

1. Create a user named raina with the following properties

- a. uid (-u)
- b. gid (-g)
- c. comment (-c)
- d. home directory(-d)
- e. shell (-s)

```
[root@linux ~]# useradd -u 1024 -g 1024 -c "Newuser" -d "/home/RainaNewUser" -s "/bin/bash" raina
raina:x:1024:1024:Newuser:/home/RainaNewUser:/bin/bash
```

2. set the password for user raina

```
[root@linux ~]# passwd raina
Changing password for user raina.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@linux ~]#
```

3. check the status of password using – **passwd -S username**

```
[root@linux ~]# passwd -S raina
raina PS 2024-11-07 0 99999 7 -1 (Password set, SHA512 crypt.)
```

4. check the userinfo values in **etc/passwd**.

```
[root@linux ~]# cat /etc/passwd | tail -5
Dravid:x:1013:1015::/home/Dravid:/bin/bash
Neymar:x:1014:1016::/home/Neymar:/bin/bash
Vaishala:x:1017:1022::/home/Vaishala:/bin/bash
gukesh:x:1018:1018::/home/gukesh:/bin/bash
raina:x:1024:1024:Newuser:/home/RainaNewUser:/bin/bash
```

5. Create a new user dhoni without home directory (**useradd -M Username**)

```
[root@linux ~]# useradd -M dhoni
[root@linux ~]# cat /etc/passwd | tail -5
Neymar:x:1014:1016::/home/Neymar:/bin/bash
Vaishala:x:1017:1022::/home/Vaishala:/bin/bash
gukesh:x:1018:1018::/home/gukesh:/bin/bash
raina:x:1024:1024:Newuser:/home/RainaNewUser:/bin/bash
dhoni:x:1025:1025::/home/dhoni:/bin/bash
```

6. Create another user virat with account expiry date (**useradd -e 'yyyy-mm-dd' username**)

```
[root@linux ~]# useradd -e '2024-12-1' virat
[root@linux ~]# cat /etc/passwd | tail -5
Vaishala:x:1017:1022::/home/Vaishala:/bin/bash
gukesh:x:1018:1018::/home/gukesh:/bin/bash
raina:x:1024:1024:Newuser:/home/RainaNewUser:/bin/bash
dhoni:x:1025:1025::/home/dhoni:/bin/bash
virat:x:1026:1026::/home/virat:/bin/bash
```

7. Check the user virat info using **chage -l username**

```
[root@linux ~]# chage -l virat
Last password change           : Nov 07, 2024
Password expires                : never
Password inactive              : never
Account expires                : Dec 01, 2024
Minimum number of days between password change : 0
Maximum number of days between password change : 99999
Number of days of warning before password expires : 7
[root@linux ~]#
```

8. Change the user dhoni properties using **usermod** cmd.

- a. Uid
- b. Gid
- c. Comment
- d. Home directory
- e. Account expiry date

```
[root@linux ~]# usermod -u 1030 -g 1014 -c "ViratNew" -d "/home/viratkholi" -e '2024-11-22' virat
```

- f. Username as mahendra – **usermod -l newname oldname**

```
[root@linux ~]# usermod -l mahendra virat
[root@linux ~]# cat /etc/passwd |tail -1
mahendra:x:1030:1014:ViratNew:/home/viratkholi:/bin/bash
```

9. Check all these values in **/etc/passwd** and **chage -l username** cmd

```
[root@linux ~]# chage -l mahendra
Last password change           : Nov 07, 2024
Password expires                : never
Password inactive              : never
Account expires                : Nov 22, 2024
Minimum number of days between password change : 0
Maximum number of days between password change : 99999
Number of days of warning before password expires : 7
[root@linux ~]#
```

10. Lock the password for user raina using **passwd -l username** and check its status.

```
[root@linux ~]# usermod -L mahendra
[root@linux ~]# passwd -l mahendra
Locking password for user mahendra.
passwd: Success
```

11. Login with user raina from user other than root and observe.

```
[siddharrth@linux root]$ su mahendra
Password:
su: Authentication failure
```

12. Now unlock password for user raina using **passwd -u username** and check its status.

```
[root@linux ~]# passwd -u mahendra
Unlocking password for user mahendra.
passwd: Warning: unlocked password would be empty.
passwd: Unsafe operation (use -f to force)
```

13. Login with user raina from user other than root and observe

```
[root@linux ~]# su siddharrth
[siddharrth@linux root]$ su raina
Password:
[raina@linux root]$
```

