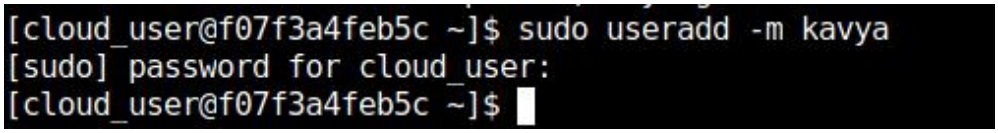
User management

1. Create and manage users and groups
   a) Manage User

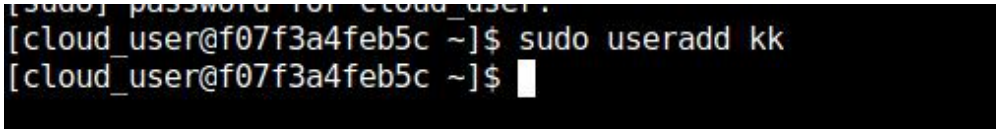
useradd:

this command is used to create new user account on a linux system.

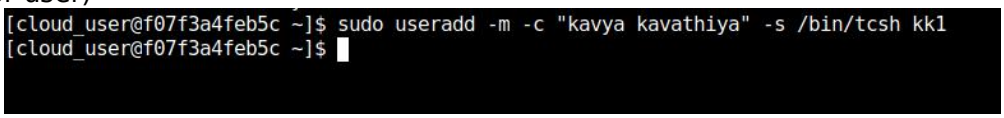
user -m <username>:

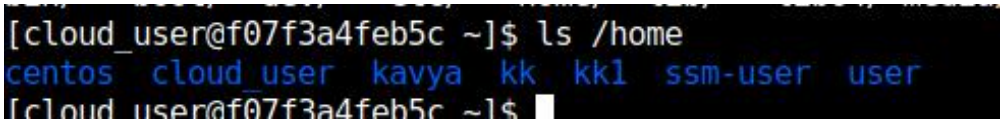


user <username>:



useradd -m -c “comment” -s /bin/tcsh <userame> (make different shell for user)

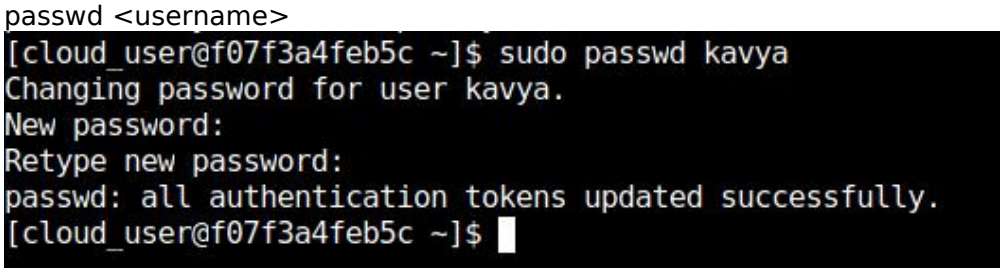




passwd:

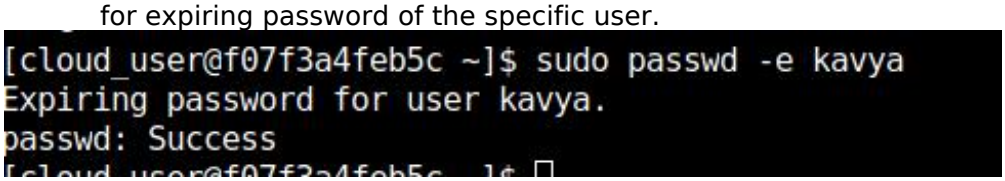
this is use to set a password for specific user or can be utilized by user to change their own password.

passwd <username>



passwd -e <username>

for expiring password of the specific user.



userdel:

this command is used to remove user account from the system, without the -r option the user's home directory will not be removed.

