

## User & Group Management

### What is a User?

An individual who uses the H/W and S/W or computing resources is technically called USER.

- A user account is used to provide security boundaries between different people and programs that can run commands.
- The system has a name for each account it creates, and it is this name by which a person gains access to use it.
- Linux supports multiple users to be logged in the system.
- Managing users is done for the purpose of security by limiting access in certain specific ways.
- A user or account of a system is uniquely identified by a numerical number called the UID.
- There are some reserved names which may not be used such as "root"

### We have 3 type of Users in Linux

<u>User Name (l)</u>	<u>Password(x)</u>	<u>UID(u)</u>	<u>GID(g)</u>	<u>Comments(c)</u>	<u>Home Dir (d)</u>	<u>Shell(s)</u>
1. Root	X	0	0	root	/root	/bin/bash
2. Sys. User FTP	X	1-999		FTP	/var/ftp/pub	/sbin/nologin
3. Normal User Student	X	1000-60,000		Student	/home/student	/bin/bash

Default Configuration for user and group are stored in */etc/login.defs*

## Where User Information Is Stored?

### **/etc/passwd**

- Stores the user account information for the system.

### **/etc/shadow**

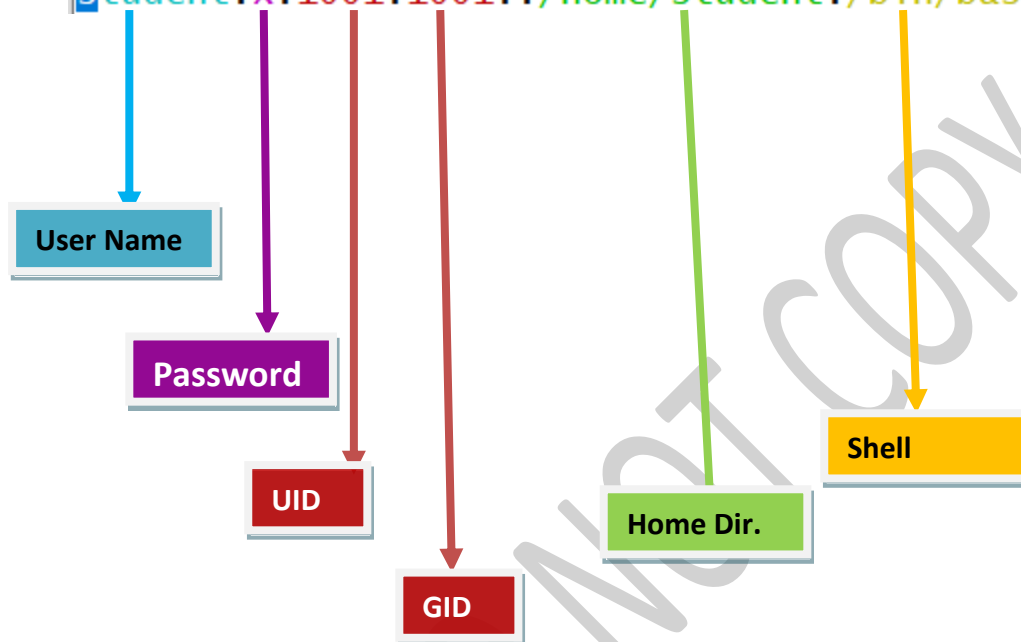
- Stores the password for the various accounts.
- By default, it is not accessible to anybody except root user.

### **/etc/group**

- Contains your system groups.

1> /etc/passwd

```
chrony:x:995:992::/var/lib/chrony:/sbin/nologin
rngd:x:994:991:Random Number Generator Daemon:/var/lib/rngd:/sbin/nologin
ec2-user:x:1000:1000:Cloud User:/home/ec2-user:/bin/bash
student:x:1001:1001::/home/student:/bin/bash
```



## Commands for User Management:

**\$id user1:** to check uid,gid and associated groups of a user

**#useradd**

**#userdel**

**#usermod**

**-c, --comment**      **COMMENT**

**-g, --gid**          **GROUP**

**-G, --groups**      **GROUPS**

**-d, --home**        **HOME\_DIR**

**-m, --move-home**    **Move the user's home directory to a new location. Must be used with the -d option.**

**-s, --shell**        **SHELL**

**-L, --lock**        **Lock**

**-U, --unlock**      **UNLOCK**

**#passwd**

## Password:

A **password** is a string of characters used to verify the identity of a user during the authentication process.

The password properties are stored in **/etc/shadow**

```
root:$6$LVnrOvm/6/297CuS$M10kcJgQCUj0a2aq071Iuk11USrZrBHSNSFCip/MDgmiZ4F6HV7H7ts  
tyACeiu9o6emx3G1NJOHtp20uE7FJP0:18509:0:99999:7:::  
bin:!:18199:0:99999:7:::  
daemon:!:18199:0:99999:7:::
```

It has total 9 properties

- 1> User Name
- 2> Encrypted Password
- 3> The day on which the password was last changed. This is set in days since 1970-01-01, and is calculated in the UTC time zone.
- 4> Minimum Days
- 5> Maximum Days
- 6> Warning period
- 7> Grace period
- 8> Expiry day calculated from 1<sup>st</sup> jan 1970
- 9> reserved for future use

## Commands to manage life span of password

**#chage username**

**Chage -l username**

- d, --lastday LAST\_DAY** : set date of last password change to LAST\_DAY
- E, --expiredate EXPIRE\_DATE**: set account expiration date to EXPIRE\_DATE
- h, --help**: display this help message and exit
- I, --inactive INACTIVE** : set password inactive after expiration to INACTIVE
- l, --list** show account aging information
- m, --mindays MIN\_DAYS** set minimum number of days before password change to MIN\_DAYS
- M, --maxdays MAX\_DAYS** set maximum number of days before password change to MAX\_DAYS
- R, --root CHROOT\_DIR** directory to chroot into
- W, --warndays WARN\_DAYS**

## Group:

**Group** is a collection of users that need to share access to a file or system resources.

### **We Have 2 types of Group**

#### ➤ **Primary Group:**

A Group that creates automatically at the time of user creation, and it named as the parent user. Is called **Primary Group**

#### ➤ **Secondary/Supplementary Group:**

The Groups which we are creating manually and assigning to one or more than one users are called **Secondary/Supplementary Group**

All group details are store in **/etc/group**

```
Asmin:x:1002:student  
Admin:x:1003:student,ec2-user
```

It has 4 fields

- 1> Group Name
  - 2> Password of group
  - 3> GID
  - 4> Users name
- 

Group's password properties are stored in **/etc/gshadow**

```
Asmin:!::student  
Admin:!::student:student,ec2-user
```

- 1> Group Name
- 2> Password
- 3> Admin
- 4> Users



## Commands to manage Groups:

#groupadd

#groupdel

#groupmod

#gpasswd

## GAINING SUPERUSER ACCESS

Sudo: Super User Do

For use sudo for a normal user , root should permit it

### **/etc/sudoers**

- root ALL=(ALL:ALL) ALL

The first field indicates the username that the rule will apply to (root).

- root ALL=(ALL:ALL) ALL

The first "ALL" indicates that this rule applies to all hosts.

- root ALL=(ALL:ALL) ALL

This "ALL" indicates that the root user can run commands as all users.

- root ALL=(ALL:ALL) ALL

This "ALL" indicates that the root user can run commands as all groups.

- root ALL=(ALL:ALL) ALL

The last "ALL" indicates these rules apply to all commands.