14. Now lock the user account of raina using **usermod -L username** and check.

```
[root@linux ~]# usermod -L raina

[root@linux ~]# usermod -s raina
usermod: invalid shell 'raina'
```

15. Unlock the user account of raina using **usermod -U username** and check.

```
[root@linux ~]# usermod -U raina
```

16. Using chage cmd ,perform the following

- a. **Chage -l username** – to check the properties of password (account aging info).

```
[root@linux ~]# chage -l raina
Last password change                : Nov 07, 2024
Password expires                     : never
Password inactive                    : never
Account expires                     : never
Minimum number of days between password change : 0
Maximum number of days between password change : 99999
Number of days of warning before password expires : 7
[root@linux ~]#
```

- b. It can be found in /etc/shadow file also

```
[root@linux ~]# cat /etc/shadow | tail -5
Vaishala:!!:20007:0:99999:7:::
gukesh:!!:20007:0:99999:7:::
raina:$6$rounds=100000$9mNiBJLE7tIHw82$9oGj0/u/KFnWCEy7w2jjMxYHhjUYBPXoqcouM0dgUiidf1yz8MbmZikzuvRzM/qXnPY1Y4Raa9vEmJFHqgeFz0:20034:0:99999:7:::
dhoni:!!:20034:0:99999:7:::
mahendra:!!:20034:0:99999:7::20049:
```

- c. Min days for password reset –m

```
[root@linux ~]# chage -m 10 raina
```

- d. Max days for password reset –M

```
[root@linux ~]# chage -M 20 raina
```

- e. Warning before password change –W

```
[root@linux ~]# chage -W 3 raina
```

- f. Inactive days –after which the account will be disabled –I

```
[root@linux ~]# chage -I 4 raina
```

- g. Last password change date –d

```
[root@linux ~]# chage -d 0 raina
```

- h. Account expiry date –E

```
[root@linux ~]# chage -E "2024-11-10" raina
```

- i. Check whether all these properties are updated .(**chage -l username**)

```
[root@linux ~]# chage -l raina
Last password change           : password must be changed
Password expires               : password must be changed
Password inactive              : password must be changed
Account expires                : Nov 10, 2024
Minimum number of days between password change : 10
Maximum number of days between password change : 20
Number of days of warning before password expires : 3
[root@linux ~]#
```

17. Create another user kohli and set kohli's password

- a. Now change last password change date as 0 for kohli (**chage -d 0 username**)

```
[root@linux ~]# chage -d 0 raina
```

- b. Login into kohli and check .

```
[siddharrth@linux root]$ su raina
Password:
You are required to change your password immediately (administrator enforced).
Current password: █
```

18. Use **groupmod** cmd to perform the following for an existing user raina and group sports

- a. Add user raina to group sports using **usermod -aG grpname username**

```
[root@linux ~]# usermod -aG Cricket raina
```

- b. Add user mahendra to group sports (primary group) – **usermod -g gid/gname username**

- i. Use **id username** cmd to check the groups of user.

```
[root@linux ~]# usermod -g Marvel raina
```

- c. Check the details in **etc/group** file

```
[root@linux ~]# cat /etc/group | tail -5
Vaishala:x:1022:
gukesh:x:1023:
Football:x:1024:
dhoni:x:1025:
virat:x:1026:
[root@linux ~]# █
```

- d. Use **gpasswd -a user group** to add user kohli to sports

```
[root@linux ~]# gpasswd -a dhoni Cricket
Adding user dhoni to group Cricket
```

- e. Check the details in **etc/group** file

```
[root@linux ~]# cat /etc/group
```

```
Marvel:x:1018:Dravid,raina
```

- f. Change the groupid of sports to 4000 – groupmod –g GID groupname

```
[root@linux ~]# groupmod -g 1018 Marvel
```

- g. Change the groupid of user kohli to 4002 – groupname –g GID username

- h. Change the groupname from sports to sportpersons – groupmod –n newgrp oldgrp

```
[root@linux ~]# groupmod -n new virat
```

- i. Check the details in **etc/group** file

```
[root@linux ~]# cat /etc/group | tail
Dravid:x:1015:
Neymar:x:1016:
Players:x:1017:Robin,Ronaldo,Messi
Marvel:x:1018:Dravid,raina
Chess:x:1019:Vaishala,gukesh
Vaishala:x:1022:
gukesh:x:1023:
Football:x:1024:
dhoni:x:1025:
new:x:1026:
```

