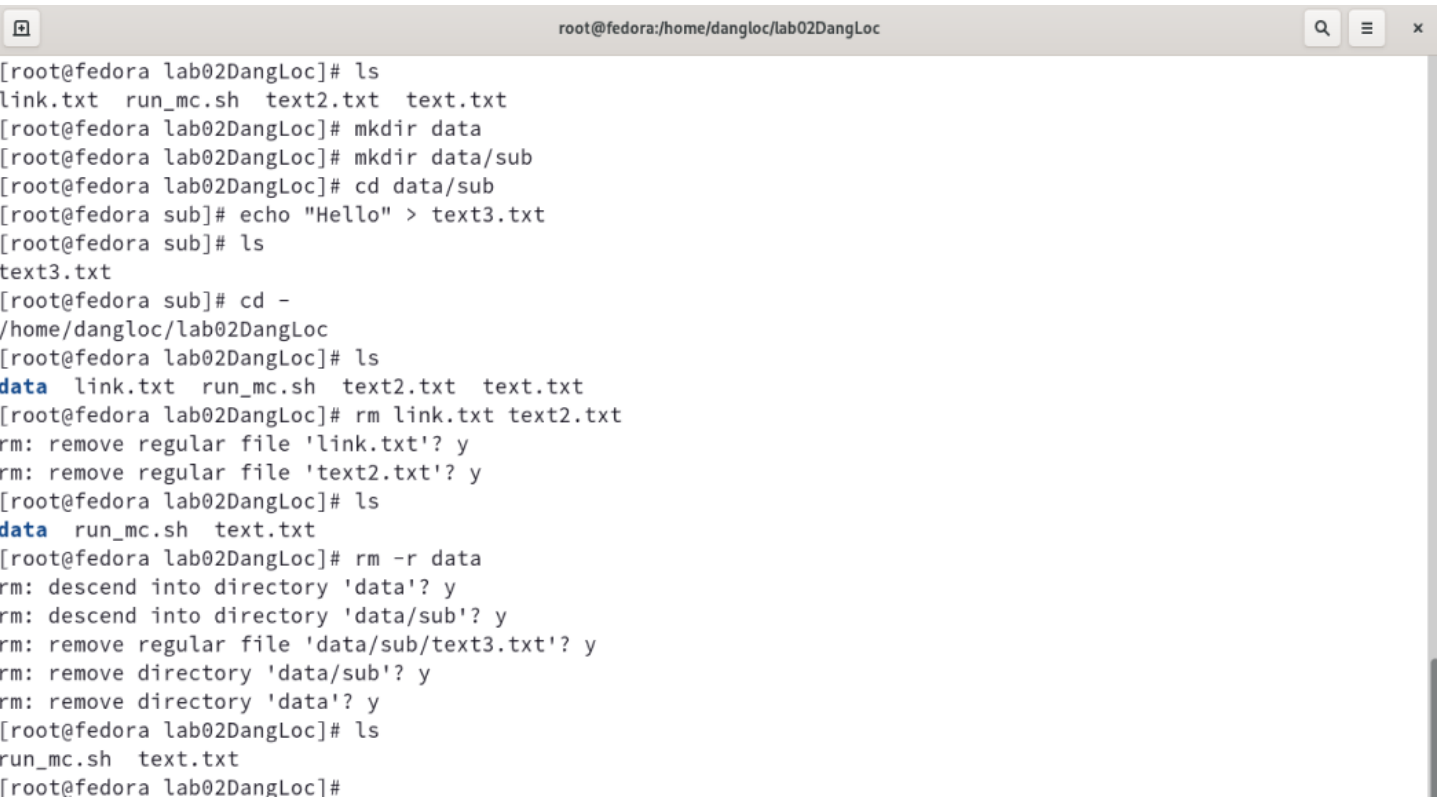
The content inside file 'text2.txt' is displayed

1.9. rm

Syntax: **rm** [OPTION]... FILE...

Description: Remove files or directories (with their contents recursively)

Example:



Remove file ‘link.txt’ and ‘text2.txt’.

To remove folder ‘data’ and its contents, I use option ‘-r’ – remove directories and their contents recursively.

Confirm by press ‘y’.

