

Lab report no. : 04**Lab report name :** Lab report on file operation and permission.

Aim and objectives: In this lab ,I use linux command which can be used to add, remove, or modify file or directory permissions to protect, hide, or open up access to a file by other users (except for the root account or a user with super-user permission and using sudo, either of which can access any file or directory on a Linux system).

Explanations:

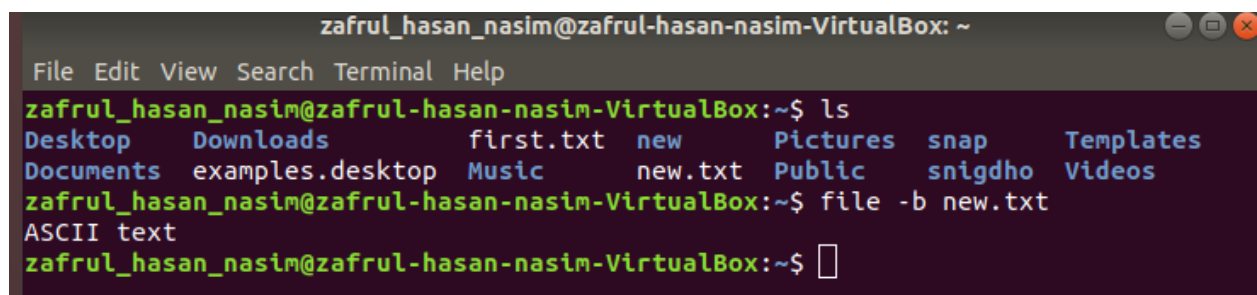
- i) **File operation :** In Linux, most of the operations are performed on files. And to handle these files Linux has directories also known as folders which are maintained in a tree-like structure. Though, these directories are also a type of file themselves. Various types of linux command controls the file management system such as ls,ls -l, ls -al etc .

File permission: Linux is a multi-user operating system, so it has security to prevent people from accessing each other's confidential files. This security system is known as file permission.

When you execute an "ls" command, you are not given any information about the security of the files, because by default "ls" only lists the names of files. So using 'chmod ' linux command for control my confidential files .

- ii) **Implementation of file operation :**

ls command : The 'ls' command is used for listing the contents of a directory or directories given to it via standard input.



```
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox: ~  
File Edit View Search Terminal Help  
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ ls  
Desktop Downloads first.txt new Pictures snap Templates  
Documents examples.desktop Music new.txt Public snigdho Videos  
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ file -b new.txt  
ASCII text  
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$
```

file * command : 'file * ' Command displays the all files's file type.

```

zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ file *
Desktop:      directory
Documents:    directory
Downloads:    directory
examples.desktop: UTF-8 Unicode text
first.txt:    empty
Music:        directory
new:          directory
new.txt:      ASCII text
Pictures:     directory
Public:       directory
snap:         directory
snigdho:      directory
Templates:    directory
Videos:       directory
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ █

```

file [a-e]* : [a-e] defines a alphabetically range . this command shows all files using this range .

```

File Edit View Search Terminal Help
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ file [a-e]*
Desktop:      directory
Documents:    directory
Downloads:    directory
examples.desktop: UTF-8 Unicode text
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ █

```

file -c command : This command is usually used in conjunction with the *-m* flag to debug a new magic file before installing it.

```

File Edit View Search Terminal Help
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ file -c
cont  offset type  opcode mask  value desc
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ █

```

file -f - filename: using 'file -f -new.txt' linux command read the names of the files to be examined from namefile (one per line) before the argument list.

```
File Edit View Search Terminal Help
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ file -F - new.txt
new.txt- ASCII text
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$
```

file -i filename : using 'file -i new.txt' command to views mime type of file.

```
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ file -i new.txt
new.txt: text/plain; charset=us-ascii
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$
```

Implementation of File operation:

- a. I want to give "execute" permission to the world ("other") for file "new.txt", I would start by excute following command,

```
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox: ~
File Edit View Search Terminal Help
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ ls -l new.txt
-rw-r--r-- 1 zafrul_hasan_nasim zafrul_hasan_nasim 36 ১৫:১৮  ২ ২০২০ new.txt
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ chmod o+x new.txt
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ ls -l new.txt
-rw-r--r-x 1 zafrul_hasan_nasim zafrul_hasan_nasim 36 ১৫:১৮  ২ ২০২০ new.txt
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$
```

- b. I can also change multiple permissions at once. Now I want to take all permissions away from everyone, I would excute following command ,

```
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox: ~
File Edit View Search Terminal Help
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ ls -l new.txt
-rw-r--r-x 1 zafrul_hasan_nasim zafrul_hasan_nasim 36 ১৫:১৮  ২ ২০২০ new.txt
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ chmod ugo-rwx new.txt
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$ ls -l new.txt
----- 1 zafrul_hasan_nasim zafrul_hasan_nasim 36 ১৫:১৮  ২ ২০২০ new.txt
zafrul_hasan_nasim@zafrul-hasan-nasim-VirtualBox:~$
```

Conclusion: From this lab , I learnt about how to set up privacy of confidential files on my computer by linux command .It is helpful for security to prevent people from accessing each other's confidential files.