

1. Create a user
  - a. with a home directory
  - b. with tcsh as the default shell
  - c. with "Temp" in the comment field
  - d. with user id

```
[root@archlinux tetroner]# useradd om
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om)
[root@archlinux tetroner]# groupadd kadam
[root@archlinux tetroner]# cat /etc/group | tail -1
dnsmasq:x:959:
dhcpcd:x:958:
passim:x:957:
docker:x:956:
locate:x:21:
_talkd:x:955:
openvpn:x:954:
nm-openvpn:x:953:
om:x:1001:
kadam:x:1002:
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om)
[root@archlinux tetroner]# usermod -a -G kadam om
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam)
[root@archlinux tetroner]#
```

2. Create a user by assigning the primary group explicitly.

```
[root@archlinux tetroner]# cat /etc/group
root:x:0:brltty,root
sys:x:3:bin
mem:x:8:
ftp:x:11:
mail:x:12:
log:x:19:
smmisp:x:25:
proc:x:26:polkitd
```

```

om:x:1001:
kadam:x:1002:om
[root@archlinux tetroner]# cat /etc/group | tail -1
dnsmasq:x:959:
dhcpcd:x:958:
passim:x:957:
docker:x:956:
locate:x:21:
_talkd:x:955:
openvpn:x:954:
nm-openvpn:x:953:
om:x:1001:
kadam:x:1002:om
[root@archlinux tetroner]# groupadd Om
[root@archlinux tetroner]# cat /etc/group | tail -1
dhcpcd:x:958:
passim:x:957:
docker:x:956:
locate:x:21:
_talkd:x:955:
openvpn:x:954:
nm-openvpn:x:953:
om:x:1001:
kadam:x:1002:om
Om:x:1003:

```

3. Demonstrate the account status using the password aging settings and infer on the various account status.

```

[root@archlinux tetroner]# chage om
Changing the aging information for om
Enter the new value, or press ENTER for the default

Minimum Password Age [0]: 7
Maximum Password Age [99999]: 50
Last Password Change (YYYY-MM-DD) [2024-02-29]: 2024-02-29
Password Expiration Warning [7]: 0
Password Inactive [-1]:
Account Expiration Date (YYYY-MM-DD) [-1]:

```

#### 4. Demonstrate locking and unlocking of the user password

```
[root@archlinux tetroner]# passwd -l om
passwd: password changed.
[root@archlinux tetroner]# passwd -S om
om L 2024-02-29 7 50 0 -1
[root@archlinux tetroner]# cat /etc/shadow | grep om
systemd-oom:!:19634::::::
om: !$y$j9T$/HpoiECnxB66R40dwMKzS0$u40xzmhYWpW1dQJiq1cpfxWwTUQwK
Gq7eiDAu26Z0N0:19782:7:50:0:::
[root@archlinux tetroner]# exit
exit
```

~ 🕒 1:42:56

\$ su om

Password:

su: Authentication failure

~ 🕒 1:43:06

\$ su

Password:

```
[root@archlinux tetroner]# passwd -u om
```

```
passwd: password changed.
```

```
[root@archlinux tetroner]# exit
```

```
exit
```

#### 5. Demonstrate aging setting of password for permanent and periodic passwords

```
[root@archlinux tetroner]# chage -l om
Last password change           : Feb 29, 2024
Password expires                : Apr 19, 2024
Password inactive               : never
Account expires                 : never
Minimum number of days between password change : 7
Maximum number of days between password change : 50
Number of days of warning before password expires : 0
```

6. Change the existing primary group of the user.

```
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam)
[root@archlinux tetroner]# groupadd p213035
[root@archlinux tetroner]# groupadd p41
[root@archlinux tetroner]# usermod -a -G p213035,p42 om
usermod: group 'p42' does not exist
[root@archlinux tetroner]# usermod -a -G p213035,p41 om
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam),1004(p213035),1005(p41)
[root@archlinux tetroner]# groupadd manav
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam),1004(p213035),1005(p41)
[root@archlinux tetroner]# usermod -a -G manav om
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam),1004(p213035),1005(p41),1006(manav)
```