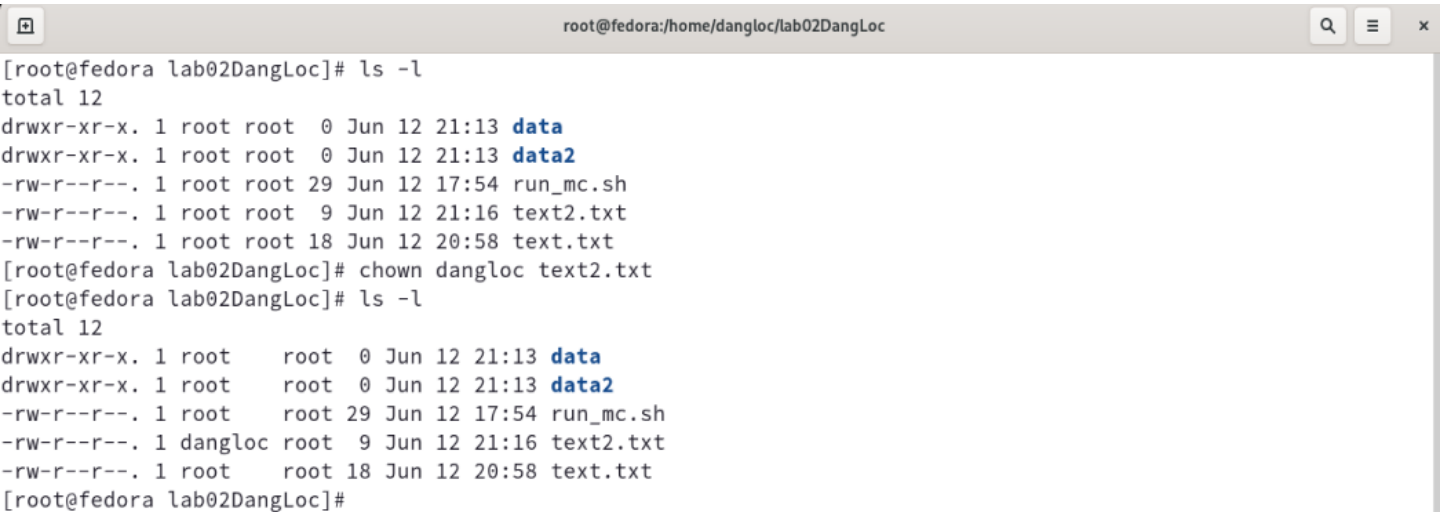
1.10. chown

Syntax: **chown** [OPTION]...[OWNER] [:[GROUP]] FILE...

chown [OPTION]... --reference=RFILE FILE...

Description: Change files owner and group

Example:



The owner of file '**text2**.txt' was change from '**root**' to '**dangloc**'.

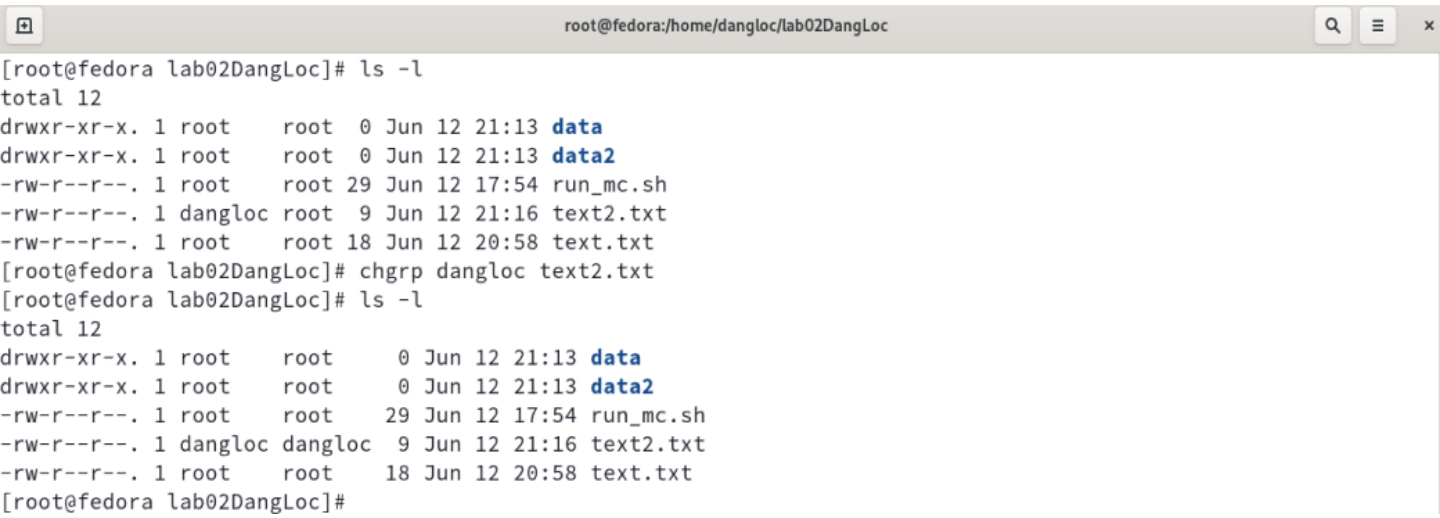
1.11. chgrp

Syntax: **chgrp** [OPTION]... GROUP FILE...

chgrp [OPTION]... --reference=RFILE FILE...

Description: Change the group of each FILE to GROUP. With –reference, change the group of each FILE to that of RFILE.

Example:



The group ownership of '**text2.txt**' was change from '**root**' to '**dangloc**'.