userdel <username>

```
[cloud_user@f07f3a4feb5c ~]$ userdel kk
userdel: Permission denied.
userdel: cannot lock /etc/passwd; try again later.
[cloud_user@f07f3a4feb5c ~]$ sudo userdel kk
[sudo] password for cloud_user:
[cloud_user@f07f3a4feb5c ~]$ ls /home
centos  cloud_user  kavya  kk  kk1  ssm-user  user
[cloud_user@f07f3a4feb5c ~]$ ls -l /home
total 8
drwx------.  4 centos     centos       85 Apr 10  2019 centos
drwx------. 14 cloud_user cloud_user 4096 Jan 24 04:07 cloud_user
drwx------.  2 kavya      kavya        79 Jan 24 04:18 kavya
drwx------.  2       1006       1007   59 Jan 24 04:09 kk
drwx------.  2 kk1        kk1          59 Jan 24 04:14 kk1
drwx------.  3 ssm-user   ssm-user     74 Oct  8  2018 ssm-user
drwx------. 11 user       user       4096 Apr 12  2019 user
[cloud_user@f07f3a4feb5c ~]$
```

rm -rf /home/<username>

```
[cloud_user@f07f3a4feb5c ~]$ sudo rm -rf /home/kk
[cloud_user@f07f3a4feb5c ~]$ ls -l /home
total 8
drwx------.  4 centos     centos       85 Apr 10  2019 centos
drwx------. 14 cloud_user cloud_user 4096 Jan 24 04:07 cloud_user
drwx------.  2 kavya      kavya        79 Jan 24 04:18 kavya
drwx------.  2 kk1        kk1          59 Jan 24 04:14 kk1
drwx------.  3 ssm-user   ssm-user     74 Oct  8  2018 ssm-user
drwx------. 11 user       user       4096 Apr 12  2019 user
[cloud_user@f07f3a4feb5c ~]$
```

userdel -r <username>

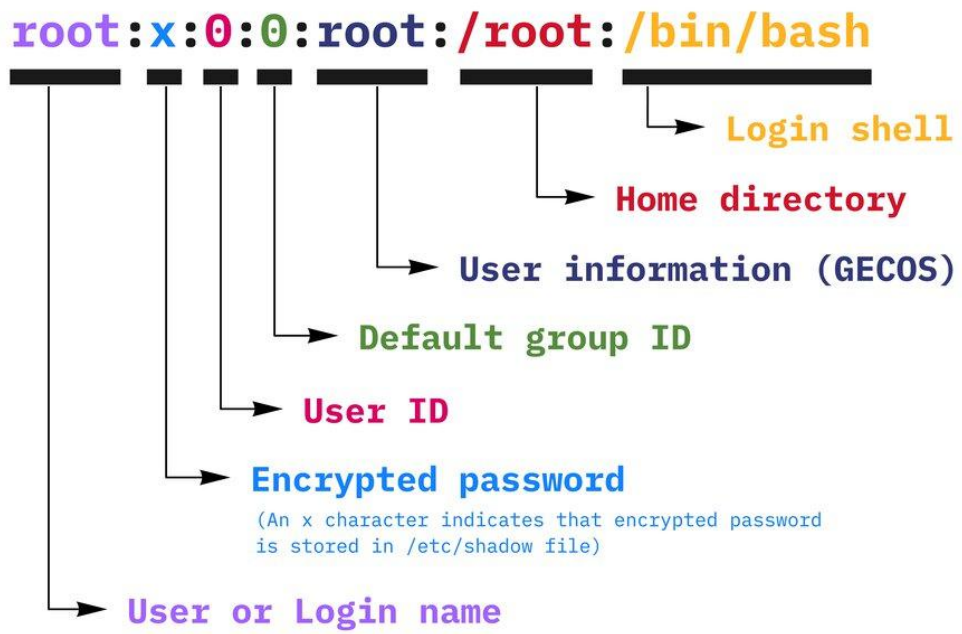
```
[cloud_user@f07f3a4feb5c ~]$ sudo userdel -r kk1
[cloud_user@f07f3a4feb5c ~]$ ls -l /home
total 8
drwx------.  4 centos     centos       85 Apr 10  2019 centos
drwx------. 14 cloud_user cloud_user 4096 Jan 24 04:07 cloud_user
drwx------.  2 kavya      kavya        79 Jan 24 04:18 kavya
drwx------.  3 ssm-user   ssm-user     74 Oct  8  2018 ssm-user
drwx------. 11 user       user       4096 Apr 12  2019 user
[cloud_user@f07f3a4feb5c ~]$
```

