19th Dec 2022

Linux - 03
System Administrators
-> User management & Permissions

★ Users & Groups

A user is an entity in a Linux OS that can manipulate files & perform several other operations

-> Each user is assigned an ID
↳ known as UID

We can group these users as well if needed

There are many users at same time
↳ like root, daemon, us etc

ID -> 0 is assigned to root user

If we need to access root user files
↳ use command sudo
or if we want to change user from 'ankur'
to root
↓
use sudo su
↳ not recomended

To list all users in a system
↳ use cat /etc/passwd
use sudo before
↳ cause permission will be denied

When you check users by
sudo cat /etc/passwd

The format of users is ;

root : x : 0 : 0 : root : /root : /bin/bash
① ② ③ ④ ⑤ ⑥ ⑦

1 -> username
2 -> passwd -> x → replaced with x & stored in /etc/shadow
3 -> UID
4 -> GID
5 -> user information
6 -> home directory
7 -> shell

PAM -> Pluggable Authentication Module
more recent authentication system
→ doesn't comes by default

sudo useradd 'sukriti'
→ to create a user by Sukriti name

to delete sudo userdel sukriti

Permissions

Every file & every folder on our system has permission aswell as ownership info

these no. are numeric representation of permission these are not serial no.

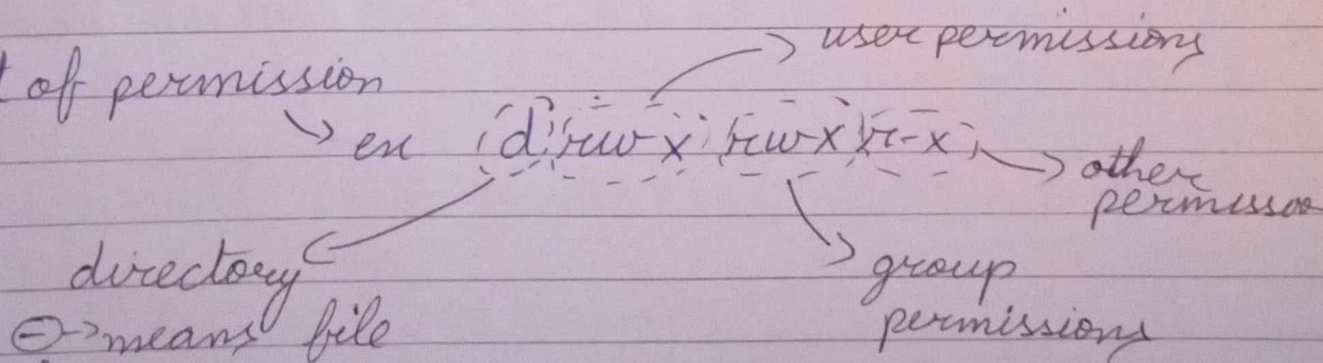
0 or --- →	nothing allowed
1 or --x →	execution allowed
2 or -w- →	writing allowed
3 or -wx →	writing & execution allowed
4 or r-- →	reading allowed
5 or r-x →	reading & execution allowed
6 or rw- →	reading & writing allowed
7 or rwx →	everything allowed

Every file has 3 different permission:

(a) for user/owner
(b) for group
(c) everyone else

Command to view permissions ls -l

format of permission



How to modify permissions.

chmod [options] [mode] [files] → file name

→ + → to add
→ - → to remove

other / group / user
o g u

ex → chmod o+w testing.txt

→ this will add writing permission for other users for testing.txt file

-x-

to remove all permissions for everyone
→ chmod ugo-rwx testing.txt
or
chmod -777 testing.txt

{ 7 comes → 4+ 2+1
r w x }

changing permissions usually is not recommended cause we may change sensitive data

Change ownership of file → sudo chown username testing.tx