1.12. chmod

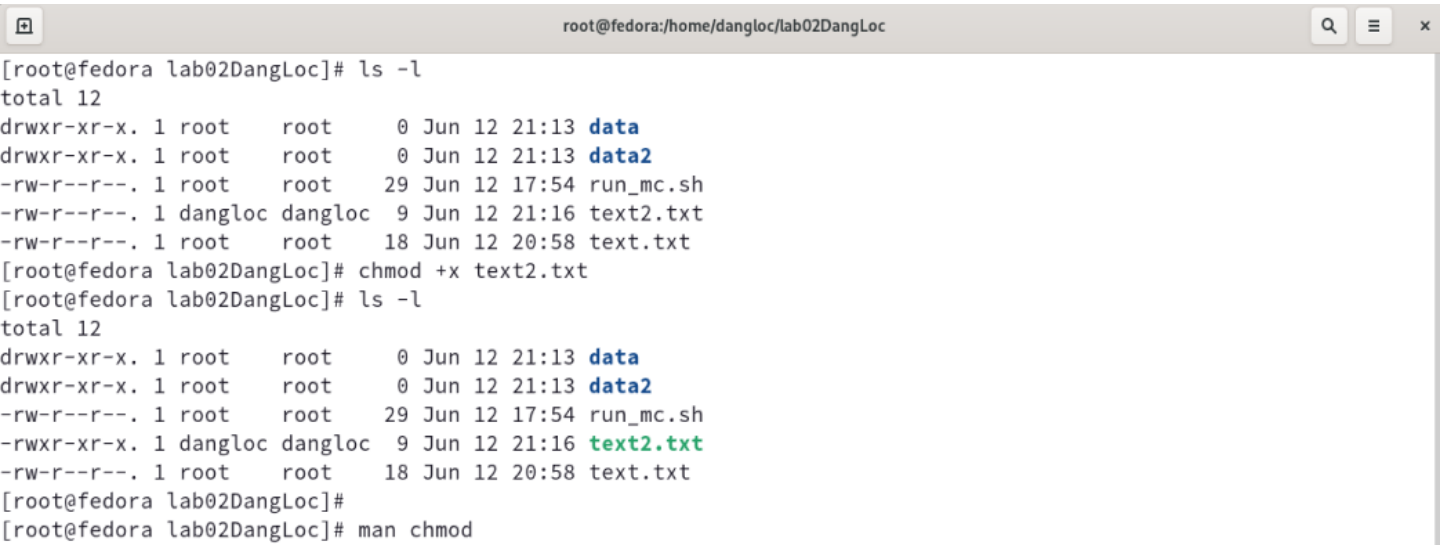
Syntax: **chmod** [OPTION]... MODE[,MODE]... FILE...

chmod [OPTION]... OCTAL-MODE FILE...

chmod [OPTION]... --reference=RFILE FILE...

Description: Change file mode bits

Example:



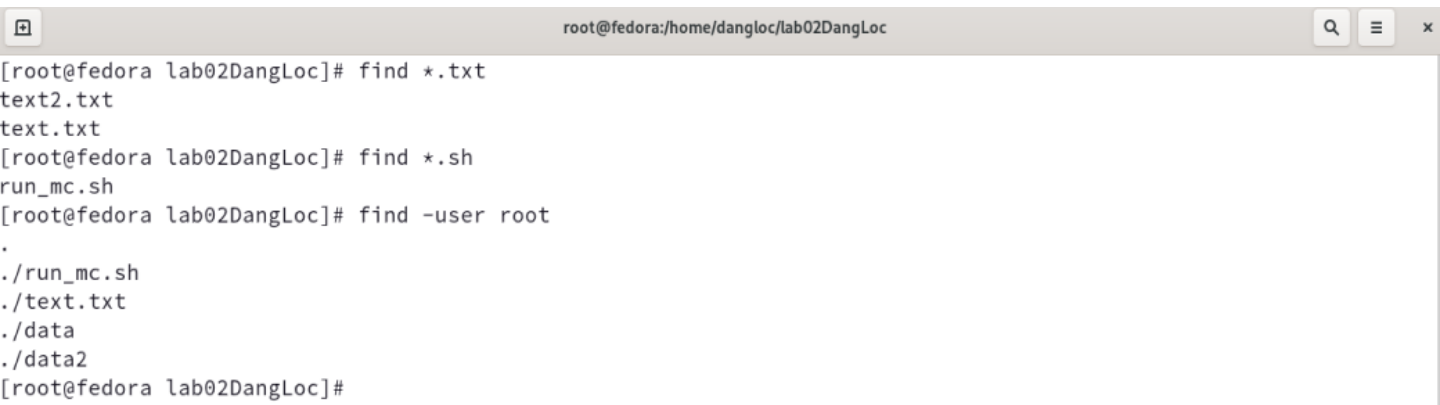
Adding the permission to execute the file ‘text2.txt’

1.13. find

Syntax: **find** [-H] [-L] [-P] [-D debugopts] [-0level] [path...] [expression]

Description: Search for files in a directory hierarchy

Example:

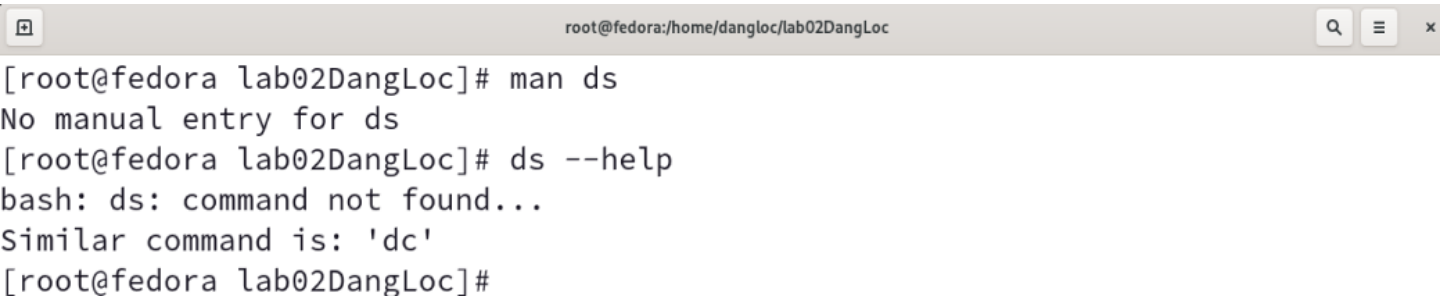


Find files: This case, I want to find text file then using format ‘*.txt’

Find files/folder with user owner of root

1.14. ds

I cannot find such a command.

