

Tuesday, August 19, 2025 8:37 AM

Not Customizable.

- UNIX was the predecessor of LINUX

- Data sent to display , files, or printer.

Multitasking, Multi-user, and Multiprocessor programing.

1. Ubuntu
2. Linux Mint
3. Redhat
4. Debian
5. Fedora
6. CentOS
7. Kali Linux

Layers of linux and Unix



- **Kernel –**

1. It is the core component of UNIX OS
2. It is responsible to execute commands
3. It is responsible to interact with hardware components.
4. It is also responsible for memory location and process allocation

- **Shell –**

1. It is outer layer of UNIX operating system
2. The shell is a program that sits on the interface between user and kernel.
3. It is a command interpreter and also has programming capability of its own.

- **Types of Shell –**

1. Bourne Shell (Sh) – First shell by Stephen Bourne
2. C Shell (SH)
3. Korn Shell (KSH)
4. Bourne Again Shell (bash)

- **Bourne Again Shell (bash) -**

1. Command language interpreter
2. It is a replacement of Bourne shell (Sh)

Types of file systems in Linux –

1. Linux treats everything as a file – Including hardware devices.
2. Arranged as directory in heretical order.
3. Top level directory: Root directory (/)
4. Types of files –

1 Normal files :

These files contain data.

It can be either text file (abc.txt) or binary file (img, video)

2- Directory files :

This files represents directory

Can contain files and subdirectories

3- Device files :

In Linux every device is represented as a file.

By using these files we can communicate with that device.

The first character represents the type of file :

IMP

- Directory file
- Normal file
- Link file
- Character Special file
- Socket file

Common Commands :

- pwd: print working directory
- ls: List our all files and directories
- ls -A
- ls -a
- ls -r

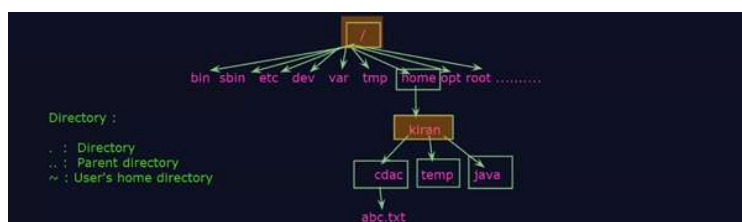
- ls -t
- ls -F
-
- mkdir: Create directory
- cd : Change directory
- touch : To create a file
- rmdir : Remove directory
- ctrl + D for exit from txt file
-
- rm : To remove file
- cal : Display Monthly calander
- date: Display the current date and time
- help: To display list of commands
- hello : To display brief system information
- clear: To clear terminal
- exit : To logout

Practical performed:

```
sanket@Thekulkarni:~$ pwd
/home/sanket
sanket@Thekulkarni:~$ |
```

```
OS  f1 f3 f5 file1.txt s1.sh test.sh test1 user1
cdac f2 f4 file jh.txt test test.txt test1.sh user2
kiran@CMKL-kiranw:~$ cd..
cd..: command not found
kiran@CMKL-kiranw:~$ cd ..
kiran@CMKL-kiranw:/home$ ls
kiran
kiran@CMKL-kiranw:/home$ cd ..
kiran@CMKL-kiranw:/ $ ls
Docker dev  init  lib64      media  proc  sbin  sys  var
bin      etc  lib  libx32    mnt    root  snap tmp
boot     home lib32 lost+found opt    run  srv  usr
kiran@CMKL-kiranw:/ $
```

Blue colour files are the Directories



Bin – Unix utility related files saved here

Dev Device related, hardware related files saved here

Etc – login, username password will be saved here

Temp – for temporary files

Sbin - for saving device binary files

```
OS      cdac  dir12 f2 file      test  test1.sh
aaa.c   dir1  dir13 f3 file1.txt test.sh user1
aaa.cpp dir11 dir2  f4 jh.txt    test.txt user2
aaa.txt dir111 f1 f5 s1.sh test1
kiran@CMKL-kiranw:~$ rmdir dir11 dir111 dir12
kiran@CMKL-kiranw:~$ ls
OS      aaa.txt dir13 f2 f5      jh.txt test.sh test1.sh
aaa.c   cdac   dir2  f3 file  s1.sh  test.txt user1
aaa.cpp dir1   f1 f4 file1.txt test test1 user2
kiran@CMKL-kiranw:~$ cd dir1
kiran@CMKL-kiranw:~/dir1$ ls
dir2
kiran@CMKL-kiranw:~/dir1$ cd ..
kiran@CMKL-kiranw:~$ rmdir dir1
```

```
rmkdir: failed to remove 'dir1': Directory not empty  
kiran@CMKL-kiranw:~$
```