USER & GROUP ADMINISTRATION
Unix/Linux is a multi user & multitasking O.S. Red Hat Linux uses UPG (User Private Group) Scheme.
According to UPG scheme, you create the any user account, the user contains the primary group with same NAME and same ID.

User always get created with Primary Group. One primary user has one primary group only.
But the primary group may have no.of primary users.
The users home directory defaultly created under "/home" directory with his own name.
Ex. user sun has the home directory /home/sun,
    the mail account defaultly created under "/var/spool/mail".

Every user and group in the system arc identified by a unique number called as ID.
@@@@@ There are Two types of Users
1) System Users
2) Normal Users

The system users having ID values From 0 to 499,
the normal users having ID values from 500 to 60,000
generally O.S. will identify the account with ID values. The Users & Groups Information maintained by the Four database files
Those are
1) /etc/passwd
2) /etc/shadow
3) /etc/group
4) /ete/gshadow

@@@@@@ /etc/passwd
This database file maintains the user related information like UID, GID, User Name etc.
To see the user information
#cat /etc/passwd

@@Parameters of passwd file
sun : x : 500 : 500 : Unix Admin. :home/sun : /bin/bash
(1) (2) (3) (4) (5) (6) (7)

1) Username, 2) Mask Passward, 3) Uid, 4) Primary Gid, 5) Comment, 6) Home Directory, 7) Login shell

@@@@@@ /etc/shadow
This file maintains use password related information like uname, Encrypted paswd, etc. The paswd's are encrypted by the pwd Binary file.
To encrypt the passwords MD5, DES algorithms are used.

@@Parameters of Shadow
#cat /etc/shadow

sun : $1kj$12sfdhs : 12502 : 0 : 99999 : 7 : * : * : *
(1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) User Name, (2) Encrypted Pwd, (3) No.of days since 1970, (4) Min. No. of day's to changed, (5) Max. No. days to change pwd, (6) warning days, (7) Inactive days, (8) Expire date, (9) extra field

@@@@@@ /etc/ group
It maintains group related information like Group Name, GID etc.,

@@Parameters of group :
#cat /etc/group
  sun : x : 502 : *
  (1) (2) (3) (4)
(1) Group Name, (2) Mask Pwd, (3) GID, (4) Members of the group (secondary)

@@@@@@ /etc/gshadow
It maintains the group password related information.

@@Parameters of gshadow
sun : ! : * : *
(1) (2) (3) (4)

(1) Group Name, (2) Encrypted Pwd, (3) Administrator of the group, (4) Members of the Group (Secondary)

@@@@@@ User Administration :
In user administration effectively we can use the below 5 commands for monitoring.
(1) useradd
(2) usermod
(3) passwd
(4) userdel
(5) chage

@@@@@@ Useradd
# useradd <user-name>
 Whenever you mention this syntax the user automatically created with default values.
 If you want to create the user A/c with your required values then mention the options Syntax
useradd <options> <username>

Options:
ex:
-U - user ID
-g - group ID (Primary)
-G -group ID (secondary)
-c - comment
-d - directory
-s - shell
-f - inactivedays
-e - expire date (YYYY MM DD)

Ex
useradd -u 555 u1
useradd -g 555 u2
useradd -G 555 u3
useradd -c "HR-mgr" u4
useradd -d /mnt/u5 u5
useradd -s /bin/sh u6
useradd -f 1 u7
useradd -e 20090731 u8
useradd -u 777 -g 500 -G 501 -c "Linux-Admin" -d /opt/ug -s /bin/ksh -f 0 -e 20091231 u9

@@@@@@ Usermod:

usermod <options> <user-name>
Options : In usermod command also we use the same options of useradd command, the extra optima in this command are,
-1 - to change the user name
-L - to lock the user account
-U - to unlock the user account

Ex:
usermod -I userg ug
usermod -L sun
usermod -U sun

@@@@@@ Passwd
Using this command we can give the passwords to the user account
#passwd < user-name >
ex: #passwd ul
To disable passwd
#passwd -d <user-name>
ex: #passwd -d ul
To delete the user
#userdel <user-name>
or
#userdel -r <seranme> (To delete the user along with all his properties)

@@@@@@ Chase
Using this command we can change the (or) see the user password aging information.
Ex:- #chage -1 u7

To change the password information
#chage <user name>
ex : #chage u7

@@@@@@ Group Administration
GROUP : - Collection of users are call group.The group contains a ID value called GID.
information of group can be found in "etc/group" database file

In Linux WC have 2 types of groups are available
1) Primary Group
2) Secondary Group

Primary Group :- It is a group in which a User initially belongs in this group the user access the resources with default permissions.
Secondary Group :- A part from primary, if a user have an account in the other group then it is called secondary group to the user.

@@@@@@When Groups are created?
According to the UPG scheme, if you create any user account a primary group will be created with the same user name. A part from that, we can create group manually.
In group administration effectively we can use the four commands are
(1) groupadd
(2) group mod
(3) group del
(4) gpasswd

@@@@@@ groupadd

With this command we can create the group account. If you want to create the group account with default options.
#groupadd <group-name>
If you want to create the group account with your required options.
groupadd <options> <group name>
groupadd -g <group id> <group name>
ex: groupadd -g 888 purchage

@@@@@@ groupmod
groupmod <options> <group name>
options -g - to change gid
        -n - to change name
ex :- #groupmod -g 999 sales
      #gropumod -n newsales sales

@@@@@@@ gpasswd
With this command we can do two tasks
1) assign the password to group
gpasswd <group name>

2) Add or remove secondary users to group
#gpasswd <option> <group-name>
@@options
   -a = to add single user   EX:- #gpasswd -a u1 sales (adding u1 user to salse group)
   -d = to delete the user   EX:- #gpasswd -d u1 salse (deleting u1 user from salse group)
   -M = to add Multiple users EX:- #gpasswd -M u1, u2, u3 sales (adding multiple users u1,u2,u3 to sales group)

@@@@@@@ groupdel
If the group has empty or secondary users you can delete the group. In case the g single pimary user,then you can not delete the group account
#groupdel <group-name>

@@@@@@ How to identify the primary users & secondary users of the group?
in the /etc/group database file identify the group id and with grep command apply the gid /etc/passwd database file.
Then It will display group primary user's list (gid)
EX:-
#grep 500 /etc/passwd

At /etc (group databtse file, the last field (4th) maintains the groups secory users information.

@@@@@@ How to identified the primary group & secondary group of the user
#groups u3
u3 : u5(primary ul(secondary)
#id<user-name>
ex: #id u3

@@if you want to login as a normal user
su u3
@@if you want to quit
exit

@@@@@The user home directory defaultly contains the bellow hidden files
1) .bash_logout
2) .bash_profile
3) .bashrc

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@@@@@To mange users and groups administration graphically
#system-config-user &
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