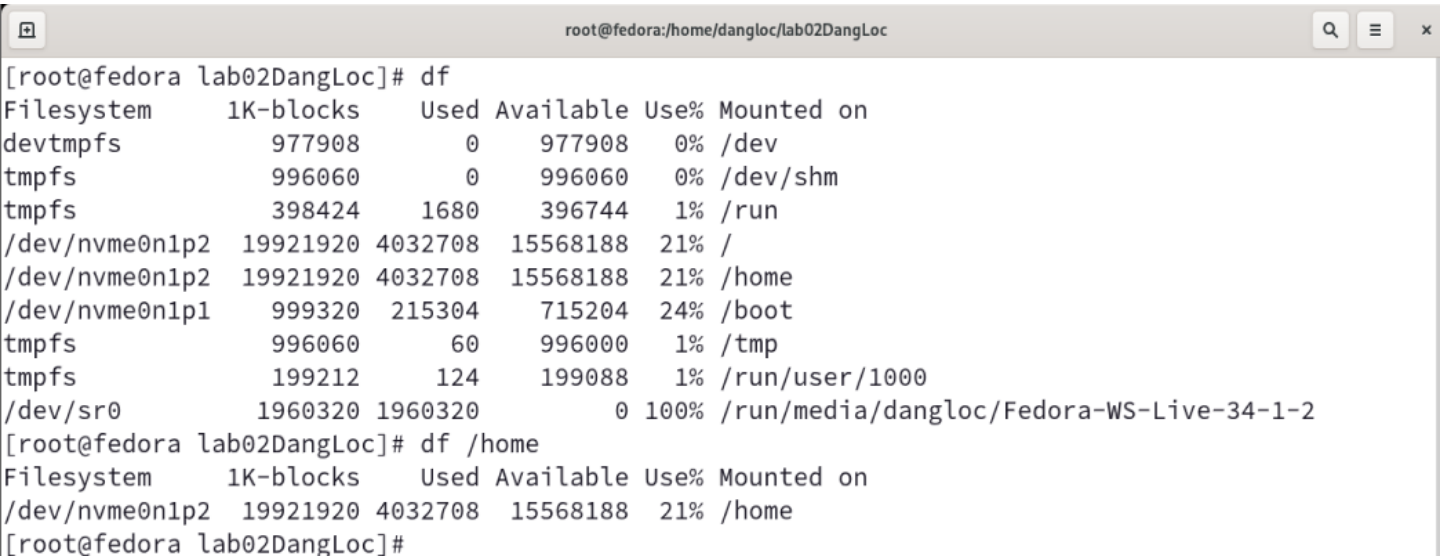


1.15. df

Syntax: **df** [OPTION]... [FILE]...

Description: Report file system disk space usage

Example:

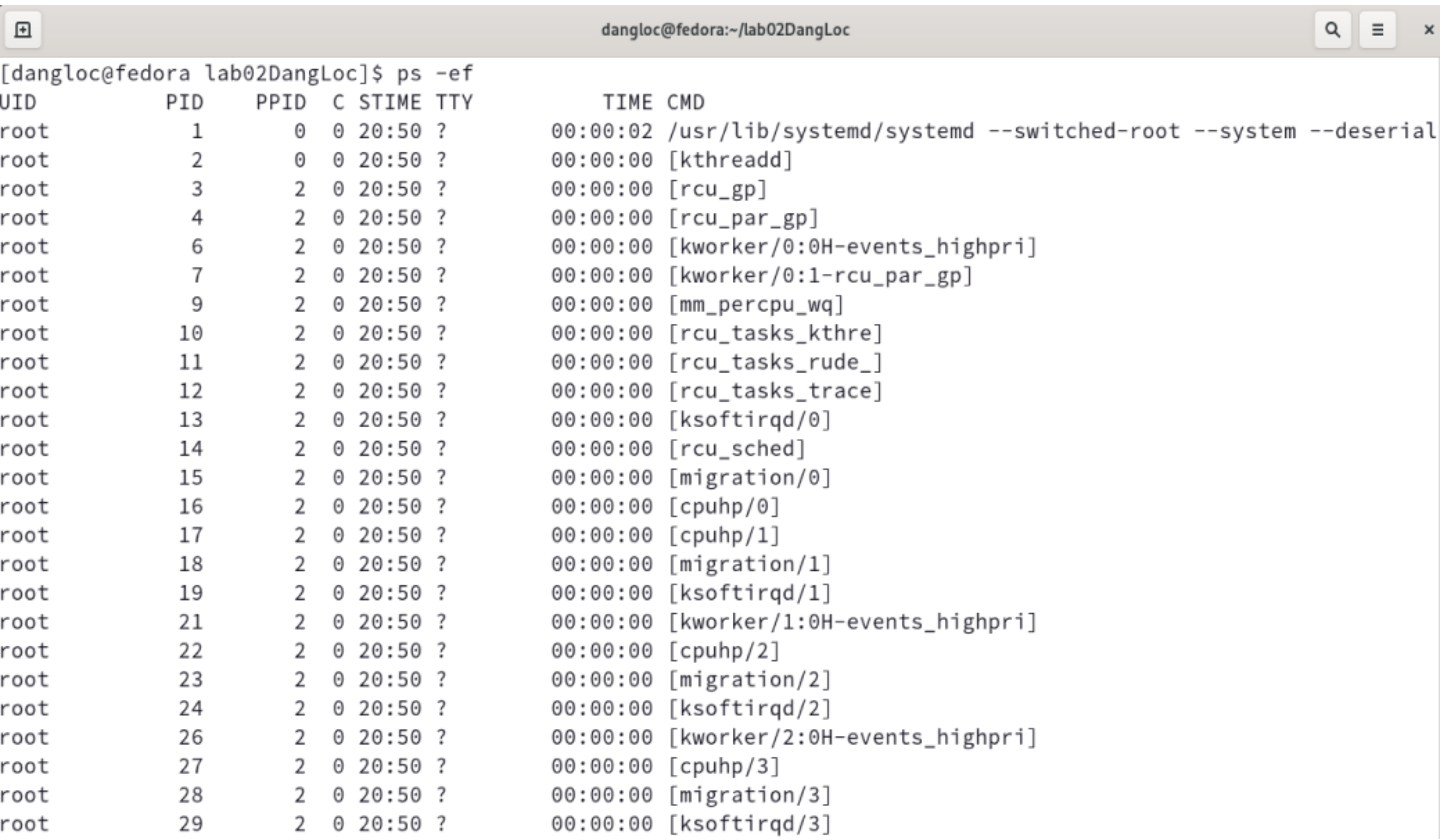


1.16. ps

Syntax: **ps** [OPTION]

Description: Report a snapshot of the current processes.

Example:



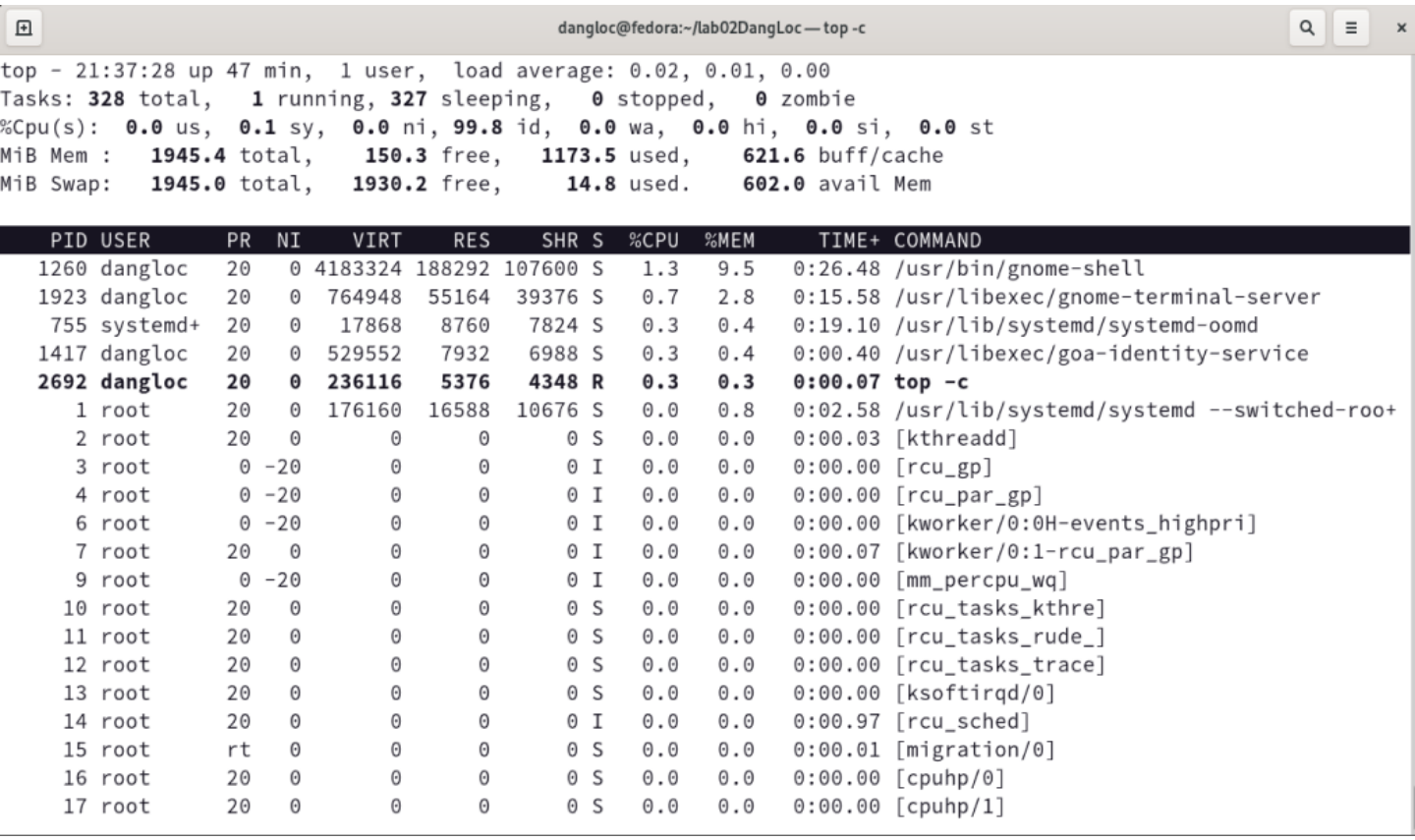
1.17. top

Syntax: **top –hv | -abcHimMsS –d** delay **–n** iterations **–p** pid [, pid ...]

