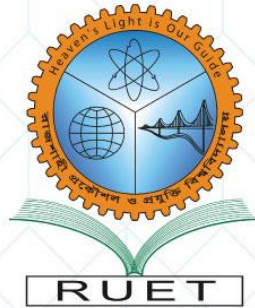


*Heaven's Light is Our Guide*



# **RAJSHAHI UNIVERSITY OF ENGINEERING & TECHNOLOGY**

## **LAB REPORT**

Course No: CSE 3202

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Section: B

Dept. of Computer Science & Engineering

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## Lab 01

### History of Linux

- Linux is a community of open-source operating systems that are developed on top of the Linux kernel. Linux comes packaged within Linux distributions.
- Linux distributions, or fondly called distro, are nothing but software collections based on the Linux kernel and a package management system.
- First developed as a small but self-contained kernel in 1991 by Linus Torvalds, with the major design goal of UNIX compatibility.
- Its history has been one of collaboration by many users from all around the world, corresponding almost exclusively over the Internet.
- It has been designed to run efficiently and reliably on common PC hardware, but also runs on a variety of other platforms.
- The core Linux operating system kernel is entirely original, but it can run much existing free UNIX software, resulting in an entire UNIX-compatible operating system free from proprietary code.
- Version 0.01 (May 1991) had no networking, ran only on 80386-compatible Intel processors and on PC hardware, had extremely limited device-drive support, and supported only the Minix file system.

### What is Shell?

- A shell is special user program which provide an interface to user to use operating system services.
- Shell accepts human readable commands from user and convert them into something which kernel can understand.
- It is a command language interpreter that execute commands read from input devices such as keyboards or from files. The shell gets started when the user logs in or start the terminal.

## Linux Commands

**cd** : For changing directory

**cd /mnt/e**: change the directory to E disk on the hard drive

**cd STUDY/3\_2/OS/Labs/1**

```
ubuntu@DESKTOP-NCPBVNJ:~$ cd /mnt/e
ubuntu@DESKTOP-NCPBVNJ:/mnt/e$ cd STUDY/3_2/OS/Labs/1
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ █
```




**pwd**: where the director is

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ pwd
/mnt/e/STUDY/3_2/OS/Labs/1
```

**touch**: Create new file

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ touch text.txt
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$
```

This PC > ALL (E:) > STUDY > 3\_2 > OS > Labs > 1

Name		Date modified
	1.docx	10/9/2022 12:23 PM
	Lab 1 report 1803108.docx	10/9/2022 8:17 PM
	text.txt	10/9/2022 8:43 PM

**ls -al**: Show all files

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ ls -al
total 32
drwxrwxrwx 1 ubuntu ubuntu 4096 Oct 9 20:43 .
drwxrwxrwx 1 ubuntu ubuntu 4096 Oct 9 20:23 ..
-rwxrwxrwx 1 ubuntu ubuntu 13800 Oct 9 12:23 1.docx
-rwxrwxrwx 1 ubuntu ubuntu 14730 Oct 9 20:17 'Lab 1 report 1803108.docx'
-rw-r--r-- 1 ubuntu ubuntu 0 Oct 9 20:43 text.txt
-rwxrwxrwx 1 ubuntu ubuntu 162 Oct 9 12:20 '~$1.docx'
-rwxrwxrwx 1 ubuntu ubuntu 162 Oct 9 19:54 '~$b 1 report 1803108.docx'
-rwxrwxrwx 1 ubuntu ubuntu 0 Oct 9 19:54 '~WRL3963.tmp'
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$
```

## nano: Write in the file

```
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1$ nano text.txt
```

```
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1
GNU nano 4.8 text.txt
Hello!!!
^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos    M-U Und
^X Exit      ^R Read File  ^\ Replace    ^U Paste Text ^T To Spell   ^_ Go To Line M-E Red
```

text.txt - Notepad

File Edit Format View Help

Hello!!!

## cat: Read from file

```
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1$ cat text.txt
Hello!!!
```

## rm: Delete file

```
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1$ rm text.txt
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1$
```

## mkdir: Make a folder

```
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1$ mkdir new
ubuntu@DESKTOP-NCPBVNJ: /mnt/e/STUDY/3_2/OS/Labs/1$
```

This PC > ALL (E:) > STUDY > 3\_2 > OS > Labs > 1

	Name	Date modified	Type	Size
	new	10/9/2022 8:53 PM	File folder	
	1.docx	10/9/2022 12:23 PM	Microsoft Word D...	14 KB
	Lab 1 report 1803108.docx	10/9/2022 8:17 PM	Microsoft Word D...	15 KB

**rm -R:** Delete folder

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ rm -R new
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ █
```

**cd .. :** go to previous directory

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ cd ..
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs$ █
```

**chmod:** change permission

```
-r--r--r-- 1 ubuntu ubuntu 0 Oct 9 20:57 text.txt
```

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ chmod u=rwx text.txt
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ ls -al
total 32
drwxrwxrwx 1 ubuntu ubuntu 4096 Oct 9 20:57 █
drwxrwxrwx 1 ubuntu ubuntu 4096 Oct 9 20:23 █
-rwxrwxrwx 1 ubuntu ubuntu 13800 Oct 9 12:23 1.docx
-rwxrwxrwx 1 ubuntu ubuntu 14730 Oct 9 20:17 'Lab 1 report 1803108.docx'
-rwxr--r-- 1 ubuntu ubuntu 0 Oct 9 20:57 text.txt
-rwxrwxrwx 1 ubuntu ubuntu 162 Oct 9 12:20 '~$1.docx'
-rwxrwxrwx 1 ubuntu ubuntu 162 Oct 9 19:54 '~$b 1 report 1803108.docx'
-rwxrwxrwx 1 ubuntu ubuntu 0 Oct 9 19:54 '~WRL3963.tmp'
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ █
```

```
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ chmod uo=rwx text.txt
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$ ls -al
total 32
drwxrwxrwx 1 ubuntu ubuntu 4096 Oct 9 20:57 █
drwxrwxrwx 1 ubuntu ubuntu 4096 Oct 9 20:23 █
-rwxrwxrwx 1 ubuntu ubuntu 13800 Oct 9 12:23 1.docx
-rwxrwxrwx 1 ubuntu ubuntu 14730 Oct 9 20:17 'Lab 1 report 1803108.docx'
-rwxrwxrwx 1 ubuntu ubuntu 0 Oct 9 20:57 text.txt
-rwxrwxrwx 1 ubuntu ubuntu 162 Oct 9 12:20 '~$1.docx'
-rwxrwxrwx 1 ubuntu ubuntu 162 Oct 9 19:54 '~$b 1 report 1803108.docx'
-rwxrwxrwx 1 ubuntu ubuntu 0 Oct 9 19:54 '~WRL3963.tmp'
ubuntu@DESKTOP-NCPBVNJ:/mnt/e/STUDY/3_2/OS/Labs/1$
```