**Q.1 Create the following users, groups, and group membership:**

- A group named sysusers.

- A user paula who belongs to sysusers as a secondary group.

- A user susan who belongs to sysusers as a secondary group.

- A user brad who does not have access to an interactive shell & who is not

a member of sysusers group.

- paula, susan and brad should all have the password of password.

**Ans: - A group named sysusers has been created**

[root@localhost ~]# groupadd sysusers

[root@localhost ~]# cat /etc/group | grep sysusers

sysusers:x:1003:

**- A user paula who belongs to sysusers as a secondary group**

[root@localhost ~]# usermod -a -G sysusers paula

[root@localhost ~]# id paula

uid=1003(paula) gid=1004(paula) groups=1004(paula),1003(sysusers)

As above output of id command we can see the user paula belong to secondary group 1003(sysusers)

[root@localhost ~]# getent group sysusers

sysusers:x:1003:paula

As above output of getent command we can see that the group sysusers has member paula.

**-        A user susan who belongs to sysusers as a secondary group**

[root@localhost ~]# adduser susan

[root@localhost ~]# usermod -a -G sysusers susan

[root@localhost ~]# id susan

uid=1004(susan) gid=1005(susan) groups=1005(susan),1003(sysusers)

**- A user brad who does not have access to an interactive shell & who is not a member of sysusers group**

[root@localhost ~]# useradd -s /sbin/nologin brad

[root@localhost ~]# cat /etc/passwd | grep brad

brad:x:1005:1006::/home/brad:/sbin/nologin

[root@localhost ~]# su - sonu

[sonu@localhost ~]$ su - brad

Password:

This account is currently not available.

[sonu@localhost ~]$ id brad

uid=1005(brad) gid=1006(brad) groups=1006(brad)

**Q.2 create a collaborative directory /shared/sysusers with the following characteristics:**

- Group ownership of /shared/sysusers is sysusers.

- The directory should be readable, writable, and accessible to member of sysusers, but not to any other user. (It is understood that root has access to all files and directories on the system.)

- Files created in /shared/sysusers automatically have group ownership set to the sysusers group.

Ans: **create a collaborative directory /shared/sysusers**

[root@localhost ~]#mkdir -p /shared/sysusers

**- Group ownership of /shared/sysusers is sysusers**

[root@localhost ~]# chgrp sysusers /shared/sysusers

[root@localhost ~]# ls -ld /shared/sysusers/

drwxrwx---. 2 root sysusers 26 Feb 27 21:44 /shared/sysusers/

**- The directory should be readable, writable, and accessible to member of sysusers, but not to any other user. (It is understood that root has access to all files and directories on the system**.)

[root@localhost ~]#useradd -G sysusers u1

[root@localhost ~]#useradd -G sysusers u2

[root@localhost ~]# getent group sysusers

sysusers:x:1001:u1,u2

[root@localhost ~]# su - u1

[u1@localhost ~]$ touch /shared/sysusers/u1

[root@localhost ~]# su - u2

[u2@localhost ~]$ touch /shared/sysusers/u2

[root@localhost ~]# su – sonu

[sonu@localhost ~]$ touch /shared/sysusers/sonu1

touch: cannot touch '/shared/sysusers/sonu1': Permission denied

**- Files created in /shared/sysusers automatically have group ownership set to the sysusers group**.

[root@localhost ~]# chmod 2770 /shared/sysusers/

[root@localhost ~]# ls -ld /shared/sysusers/

drwxrws---. 2 root sysusers 26 Feb 27 21:44 /shared/sysusers/

[root@localhost ~]# ls -l /shared/sysusers/

total 0

-rw-rw-r--. 1 u1 sysusers 0 Mar 6 22:23 u1

-rw-rw-r--. 1 u2 sysusers 0 Mar 6 22:24 u2

**Q3: ans: cron job task have done in last of assignment.**

**Q.4 Create a User barry with UID 1894**

[root@localhost ~]# useradd -u 1894 barry

[root@localhost ~]# cat /etc/passwd | grep barry

barry:x:1894:1894::/home/barry:/bin/bash

**Q.5 Find a string "root" from a file /etc/passwd and copy that string in a different file /root/string (name and location will be specified**

