LAB REPORT - 1

Topic: Linux & It's Basic Commands

Course Name: Sessional Based on CSE 3201 (Operating System)

Course No: CSE 3202

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Introduction to Linux

Linux is an open-source operating system convention. The most reasonable condition to switch to Linux is because it is light-weight than most other operating systems and also it is free to learn the basic concepts of the OS world.

Operating System based on Linux are Debian, Ubuntu, Fedora, centOS, Gentoo, Arch Linux, SUSE, Deepin, Parrot OS, Ubuntu MATE, Bodhi Linux, Garuda Linux, Kubuntu, Peppermint Linux, Mandriva Linux, Mageia, NixOS, BlackArch, Kanotix, Grml, Lliure, SuperGamer, BlackBox, SolydXK, Parsix, Ubuntu Kylin etc are also known as the distros or distributions.

Shell: Shell is a computer program that connects the OS kernel with the user. It basically depicts the functions of the OS and presents it to the user or other programs. The most 5 used shells in Linux are –

- ✓ Bash shell (Bourne Again Shell)
- ✓ csh/tcsh shell (C Shell)
- ✓ ksh shell (Korn Shell)
- ✓ zsh shell
- ✓ Fish (Friendly Interactive Shell)

Linux Commands:

- pwd: Present working directory refers to the current folder
- cd: Change directory refers to switching directory to another folder
- ls -al: This command will present list of all folder and files in current directory
- touch abc.txt: Creates a new file in current directory
- nano abc.txt: The command is used to update the text file
- cat abc.txt: Used to show text files content in terminal interface
- rm abc.txt: This command removes/deletes the text file
- mkdir xyz: Create a directory/folder in the current location
- rm -R xyz: Remove/delete folder xyz
- chmod u = rw: Means user can only operate the read and write operation
- clear: To clean terminal

Command Practice & Preview:

o Locate current directory and route to a new directory. List all the contents (file, folder) inside it.

Commands:
pwd
cd /mnt/y
ls -al

```
erabaka@DESKTOP-P020L95: /mnt/y
erabaka@DESKTOP-P020L95:~$ pwd
/home/erabaka
erabaka@DESKTOP-P020L95:~$ cd /mnt/y
erabaka@DESKTOP-P020L95:/mnt/y$ ls -al
ls: 'System Volume Information': Permission denied
total 260
drwxrwxrwx 1 erabaka erabaka   4096 Nov 27 11:45 '$RECYCLE.BIN'
drwxrwxrwx 1 erabaka erabaka   4096 Apr  3 00:02  .
drwxr-xr-x 1 root    root      4096 Mar 12 00:01  ..
-rwxrwxrwx 1 erabaka erabaka  31266 Feb 18 04:44  2title.docx
drwxrwxrwx 1 erabaka erabaka   4096 Dec  7 14:50 'Article Requirement Spec and Example Articles'
drwxrwxrwx 1 erabaka erabaka   4096 Nov 28 14:25 'Offset Interactive'
d--x--x--x 1 erabaka erabaka   4096 Jan 20 03:29 'System Volume Information'
drwxrwxrwx 1 erabaka erabaka   4096 Mar 24 18:22  Upwork
drwxrwxrwx 1 erabaka erabaka   4096 Feb  1 17:30 'babel work'
drwxrwxrwx 1 erabaka erabaka   4096 Mar 10 00:32  barsha
drwxrwxrwx 1 erabaka erabaka   4096 Mar 12 11:47  bubu
drwxrwxrwx 1 erabaka erabaka   4096 Feb  3 14:52  example
drwxrwxrwx 1 erabaka erabaka   4096 Dec 18 16:38  fiverr
-rwxrwxrwx 1 erabaka erabaka    350 Dec 29 04:11  new.cpp
-rwxrwxrwx 1 erabaka erabaka  60364 Dec 29 04:11  new.exe
-rwxrwxrwx 1 erabaka erabaka   6096 Dec 29 04:11  new.o
drwxrwxrwx 1 erabaka erabaka   4096 Aug 17  2021  node-javascript-ecommerce-master
-rwxrwxrwx 1 erabaka erabaka 135226 Mar 14  2021  orange.jpg
drwxrwxrwx 1 erabaka erabaka   4096 Mar 11 13:41 'prac js'
-rwxrwxrwx 1 erabaka erabaka  23761 Dec 12 00:24  title.docx
erabaka@DESKTOP-P020L95:/mnt/y$
```

o Read current directory and create a text file. Update the text file and preview the context of text file in the terminal. And lastly remove the file.