19. Check the default values using **useradd –D**

```
[root@linux ~]# useradd -D
GROUP=100
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/bash
SKEL=/etc/skel
CREATE_MAIL_SPOOL=yes
```

20. Check the default values using **cat /etc/default/useradd**

```
[root@linux ~]# cat /etc/default/useradd
# useradd defaults file
GROUP=100
HOME=/home
INACTIVE=-1
EXPIRE=
SHELL=/bin/bash
SKEL=/etc/skel
CREATE_MAIL_SPOOL=yes
```

21. Run **ls -l on /home and /var/spool/mail** and observe the user directories

```
total 4
drwx-----. 4 adrain      adrain      113 Oct  1 19:08 adrain
drwx-----. 4 adrian      adrian      113 Oct  1 19:14 adrian
drwx-----. 4 bob        bob         113 Oct  8 11:20 bob
drwx-----. 3 Dravid     Dravid      78 Oct 11 14:37 Dravid
drwx-----. 4 einstein   einstein    113 Oct  1 19:09 einstein
drwx-----. 3 gukesh     Marvel      78 Oct 11 15:05 gukesh
drwx-----. 4 kevin      kevin       113 Oct  1 19:09 kevin
drwx-----. 4 laura      laura       113 Oct  1 19:09 laura
drwx-----. 4 Marie      Marie       113 Oct  1 18:04 Marie
drwx-----. 3 Messi      Messi       78 Oct 11 14:31 Messi
drwx-----. 3 Neymar     Neymar      78 Oct 11 14:39 Neymar
drwx-----. 3          1019 dhoni     78 Nov  7 20:17 raina
drwx-----. 3 raina      Marvel      99 Nov  7 22:03 RainaNewUser
drwx-----. 3 Robin      Robin       78 Oct 11 14:30 Robin
drwx-----. 3 Ronaldo    Ronaldo     78 Oct 11 14:30 Ronaldo
drwx-----. 4 sid        sid         113 Oct  1 11:37 sid
drwxr-xr-x. 20 siddharrth siddharrth 4096 Nov  7 21:59 siddharrth
drwx-----. 3 Vaishala   Vaishala    78 Oct 11 15:05 Vaishala
drwx-----. 3          1026 new       78 Nov  7 21:22 virat
[root@linux ~]#
```

```
[root@linux ~]# ls -l /var/spool/mail/
total 0
-rw-rw----. 1 adrain      mail 0 Oct  1 18:05 adrain
-rw-rw----. 1 adrian      mail 0 Oct  1 19:11 adrian
-rw-rw----. 1 bob         mail 0 Oct  1 18:36 bob
-rw-rw----. 1 dhoni       mail 0 Nov  7 21:20 dhoni
-rw-rw----. 1 Dravid     mail 0 Oct 11 14:37 Dravid
-rw-rw----. 1 einstein   mail 0 Oct  1 18:06 einstein
-rw-rw----. 1 gukesh     mail 0 Oct 11 15:05 gukesh
-rw-rw----. 1 kevin      mail 0 Oct  1 18:03 kevin
-rw-rw----. 1 laura      mail 0 Oct  1 18:06 laura
-rw-rw----. 1 mahendra   mail 0 Nov  7 21:22 mahendra
-rw-rw----. 1 Marie      mail 0 Oct  1 18:03 Marie
-rw-rw----. 1 Messi      mail 0 Oct 11 14:31 Messi
-rw-rw----. 1 Neymar     mail 0 Oct 11 14:39 Neymar
-rw-rw----. 1          1019 mail 0 Nov  7 20:17 raina
-rw-rw----. 1 Robin      mail 0 Oct 11 14:30 Robin
-rw-rw----. 1 Ronaldo    mail 0 Oct 11 14:30 Ronaldo
-rw-rw----. 1 sid        mail 0 Oct  1 11:37 sid
-rw-rw----. 1 siddharrth mail 0 Sep 30 16:12 siddharrth
-rw-rw----. 1 Vaishala   mail 0 Oct 11 15:05 Vaishala
```