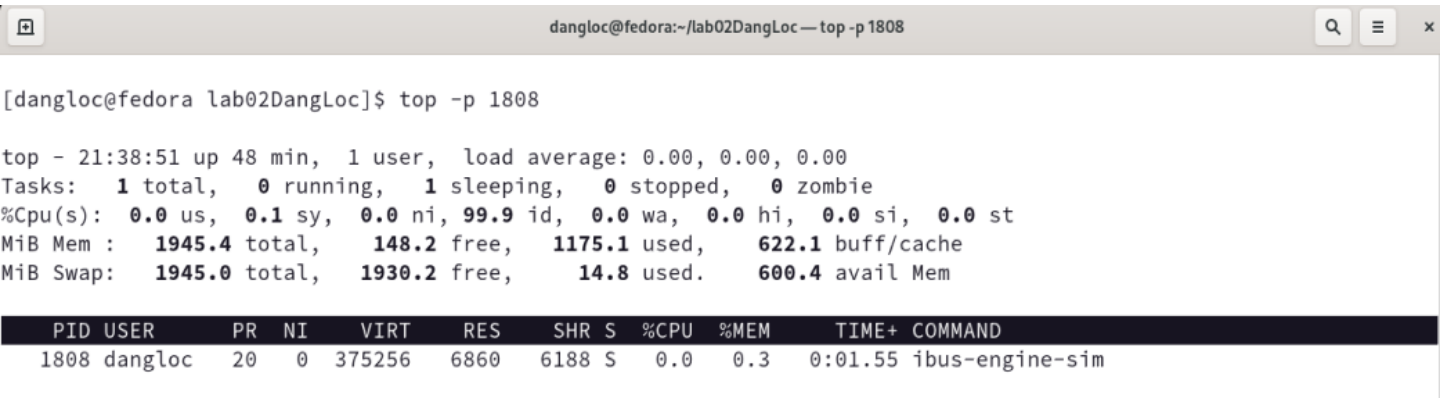
Description: Display Linux tasks.

Example:

Command line: 'top –c'



Command line: 'top –p 1808'



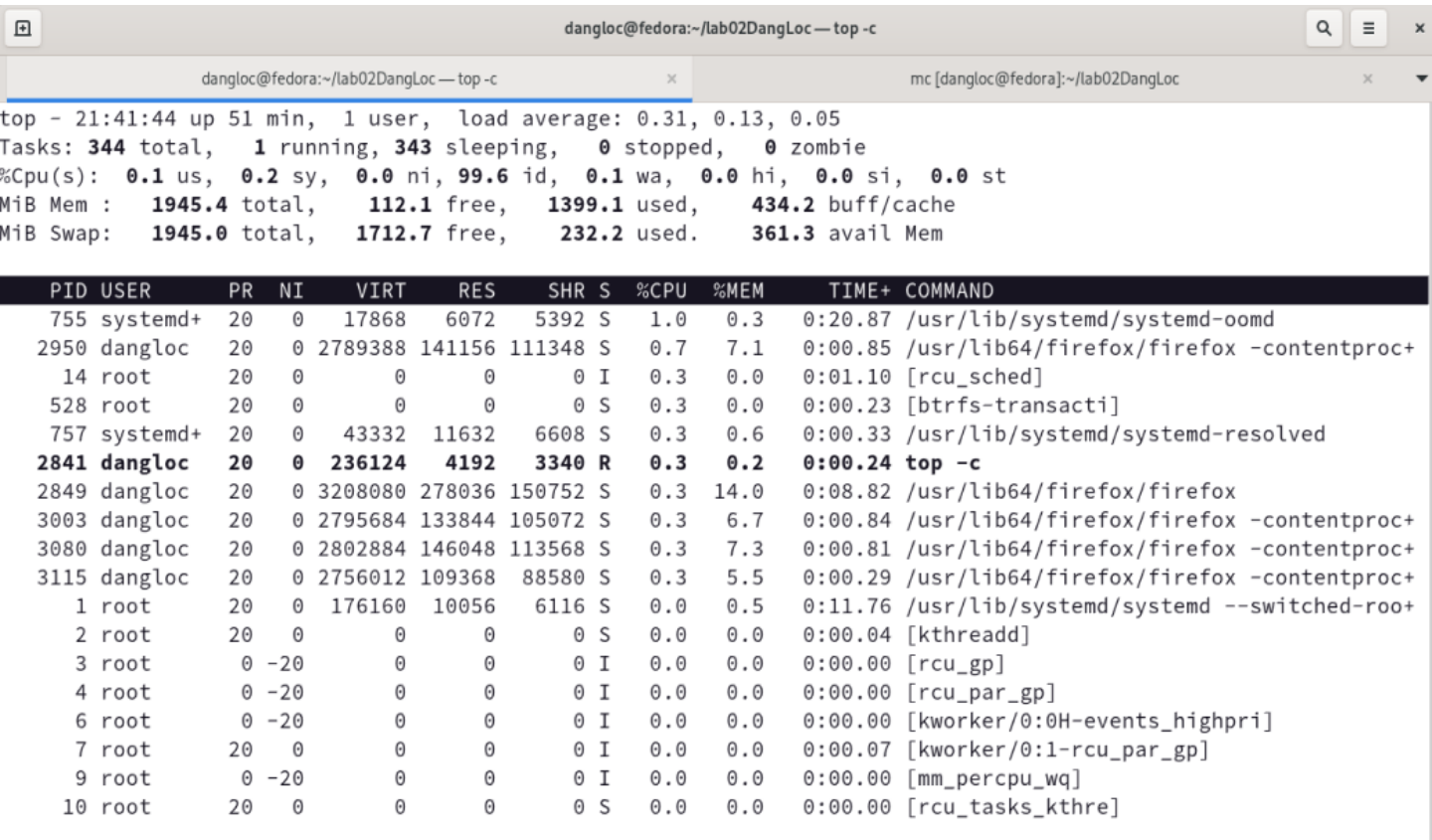
1.18. kill

Syntax: **kill** [**-s** signal | **-p**] [--] pid...

kill –l [signal]

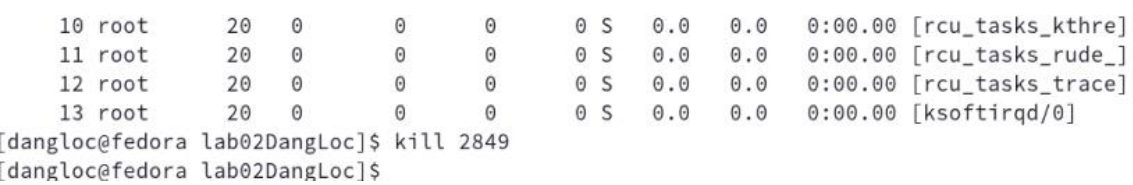
Description: Display Linux tasks.