users : give users list

```
[cloud_user@f07f3a4feb5c ~]$ users
cloud_user
```

passwd file

in this file all of the user's data is stored.



cat /etc/passwd

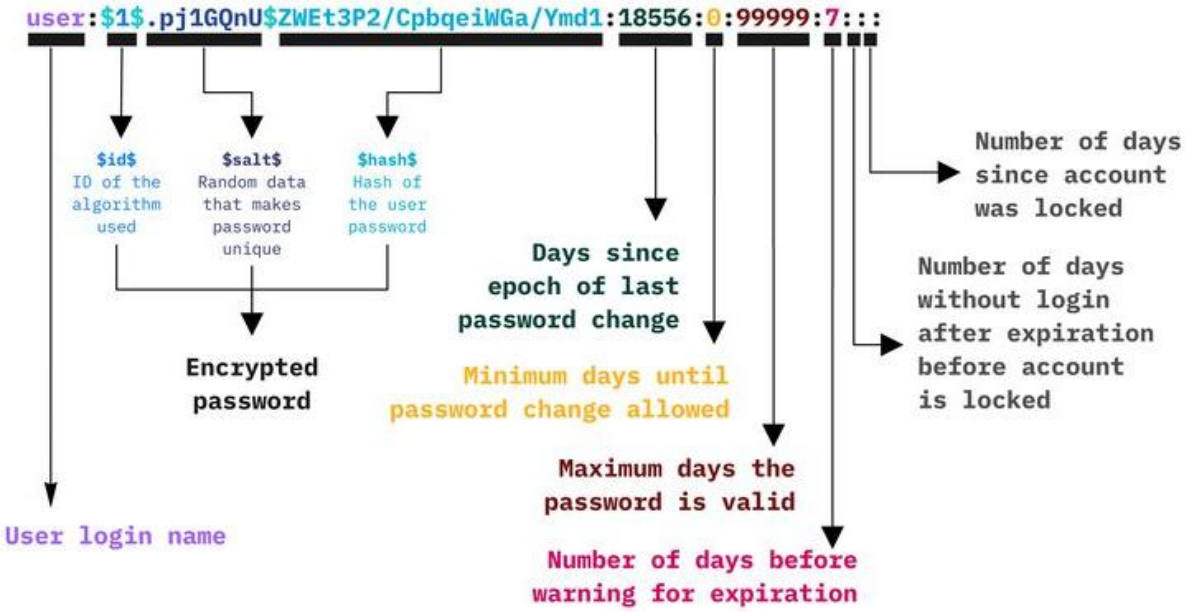
```
[cloud_user@f07f3a4feb5c ~]$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
```

awk -F: '{print $1}' /etc/passwd

```
[cloud_user@f07f3a4feb5c ~]$ awk -F: '{print $1}' /etc/passwd
root
bin
daemon
adm
lp
sync
shutdown
halt
mail
operator
games
```

shadow file:

contains encrypted password for account listed in /etc/passwd file.