22. Delete a user and chk the mail dircectory

```
[root@linux ~]# userdel vaishala
[root@linux ~]# ls -l /var/spool/mail/
total 0
-rw-rw----. 1 adrain      mail 0 Oct  1 18:05 adrain
-rw-rw----. 1 adrian      mail 0 Oct  1 19:11 adrian
-rw-rw----. 1 bob         mail 0 Oct  1 18:36 bob
-rw-rw----. 1 dhoni       mail 0 Nov  7 21:20 dhoni
-rw-rw----. 1 Dravid      mail 0 Oct 11 14:37 Dravid
-rw-rw----. 1 einstein    mail 0 Oct  1 18:06 einstein
-rw-rw----. 1 gukesh      mail 0 Oct 11 15:05 gukesh
-rw-rw----. 1 kevin       mail 0 Oct  1 18:03 kevin
-rw-rw----. 1 laura       mail 0 Oct  1 18:06 laura
-rw-rw----. 1 mahendra    mail 0 Nov  7 21:22 mahendra
-rw-rw----. 1 Marie       mail 0 Oct  1 18:03 Marie
-rw-rw----. 1 Messi       mail 0 Oct 11 14:31 Messi
-rw-rw----. 1 Neymar      mail 0 Oct 11 14:39 Neymar
-rw-rw----. 1          1019 mail 0 Nov  7 20:17 raina
-rw-rw----. 1 Robin       mail 0 Oct 11 14:30 Robin
-rw-rw----. 1 Ronaldo     mail 0 Oct 11 14:30 Ronaldo
-rw-rw----. 1 sid         mail 0 Oct  1 11:37 sid
-rw-rw----. 1 siddharrth  mail 0 Sep 30 16:12 siddharrth
-rw-rw----. 1          1031 mail 0 Nov  8 00:11 vaishala
```

23. Run **ls -la on /etc/skel** directory and observe the default directories and files .(when creating a new user all these will be created in /home/newuser)

```
[root@linux ~]# ls -l /etc/skel
total 0
```

24. Use cmds **id username**, **id -un username**, **id -gn username**

```
[root@linux skel]# id siddharrth
uid=1000(siddharrth) gid=1000(siddharrth) groups=1000(siddharrth),10(wheel)
[root@linux skel]# id -un siddharrth
siddharrth
[root@linux skel]# id -gn siddharrth
siddharrth
```

25. Use **w**, **last** and **whoami** cmd and observe the result.

```
[root@linux skel]# w
00:19:38 up 5:00, 2 users, load average: 0.07, 0.13, 0.08
USER      TTY      LOGIN@  IDLE   JCPU   PCPU   WHAT
siddharr seat0    18:28    0.00s  0.00s  0.01s  /usr/libexec/gdm-wayland-session --register-session
siddharr tty2     18:28    5:52m  0.09s  0.08s  /usr/libexec/gnome-session-binary
[root@linux skel]# last
siddharr tty2          tty2                Thu Nov 7 18:28      gone - no logout
siddharr seat0        login screen        Thu Nov 7 18:28      gone - no logout
reboot  system boot      5.14.0-516.el9.x    Thu Nov 7 18:27      still running
siddharr tty2          tty2                Fri Oct 18 10:24 -   down (20+08:02)
siddharr seat0        login screen        Fri Oct 18 10:24 -   down (20+08:02)
reboot  system boot      5.14.0-516.el9.x    Fri Oct 18 10:19 -   18:26 (20+08:07)
siddharr tty2          tty2                Thu Oct 17 19:23 -   down (01:51)
siddharr seat0        login screen        Thu Oct 17 19:23 -   down (01:51)
reboot  system boot      5.14.0-516.el9.x    Thu Oct 17 19:21 -   21:14 (01:53)
siddharr tty2          tty2                Thu Oct 17 12:48 -   down (00:45)
siddharr seat0        login screen        Thu Oct 17 12:48 -   down (00:45)
reboot  system boot      5.14.0-516.el9.x    Thu Oct 17 12:45 -   13:34 (00:48)

[root@linux skel]# whoami
root
```

26. Cat `/etc/login.defs` file and see the default values.

```
[root@linux skel]# cat /etc/login.defs
#
# Please note that the parameters in this configuration file control the
# behavior of the tools from the shadow-utils component. None of these
# tools uses the PAM mechanism, and the utilities that use PAM (such as the
# passwd command) should therefore be configured elsewhere. Refer to
# /etc/pam.d/system-auth for more information.
#
#
# Delay in seconds before being allowed another attempt after a login failure
# Note: When PAM is used, some modules may enforce a minimum delay (e.g.
#       pam_unix(8) enforces a 2s delay)
#
#FAIL_DELAY                3
#
# Currently FAILLOG_ENAB is not supported
#
# Enable display of unknown usernames when login(1) failures are recorded.
```