Example:



The process ID 2849 of the Firefox is nơ running.

Kill it by the command line: kill 2849



1.19. jobs

Syntax: **jobs [-lnprs]** [jobspec ...]

jobs –x command [args ...]

Description: List the active jobs.

Example:

2. File management

The ‘hdh’ folder contain 2 subfolders:
+ unix
+ windows

root@fedora:/hdh

```
[root@fedora hdh]# ls -al
total 0
drwxr-xr-x. 1 root root  22 Jun 12 22:04 .
dr-xr-xr-x. 1 root root 176 Jun 12 22:03 ..
drwxr-xr-x. 1 root root  38 Jun 12 22:03 unix
drwxr-xr-x. 1 root root  20 Jun 12 22:04 windows
[root@fedora hdh]#
[root@fedora hdh]# ls -l
total 0
drwxr-xr-x. 1 root root 38 Jun 12 22:03 unix
drwxr-xr-x. 1 root root 20 Jun 12 22:04 windows
[root@fedora hdh]#
```

The ‘unix’ folder contain 3 subfolders inside: **freebsd**, **linux**, **openbsd**
The ‘windows’ folder contain 3 subfolders inside: **98**, **2000**, **2003**

root@fedora:/hdh

```
[root@fedora hdh]# ls -al unix
total 0
drwxr-xr-x. 1 root root 38 Jun 12 22:03 .
drwxr-xr-x. 1 root root 22 Jun 12 22:04 ..
drwxr-xr-x. 1 root root  0 Jun 12 22:03 freebsd
drwxr-xr-x. 1 root root  0 Jun 12 22:03 linux
drwxr-xr-x. 1 root root  0 Jun 12 22:03 openbsd
[root@fedora hdh]# ls -al windows
total 0
drwxr-xr-x. 1 root root 20 Jun 12 22:04 .
drwxr-xr-x. 1 root root 22 Jun 12 22:04 ..
drwxr-xr-x. 1 root root  0 Jun 12 22:04 2000
drwxr-xr-x. 1 root root  0 Jun 12 22:04 2003
drwxr-xr-x. 1 root root  0 Jun 12 22:04 98
[root@fedora hdh]#
```

Create 2 text file in **/hdh/windows/98**:
+ The file ‘thoca.txt’ has contents inside.
+ The file ‘DangLoc.txt’ is an empty text file.

root@fedora:/hdh/windows/98

```
[root@fedora 98]# echo "Cong cha nhu nui Thai Son" > thoca.txt
[root@fedora 98]# echo "Nghia me nhu nuoc trong nguon chay ra" >> thoca.txt
[root@fedora 98]# touch DangLoc.txt
[root@fedora 98]# ls -al
total 4
drwxr-xr-x. 1 root root 40 Jun 12 22:15 .
drwxr-xr-x. 1 root root 20 Jun 12 22:04 ..
-rw-r--r--. 1 root root  0 Jun 12 22:15 DangLoc.txt
-rw-r--r--. 1 root root 64 Jun 12 22:15 thoca.txt
[root@fedora 98]# _
```

View contents in ‘thoca.txt’ and ‘DangLoc.txt’

```
root@fedora:/hdh/windows/98
[root@fedora 98]# cat thoca.txt
Cong cha nhu nui Thai Son
Nghia me nhu nuoc trong nguon chay ra
[root@fedora 98]# cat DangLoc.txt
[root@fedora 98]#
```

Copy file and folder to **Linux** folder

```
root@fedora:/hdh
[root@fedora 98]# cat thoca.txt
Cong cha nhu nui Thai Son
Nghia me nhu nuoc trong nguon chay ra
[root@fedora 98]# cat DangLoc.txt
[root@fedora 98]#
[root@fedora 98]# cd -
/hdh
[root@fedora hdh]# cp windows/98/thoca.txt unix/linux
[root@fedora hdh]# cd unix/linux
[root@fedora linux]# ls -l
total 4
-rw-r--r--. 1 root root 64 Jun 12 22:22 thoca.txt
[root@fedora linux]# cd -
/hdh
[root@fedora hdh]# cp -R windows unix/linux
[root@fedora hdh]# ls -l unix/linux
total 4
-rw-r--r--. 1 root root 64 Jun 12 22:22 thoca.txt
drwxr-xr-x. 1 root root 20 Jun 12 22:23 windows
```