7. Add the user to existing supplementary group

```
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam)
[root@archlinux tetroner]# groupadd p213035
[root@archlinux tetroner]# groupadd p41
[root@archlinux tetroner]# usermod -a -G p213035,p42 om
usermod: group 'p42' does not exist
[root@archlinux tetroner]# usermod -a -G p213035,p41 om
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam),1004(p213035),1005(p41)
[root@archlinux tetroner]# groupadd manav
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam),1004(p213035),1005(p41)
[root@archlinux tetroner]# usermod -a -G manav om
[root@archlinux tetroner]# id om
uid=1001(om) gid=1001(om) groups=1001(om),1002(kadam),1004(p213035),1005(p41),1006(manav)
```

8. Perform following file operations:

- Create a text file. Infer the file permissions.
- Using Octal mode change the permission on a particular file as rw-rw-r
- Using Symbolic mode change permission on a particular file as rw-rw-r-

```

[root@archlinux tetroner]# touch f1.txt
[root@archlinux tetroner]# ls -l
total 8428
drwxr-xr-x 32 tetroner tetroner 4096 Feb  2 02:59 anaconda3
drwxr-xr-x  2 tetroner tetroner 4096 Oct 16 23:59 Arduino
-rw-r--r--  1 tetroner tetroner 8409088 Oct  9 03:39 bootx64.efi
drwxr-xr-x  4 tetroner tetroner 4096 Feb  2 03:12 DataspellProject
drwxr-xr-x  6 tetroner tetroner 4096 Feb 11 23:17 davinci-resolve-
-rw-----  1 tetroner tetroner 3376 Oct  9 03:44 db.auth
-rw-r--r--  1 tetroner tetroner 1325 Oct  9 03:44 db.cer
-rw-r--r--  1 tetroner tetroner 1850 Oct  9 03:43 db.crt
-rw-r--r--  1 tetroner tetroner 1369 Oct  9 03:44 db.esl
-rw-----  1 tetroner tetroner 3272 Oct  9 03:43 db.key
drwxr-xr-x  2 tetroner tetroner 4096 Feb 22 02:27 Desktop
-rw-----  1 tetroner tetroner  464 Feb 21 21:47 digiocean
-rw-r--r--  1 tetroner tetroner  100 Feb 21 21:47 digiocean.pub
drwxr-xr-x 14 tetroner tetroner 4096 Feb 23 21:10 Documents
drwxr-xr-x 16 tetroner tetroner 20480 Mar  1 01:28 Downloads
-rw-r--r--  1 tetroner tetroner  29 Feb 13 02:03 error.txt
-rw-r--r--  1 root      root      0 Mar  1 01:49 f1.txt

```

```

[root@archlinux tetroner]# chmod g+w f1.txt
[root@archlinux tetroner]# ls -l
total 8428
drwxr-xr-x 32 tetroner tetroner 4096 Feb  2 02:59 anaconda3
drwxr-xr-x  2 tetroner tetroner 4096 Oct 16 23:59 Arduino
-rw-r--r--  1 tetroner tetroner 8409088 Oct  9 03:39 bootx64.efi
drwxr-xr-x  4 tetroner tetroner 4096 Feb  2 03:12 DataspellProjects
drwxr-xr-x  6 tetroner tetroner 4096 Feb 11 23:17 davinci-resolve-checker
-rw-----  1 tetroner tetroner 3376 Oct  9 03:44 db.auth
-rw-r--r--  1 tetroner tetroner 1325 Oct  9 03:44 db.cer
-rw-r--r--  1 tetroner tetroner 1850 Oct  9 03:43 db.crt
-rw-r--r--  1 tetroner tetroner 1369 Oct  9 03:44 db.esl
-rw-----  1 tetroner tetroner 3272 Oct  9 03:43 db.key
drwxr-xr-x  2 tetroner tetroner 4096 Feb 22 02:27 Desktop
-rw-----  1 tetroner tetroner  464 Feb 21 21:47 digiocean
-rw-r--r--  1 tetroner tetroner  100 Feb 21 21:47 digiocean.pub
drwxr-xr-x 14 tetroner tetroner 4096 Feb 23 21:10 Documents
drwxr-xr-x 16 tetroner tetroner 20480 Mar  1 01:28 Downloads
-rw-r--r--  1 tetroner tetroner  29 Feb 13 02:03 error.txt
-rw-rw-r--  1 root      root      0 Mar  1 01:49 f1.txt