Command:
pwd
touch abc.txt
ls -al
nano abc.txt
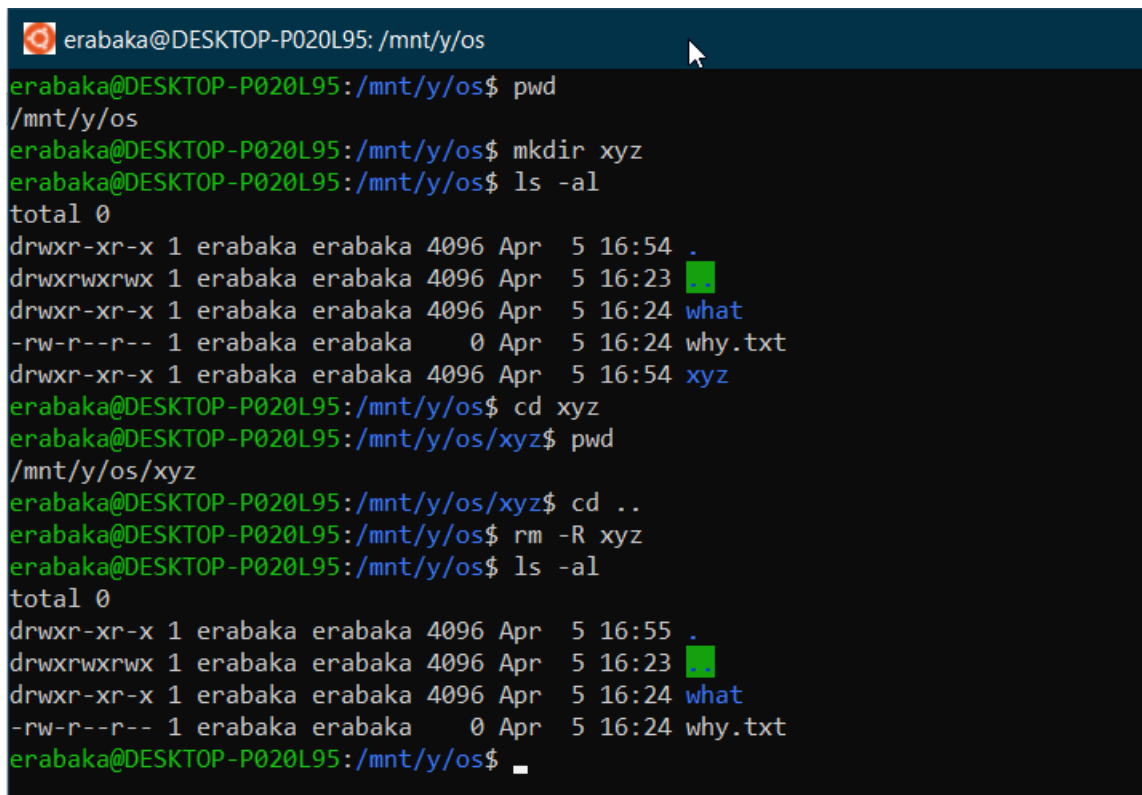(write content in text file) → (ctrl + x) → y → enter
cat abc.txt
rm abc.txt
ls -al

```
erabaka@DESKTOP-P020L95: /mnt/y/os

erabaka@DESKTOP-P020L95:/mnt/y/os$ pwd
/mnt/y/os
erabaka@DESKTOP-P020L95:/mnt/y/os$ touch abc.txt
erabaka@DESKTOP-P020L95:/mnt/y/os$ ls -al
total 0
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:28 .
drwxrwxrwx 1 erabaka erabaka 4096 Apr  5 16:23 ..
-rw-r--r-- 1 erabaka erabaka    0 Apr  5 16:28 abc.txt
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:24 what
-rw-r--r-- 1 erabaka erabaka    0 Apr  5 16:24 why.txt
erabaka@DESKTOP-P020L95:/mnt/y/os$ nano abc.txt
erabaka@DESKTOP-P020L95:/mnt/y/os$ cat abc.txt
Hi, It's Era ^_^
erabaka@DESKTOP-P020L95:/mnt/y/os$ rm abc.txt
erabaka@DESKTOP-P020L95:/mnt/y/os$ la -al
total 0
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:30 .
drwxrwxrwx 1 erabaka erabaka 4096 Apr  5 16:23 ..
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:24 what
-rw-r--r-- 1 erabaka erabaka    0 Apr  5 16:24 why.txt
erabaka@DESKTOP-P020L95:/mnt/y/os$
```

- Read current directory. Create a folder and go to that folder. Later delete the folder.