Move the file **thoca.txt** from **linux** to **openbsd**

```
root@fedora:/hdh
[root@fedora hdh]# ls -al unix/openbsd
total 0
drwxr-xr-x. 1 root root  0 Jun 12 22:03 .
drwxr-xr-x. 1 root root 38 Jun 12 22:03 ..
[root@fedora hdh]# ls -al unix/linux
total 4
drwxr-xr-x. 1 root root 32 Jun 12 22:23 .
drwxr-xr-x. 1 root root 38 Jun 12 22:03 ..
-rw-r--r--. 1 root root 64 Jun 12 22:22 thoca.txt
drwxr-xr-x. 1 root root 20 Jun 12 22:23 windows
[root@fedora hdh]# mv unix/linux/thoca.txt unix/openbsd
[root@fedora hdh]# ls -al unix/openbsd
total 4
drwxr-xr-x. 1 root root 18 Jun 17 21:54 .
drwxr-xr-x. 1 root root 38 Jun 12 22:03 ..
-rw-r--r--. 1 root root 64 Jun 12 22:22 thoca.txt
[root@fedora hdh]#
```

Rename file and directory: **windows** -> **wins**

```
root@fedora:/hdh
[root@fedora hdh]# ls -l unix/openbsd
total 4
drwxr-xr-x. 1 root root  0 Jun 17 22:00 DangLoc
-rw-r--r--. 1 root root 64 Jun 12 22:22 thoca.txt
drwxr-xr-x. 1 root root  0 Jun 17 22:01 windows
[root@fedora hdh]# mv unix/openbsd/windows unix/openbsd/wins
[root@fedora hdh]# ls -l unix/openbsd
total 4
drwxr-xr-x. 1 root root  0 Jun 17 22:00 DangLoc
-rw-r--r--. 1 root root 64 Jun 12 22:22 thoca.txt
drwxr-xr-x. 1 root root  0 Jun 17 22:01 wins
[root@fedora hdh]# mv unix/openbsd/thoca.txt unix/openbsd/thoca.doc
[root@fedora hdh]# more unix/openbsd/thoca.doc
Cong cha nhu nui Thai Son
Nghia me nhu nuoc trong nguon chay ra
[root@fedora hdh]#
```

Delete file **thoca.doc** in **openbsd** directory

```
root@fedora:/hdh
[root@fedora hdh]# rm -f unix/openbsd/thoca.doc
[root@fedora hdh]# ls -l unix/openbsd
total 0
drwxr-xr-x. 1 root root 0 Jun 17 22:00 DangLoc
drwxr-xr-x. 1 root root 0 Jun 17 22:01 wins
[root@fedora hdh]#
```

Move the file **thoca.txt** from **linux** to **openbsd**

```
root@fedora:/hdh/unix/linux
[root@fedora ~]# cd /hdh
[root@fedora hdh]# pwd
/hdh
[root@fedora hdh]# cd unix
[root@fedora unix]# pwd
/hdh/unix
[root@fedora unix]# cd linux
[root@fedora linux]# pwd
/hdh/unix/linux
[root@fedora linux]#
```

Sereaching find thoca.txt and “Cong cha nhu nui” in the text file

```
root@fedora:~
[root@fedora ~]# find /hdh -name thoca.*
/hdh/unix/linux/windows/98/thoca.txt
/hdh/windows/98/thoca.txt
[root@fedora ~]# grep "Cong cha nhu nui" /hdh/windows/98/thoca.txt
Cong cha nhu nui Thai Son
[root@fedora ~]#
```

Zip the file **thoca.txt** using **gzip**, then **unzip** by **gunzi**

```
root@fedora:/hdh/windows/98
[root@fedora ~]# cd /hdh/windows/98
[root@fedora 98]# ls -l
total 4
-rw-r--r--. 1 root root  0 Jun 12 22:15 DangLoc.txt
-rw-r--r--. 1 root root 64 Jun 12 22:15 thoca.txt
[root@fedora 98]# gzip thoca.txt
[root@fedora 98]# ls -l
total 4
-rw-r--r--. 1 root root  0 Jun 12 22:15 DangLoc.txt
-rw-r--r--. 1 root root 85 Jun 12 22:15 thoca.txt.gz
[root@fedora 98]# gunzip thoca.txt.gz
[root@fedora 98]# ls -l
total 4
-rw-r--r--. 1 root root  0 Jun 12 22:15 DangLoc.txt
-rw-r--r--. 1 root root 64 Jun 12 22:15 thoca.txt
```

Zip the file **thoca.txt** using **tar**

```
root@fedora:/hdh/windows/98

[root@fedora 98]# ls -l
total 4
-rw-r--r--. 1 root root  0 Jun 12 22:15 DangLoc.txt
-rw-r--r--. 1 root root 64 Jun 12 22:15 thoca.txt
[root@fedora 98]# tar -cvf DangLoc.tar DangLoc.txt
DangLoc.txt
[root@fedora 98]# ls -l
total 16
-rw-r--r--. 1 root root 10240 Jun 17 22:22 DangLoc.tar
-rw-r--r--. 1 root root     0 Jun 12 22:15 DangLoc.txt
-rw-r--r--. 1 root root    64 Jun 12 22:15 thoca.txt
[root@fedora 98]#
```

```
root@fedora:/hdh/windows/98/backup
[root@fedora 98]# ls
backup  DangLoc.tar  DangLoc.tar.gz  DangLoc.txt  thoca.txt
[root@fedora 98]# tar -xvf DangLoc.tar -C /hdh/windows/98/backup/
DangLoc.txt
[root@fedora 98]# cd backup
[root@fedora backup]# ls -l
total 4
-rw-r--r--. 1 root root 1 Jun 17 22:30 baitho.doc
-rw-r--r--. 1 root root 0 Jun 12 22:15 DangLoc.txt
[root@fedora backup]#
```

Thank you!

By Nguyen Dang Loc