```

```

[root@archlinux tetroner]# chmod a-w f1.txt
[root@archlinux tetroner]# ls -l
total 8428
drwxr-xr-x 32 tetroner tetroner 4096 Feb  2 02:59 anaconda3
drwxr-xr-x  2 tetroner tetroner 4096 Oct 16 23:59 Arduino
-rw-r--r--  1 tetroner tetroner 8409088 Oct  9 03:39 bootx64.efi
drwxr-xr-x  4 tetroner tetroner 4096 Feb  2 03:12 DataspellProjects
drwxr-xr-x  6 tetroner tetroner 4096 Feb 11 23:17 davinci-resolve-checker
-rw-----  1 tetroner tetroner 3376 Oct  9 03:44 db.auth
-rw-r--r--  1 tetroner tetroner 1325 Oct  9 03:44 db.cer
-rw-r--r--  1 tetroner tetroner 1850 Oct  9 03:43 db.crt
-rw-r--r--  1 tetroner tetroner 1369 Oct  9 03:44 db.esl
-rw-----  1 tetroner tetroner 3272 Oct  9 03:43 db.key
drwxr-xr-x  2 tetroner tetroner 4096 Feb 22 02:27 Desktop
-rw-----  1 tetroner tetroner  464 Feb 21 21:47 digiocean
-rw-r--r--  1 tetroner tetroner  100 Feb 21 21:47 digiocean.pub
drwxr-xr-x 14 tetroner tetroner 4096 Feb 23 21:10 Documents
drwxr-xr-x 16 tetroner tetroner 20480 Mar  1 01:28 Downloads
-rw-r--r--  1 tetroner tetroner  29 Feb 13 02:03 error.txt
-r--r--r--  1 root      root      0 Mar  1 01:49 f1.txt

```

```

[root@archlinux tetroner]# chmod a+w f1.txt
[root@archlinux tetroner]# ls -l
total 8428
drwxr-xr-x 32 tetroner tetroner 4096 Feb  2 02:59 anaconda3
drwxr-xr-x  2 tetroner tetroner 4096 Oct 16 23:59 Arduino
-rw-r--r--  1 tetroner tetroner 8409088 Oct  9 03:39 bootx64.efi
drwxr-xr-x  4 tetroner tetroner 4096 Feb  2 03:12 DataspellProjects
drwxr-xr-x  6 tetroner tetroner 4096 Feb 11 23:17 davinci-resolve-checker
-rw-----  1 tetroner tetroner 3376 Oct  9 03:44 db.auth
-rw-r--r--  1 tetroner tetroner 1325 Oct  9 03:44 db.cer
-rw-r--r--  1 tetroner tetroner 1850 Oct  9 03:43 db.crt
-rw-r--r--  1 tetroner tetroner 1369 Oct  9 03:44 db.esl
-rw-----  1 tetroner tetroner 3272 Oct  9 03:43 db.key
drwxr-xr-x  2 tetroner tetroner 4096 Feb 22 02:27 Desktop
-rw-----  1 tetroner tetroner  464 Feb 21 21:47 digiocean
-rw-r--r--  1 tetroner tetroner  100 Feb 21 21:47 digiocean.pub
drwxr-xr-x 14 tetroner tetroner 4096 Feb 23 21:10 Documents
drwxr-xr-x 16 tetroner tetroner 20480 Mar  1 01:28 Downloads
-rw-r--r--  1 tetroner tetroner  29 Feb 13 02:03 error.txt
-rw-rw-rw-  1 root      root      0 Mar  1 01:49 f1.txt