Command:

pwd

mkdir xyz
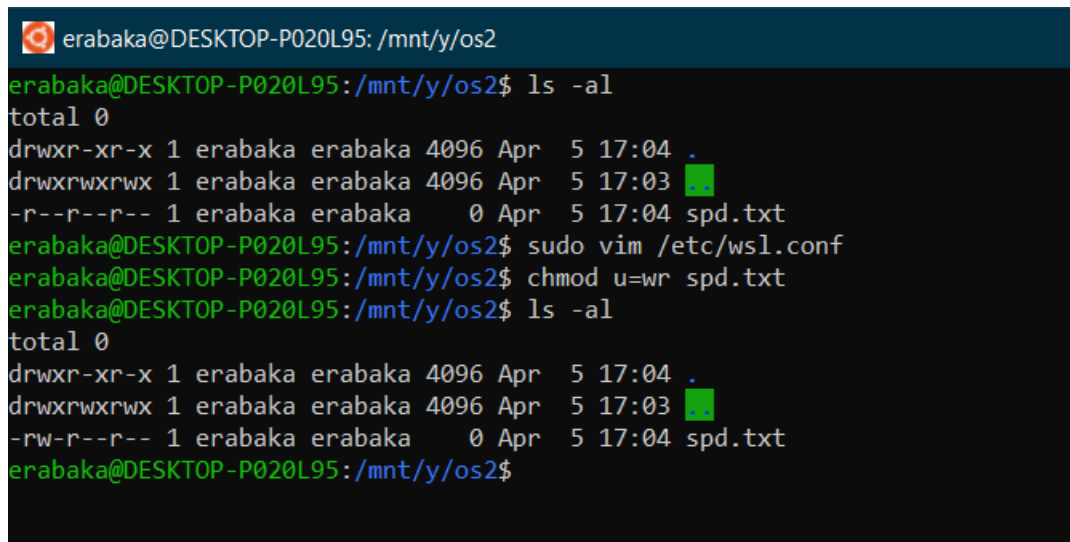
ls -al

cd xyz

pwd

cd ..

rm -R xyz

ls -al

```
erabaka@DESKTOP-P020L95: /mnt/y/os

erabaka@DESKTOP-P020L95:/mnt/y/os$ pwd
/mnt/y/os
erabaka@DESKTOP-P020L95:/mnt/y/os$ mkdir xyz
erabaka@DESKTOP-P020L95:/mnt/y/os$ ls -al
total 0
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:54 .
drwxrwxrwx 1 erabaka erabaka 4096 Apr  5 16:23 ..
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:24 what
-rw-r--r-- 1 erabaka erabaka    0 Apr  5 16:24 why.txt
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:54 xyz
erabaka@DESKTOP-P020L95:/mnt/y/os$ cd xyz
erabaka@DESKTOP-P020L95:/mnt/y/os/xyz$ pwd
/mnt/y/os/xyz
erabaka@DESKTOP-P020L95:/mnt/y/os/xyz$ cd ..
erabaka@DESKTOP-P020L95:/mnt/y/os$ rm -R xyz
erabaka@DESKTOP-P020L95:/mnt/y/os$ ls -al
total 0
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:55 .
drwxrwxrwx 1 erabaka erabaka 4096 Apr  5 16:23 ..
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 16:24 what
-rw-r--r-- 1 erabaka erabaka    0 Apr  5 16:24 why.txt
erabaka@DESKTOP-P020L95:/mnt/y/os$
```

o   A text file (spd.txt) is located in the os2 folder. Preview its permission. Later change the user permission.

Command:
ls -al
sudo vim /etc/wsl.conf
(Enter password)
i + enter (To go to insert mode)
[automount] + enter
options=``metadata``
press esc (to get out from insert mode)
:wq
exit
chmod u=wr spd.txt

```
erabaka@DESKTOP-P020L95: /mnt/y/os2
erabaka@DESKTOP-P020L95:/mnt/y/os2$ ls -al
total 0
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 17:04 .
drwxrwxrwx 1 erabaka erabaka 4096 Apr  5 17:03 ..
-r--r--r-- 1 erabaka erabaka    0 Apr  5 17:04 spd.txt
erabaka@DESKTOP-P020L95:/mnt/y/os2$ sudo vim /etc/wsl.conf
erabaka@DESKTOP-P020L95:/mnt/y/os2$ chmod u=wr spd.txt
erabaka@DESKTOP-P020L95:/mnt/y/os2$ ls -al
total 0
drwxr-xr-x 1 erabaka erabaka 4096 Apr  5 17:04 .
drwxrwxrwx 1 erabaka erabaka 4096 Apr  5 17:03 ..
-rw-r--r-- 1 erabaka erabaka    0 Apr  5 17:04 spd.txt
erabaka@DESKTOP-P020L95:/mnt/y/os2$
```

Discussion:

The overall command lines in the CLI was executed successfully. Ubuntu WSL was used while checking up on the operations. A folder was effortlessly created, so was a file created and updated. Later, the removal of them was possible via commands. Finally, the "change mode (chmod)" was used to change permission for user. The outputs were as expected.