Algorithm ID:

1 – MD5
2, $2a$, $2b$ – bcrypt
5 – SHA-256
6 – SHA-512
y – yescrypt

```
grp1:!::kavya1,newusr
[cloud_user@f07f3a4feb5c ~]$ sudo cat /etc/shadow
root:$6$0f9abfXt$bMz02NC03Fi9Phvwh8RYkZuX4kDnx28l5t
bin:*:16231:0:99999:7:::
daemon:*:16231:0:99999:7:::
adm:*:16231:0:99999:7:::
lp:*:16231:0:99999:7:::
sync:*:16231:0:99999:7:::
shutdown:*:16231:0:99999:7:::
halt:*:16231:0:99999:7:::
```

ID:

Using id command, you can get the *ID of any username*. Every user has an id assigned to it and the user is identified with the help of this id. By default, this id is also the group id of the user.

id <username>

```
[cloud_user@f07f3a4feb5c ~]$ id kavya
uid=1005(kavya) gid=1006(kavya) groups=1006(kavya)
```

Change userid for user

usermod -u <newid> <username>

```
[cloud_user@f07f3a4feb5c ~]$ sudo usermod -u 1008 kavya
[sudo] password for cloud_user:
[cloud_user@f07f3a4feb5c ~]$ id kavya
uid=1008(kavya) gid=1006(kavya) groups=1006(kavya)
[cloud_user@f07f3a4feb5c ~]$
```

Change user login name

The old login name of the user is changed to the new login name provided.

usermod -l new_id old_id

```
[cloud_user@f07f3a4feb5c ~]$ id kavya
uid=1008(kavya) gid=1006(kavya) groups=1006(kavya)
[cloud_user@f07f3a4feb5c ~]$ sudo usermod -l kavya1 kavya
[cloud_user@f07f3a4feb5c ~]$ id kavya1
uid=1008(kavya1) gid=1006(kavya) groups=1006(kavya)
[cloud_user@f07f3a4feb5c ~]$
```

command to change the home directory

The below command change the home directory of the user whose username is given and sets the new home directory as the directory whose path is provided.

usermod -d new_home_directory_path username

```
[cloud_user@f07f3a4feb5c ~]$ sudo usermod -d new_home kavya
```

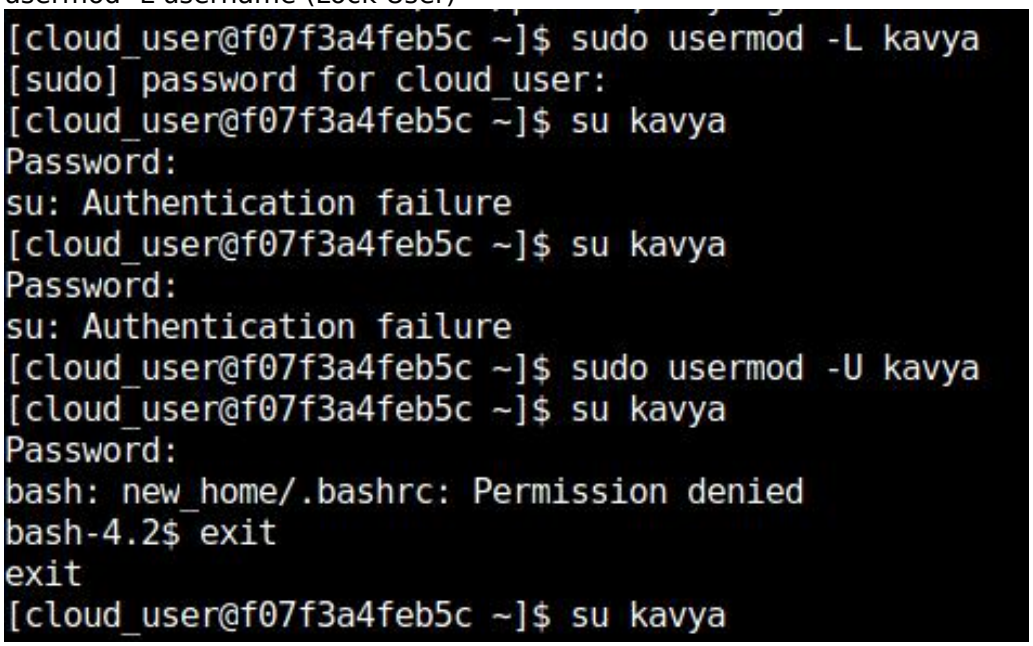
eval echo ~username (check current home directory of user.)

```
[cloud_user@f07f3a4feb5c ~]$ eval echo ~kavya
new_home
```