```

9. Demonstrate changing file ownership using chown command.

```
[root@archlinux tetroner]# chown om f1.txt
[root@archlinux tetroner]# ls -l
total 8428
drwxr-xr-x 32 tetroner tetroner 4096 Feb  2 02:59 anaconda3
drwxr-xr-x  2 tetroner tetroner 4096 Oct 16 23:59 Arduino
-rw-r--r--  1 tetroner tetroner 8409088 Oct  9 03:39 bootx64.efi
drwxr-xr-x  4 tetroner tetroner 4096 Feb  2 03:12 DataspellProjects
drwxr-xr-x  6 tetroner tetroner 4096 Feb 11 23:17 davinci-resolve-checker
-rw-----  1 tetroner tetroner 3376 Oct  9 03:44 db.auth
-rw-r--r--  1 tetroner tetroner 1325 Oct  9 03:44 db.cer
-rw-r--r--  1 tetroner tetroner 1850 Oct  9 03:43 db.crt
-rw-r--r--  1 tetroner tetroner 1369 Oct  9 03:44 db.esl
-rw-----  1 tetroner tetroner 3272 Oct  9 03:43 db.key
drwxr-xr-x  2 tetroner tetroner 4096 Feb 22 02:27 Desktop
-rw-----  1 tetroner tetroner  464 Feb 21 21:47 digiocean
-rw-r--r--  1 tetroner tetroner  100 Feb 21 21:47 digiocean.pub
drwxr-xr-x 14 tetroner tetroner 4096 Feb 23 21:10 Documents
drwxr-xr-x 16 tetroner tetroner 20480 Mar  1 01:28 Downloads
-rw-r--r--  1 tetroner tetroner  29 Feb 13 02:03 error.txt
-rw-rw-rw-  1 om      root      0 Mar  1 01:49 f1.txt
```

10. Create a file & share between multiple users (all users must be able to rwx file).

```
[root@archlinux tetroner]# chmod 777 f1.txt
[root@archlinux tetroner]# ls -l
total 8428
drwxr-xr-x 32 tetroner tetroner 4096 Feb  2 02:59 anaconda3
drwxr-xr-x  2 tetroner tetroner 4096 Oct 16 23:59 Arduino
-rw-r--r--  1 tetroner tetroner 8409088 Oct  9 03:39 bootx64.efi
drwxr-xr-x  4 tetroner tetroner 4096 Feb  2 03:12 DataspellProjects
drwxr-xr-x  6 tetroner tetroner 4096 Feb 11 23:17 davinci-resolve-checker
-rw-----  1 tetroner tetroner 3376 Oct  9 03:44 db.auth
-rw-r--r--  1 tetroner tetroner 1325 Oct  9 03:44 db.cer
-rw-r--r--  1 tetroner tetroner 1850 Oct  9 03:43 db.crt
-rw-r--r--  1 tetroner tetroner 1369 Oct  9 03:44 db.esl
-rw-----  1 tetroner tetroner 3272 Oct  9 03:43 db.key
drwxr-xr-x  2 tetroner tetroner 4096 Feb 22 02:27 Desktop
-rw-----  1 tetroner tetroner  464 Feb 21 21:47 digiocean
-rw-r--r--  1 tetroner tetroner  100 Feb 21 21:47 digiocean.pub
drwxr-xr-x 14 tetroner tetroner 4096 Feb 23 21:10 Documents
drwxr-xr-x 16 tetroner tetroner 20480 Mar  1 01:28 Downloads
-rw-r--r--  1 tetroner tetroner  29 Feb 13 02:03 error.txt
-rwxrwxrwx  1 om      root      0 Mar  1 01:49 f1.txt
```