usermod -e yyyy-mm-dd username (To set Expiry date for user.)

```
ser@f07f3a4feb5c ~]$ sudo usermod -e 2024-01-24 kavya
ser@f07f3a4feb5c ~]$
```

usermod -U username (Unlock User)
usermod -L username (Lock User)



b) Manage Groups

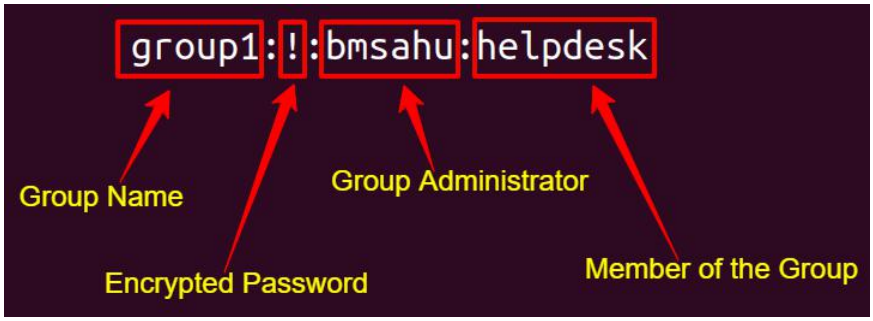
groups:

it will allow a users to see what primary and secondary groups they are member of.

```
[cloud_user@f07f3a4feb5c ~]$ groups
cloud_user wheel
[cloud_user@f07f3a4feb5c ~]$ sudo grou
```

gshadow file:

used to store the information about groups that is critical to the security of those acconts, such as the hashed password and other security information.



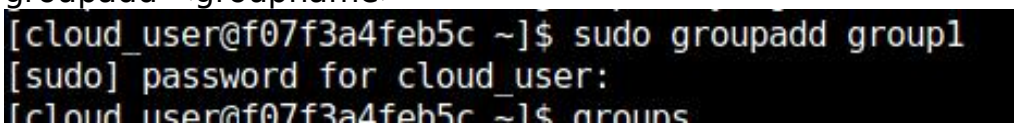
cat /etc/gshadow

```
[cloud_user@f07f3a4feb5c ~]$ sudo cat /etc/gshadow
root:::
bin:::
daemon:::
sys:::
adm:::centos
tty:::
disk:::
lp:::
mem:::
kmem:::
wheel:::centos,cloud_user,user
cdrom:::
mail:::postfix
```

groupadd:

created a group with the name as provided. The group while creation gets a group ID and we can get to know everything about the group as its name, ID, and the users present in it in the file **"/etc/group".**

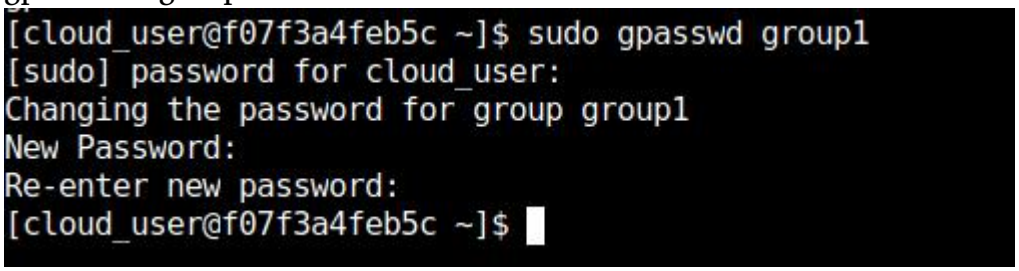
groupadd <groupname>



gpasswd:

used to set the password of the group. After executing the command we have to enter the new password which we want to assign to the group. The password has to be given twice for confirmation purposes.

gpasswd <groupname>



Command for add user to existing group

Below command is used to add a user to an existing group. The users which may be present in any primary or secondary group will exit the other groups and will become the part of this group.

useradd -G <groupname> -m -c "comment" <username>

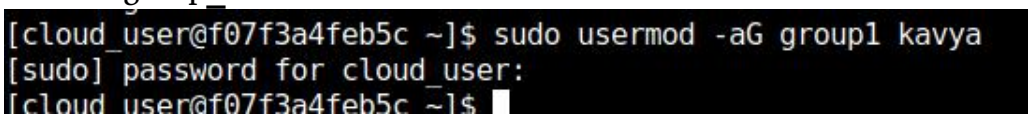
-G list of supplementary groups of the new account.

-g name or ID of the primary group of the new account

Add User to Group Without Removing From Existing Groups

The below command is used to add a user to a new group while preventing him from getting removed from his existing groups.

usermod -aG <group_name> <username>



```
[cloud_user@f07f3a4feb5c ~]$ sudo tail -5 /etc/gshadow
centos:!::
kavya:!::
newusr:!::
group1:$6$rWjyI/GII$VOmszLkx3iG4WLiNMc4Ag4psg0gVRlkq/BDGKLDtLUNEZt5Gc6DAzTEIX8vk1Kh/DommcfpVEHim6oWshG8Ww1::kavya1,kavya
kavya1:!::
```

Command to Add Multiple Users to a Group at once:

gpasswd -M <username1>, <username2> <group_name>

```
user@f07f3a4feb5c ~]$ sudo gpasswd -M kavya1,newusr grp1
user@f07f3a4feb5c ~]$
```

show to list of group

```
[cloud_user@f07f3a4feb5c ~]$ sudo tail -2 /etc/gshadow
kavya1:!::
grp1:!::kavya1,newusr
```

Command to Delete a User From a Group

used to delete a user from a group. The user is then removed from the group though it is still a valid user in the system but it is no more a part of the group. The user remains part of the groups which it was in and if it was part of no other group then it will be part of its primary group.

gpasswd -d <username> <group_name>

```
[cloud_user@f07f3a4feb5c ~]$ sudo gpasswd -d newusr grp1
[sudo] password for cloud_user:
Removing user newusr from group grp1
[cloud_user@f07f3a4feb5c ~]$ sudo tail -2 /etc/gshadow
kavya1:!::
grp1:!::kavya1
```

Command to Delete a Group

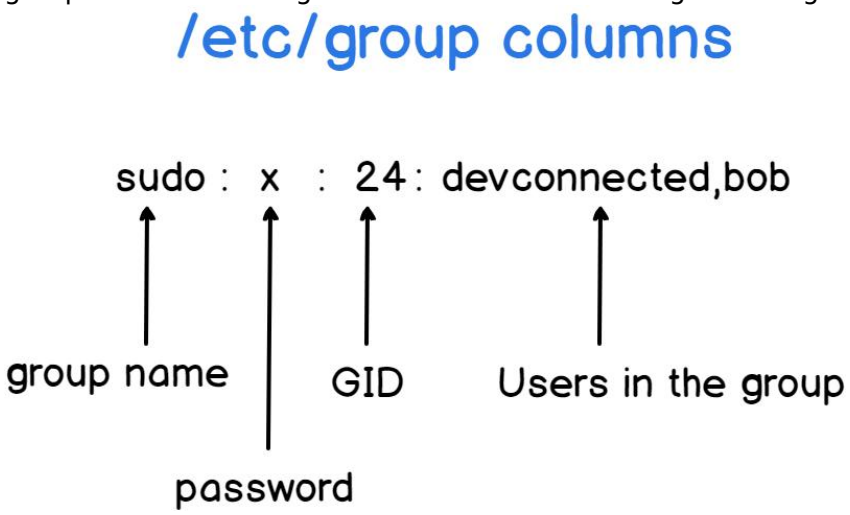
The users present in the group will not be deleted. They will remain as they were, but now they will no more be part of this group as the group will be deleted.

groupdel <groupname>

```
[cloud_user@f07f3a4feb5c ~]$ sudo groupdel grp1
[sudo] password for cloud_user:
[cloud_user@f07f3a4feb5c ~]$ sudo tail -2 /etc/gshadow
group1:$6$rWjyI/GII$VOmszLkx3iG4WLiNMc4Ag4psg0gVRlkq/BDGKLD
kavya1:!::
[cloud_user@f07f3a4feb5c ~]$
```

/etc/group:

group definitions along with what members belong to each group.



fetch details of particular group

```
[cloud_user@f07f3a4feb5c ~]$ getent group group1
group1:x:1008:kavya1,kavya
[cloud_user@f07f3a4feb5c ~]$
```

for fetch details of particular user

```
[cloud_user@f07f3a4feb5c ~]$ sudo getent passwd kavya
kavya:x:1008:1006::new_home:/bin/bash
[cloud_user@f07f3a4feb5c ~]$
```

chage:

used to view and change the user password expiry information. This command is used when the login is to be provided for a user for a limited amount of time or when it is necessary to change the login password from time to time.

chage -l <username>

use this option to view the account aging information.

```
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Dec 21, 2022
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
[cloud_user@f07f3a4feb5c ~]$
```

chage -d yyyy-mm-dd <username>

for set password change date for particular user.

```
[cloud_user@f07f3a4feb5c ~]$ sudo chage -d 2024-01-25 root
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 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
[cloud_user@f07f3a4feb5c ~]$
```

chage -E <username>

for specify date when account should expire.

```
[cloud_user@f07f3a4feb5c ~]$ sudo chage -E 2024-06-25 root
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 2024
Password expires                                        : Feb 02, 2024
Password inactive                                       : never
Account expires                                         : Jun 25, 2024
Minimum number of days between password change          : 0
Maximum number of days between password change          : 8
Number of days of warning before password expires       : 7
```

chage -M/-m <number> <username>

this options is used to specify the maximum and minimum number of days between password change.

```
[cloud_user@f07f3a4feb5c ~]$ sudo chage -M 8 root
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 2024
Password expires                                        : Feb 02, 2024
Password inactive                                       : never
Account expires                                         : never
Minimum number of days between password change          : 0
Maximum number of days between password change          : 8
Number of days of warning before password expires       : 7
```

```
[cloud_user@f07f3a4feb5c ~]$ sudo chage -m 5 root
[sudo] password for cloud_user:
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 2024
Password expires                                        : Feb 02, 2024
Password inactive                                       : never
Account expires                                         : Jun 25, 2024
Minimum number of days between password change          : 5
Maximum number of days between password change          : 8
Number of days of warning before password expires       : 7
[cloud_user@f07f3a4feb5c ~]$
```

chage -I <number> <username>

use this option to specify the number of days the account should be inactive after its expiry.

```
'[cloud_user@f07f3a4feb5c ~]$ sudo chage -I 5 root
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 2024
Password expires                                        : Feb 02, 2024
Password inactive                                       : Feb 07, 2024
Account expires                                         : Jun 25, 2024
Minimum number of days between password change          : 5
Maximum number of days between password change          : 8
Number of days of warning before password expires       : 7
[cloud_user@f07f3a4feb5c ~]$ sudo chage -I 6 root
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 2024
Password expires                                        : Feb 02, 2024
Password inactive                                       : Feb 08, 2024
Account expires                                         : Jun 25, 2024
Minimum number of days between password change          : 5
Maximum number of days between password change          : 8
Number of days of warning before password expires       : 7
[cloud user@f07f3a4feb5c ~]$
```

chage -W <number> <username>

this option to give prior warning before the password expires.

```
[cloud_user@f07f3a4feb5c ~]$ sudo chage -W 2 root
[cloud_user@f07f3a4feb5c ~]$ sudo chage -l root
Last password change                                    : Jan 25, 2024
Password expires                                        : Feb 02, 2024
Password inactive                                       : Feb 08, 2024
Account expires                                         : Jun 25, 2024
Minimum number of days between password change          : 5
Maximum number of days between password change          : 8
Number of days of warning before password expires       : 2
[cloud user@f07f3a4feb5c ~]$
```