[root@localhost ~]# grep root /etc/passwd > /root/string

[root@localhost ~]# cat /root/string

root:x:0:0:root:/root:/bin/bash

operator:x:11:0:operator:/root:/sbin/nologin

**Q.6 Find a file created by a user susan and copy it into a directory /root/data/**

[root@localhost ~]# su - susan

[susan@localhost ~]$ touch susanfile

[susan@localhost ~]$ ls

susanfile

[root@localhost ~]# mkdir /root/data

[root@localhost ~]# find / -user susan -type f -exec cp -rf {} /root/data \;

find: ‘/proc/3712/task/3712/fdinfo/6’: No such file or directory

find: ‘/proc/3712/fdinfo/7’: No such file or directory

[root@localhost ~]# ls -l /root/data/

total 0

-rw-r-----. 1 root root 0 Mar 6 23:09 susan

-rw-r--r--. 1 root root 0 Mar 6 23:09 susanfile

**Q.7 Create file named /tmp/test1.txt and put below data**

root:x:0:0:root:/root:/bin/bash

daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin

bin:x:2:2:bin:/bin:/usr/sbin/nologin

sys:x:3:3:sys:/dev:/usr/sbin/nologin

sync:x:4:65534:sync:/bin:/bin/sync

games:x:5:60:games:/usr/games:/usr/sbin/nologin

man:x:6:12:man:/var/cache/man:/usr/sbin/nologin

lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin

mail:x:8:8:mail:/var/mail:/usr/sbin/nologin

news:x:9:9:news:/var/spool/news:/usr/sbin/nologin

uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin

proxy:x:13:13:proxy:/bin:/usr/sbin/nologin

www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin

backup:x:34:34:backup:/var/backups:/usr/sbin/nologin

list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin

irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin

gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin

nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin

systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/netif:/usr/sbin/nologin

systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/usr/sbin/nologin

syslog:x:102:106::/home/syslog:/usr/sbin/nologin

messagebus:x:103:107::/nonexistent:/usr/sbin/nologin

\_apt:x:104:65534::/nonexistent:/usr/sbin/nologin

uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin

cups-pk-helper:x:106:112:user for cups-pk-helper service,,,:/home/cups-pk-helper:/usr/sbin/nologin

kernoops:x:107:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologin

rtkit:x:108:113:RealtimeKit,,,:/proc:/usr/sbin/nologin

avahi-autoipd:x:109:114:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin

usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin

lightdm:x:111:117:Light Display Manager:/var/lib/lightdm:/bin/false

dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin

saned:x:113:120::/var/lib/saned:/usr/sbin/nologin

nm-openvpn:x:114:121:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin

avahi:x:115:122:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin

colord:x:116:123:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin

speech-dispatcher:x:117:29:Speech Dispatcher,,,:/var/run/speech-dispatcher:/bin/false

pulse:x:118:124:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin

hplip:x:119:7:HPLIP system user,,,:/var/run/hplip:/bin/false

geoclue:x:120:126::/var/lib/geoclue:/usr/sbin/nologin

rrrt:x:1000:1000:rrrt,,,:/home/rrrt:/bin/bash

nm-openconnect:x:121:128:NetworkManager OpenConnect plugin,,,:/var/lib/NetworkManager:/usr/sbin/nologin

sshd:x:122:65534::/run/sshd:/usr/sbin/nologin

libvirt-qemu:x:64055:129:Libvirt Qemu,,,:/var/lib/libvirt:/usr/sbin/nologin

libvirt-dnsmasq:x:123:132:Libvirt Dnsmasq,,,:/var/lib/libvirt/dnsmasq:/usr/sbin/nologin

statd:x:124:65534::/var/lib/nfs:/usr/sbin/nologin

mysql:x:125:133:MySQL Server,,,:/nonexistent:/bin/false

mfe:x:999:1001::/home/mfe:/sbin/nologin

festival:x:126:29::/nonexistent:/usr/sbin/nologin

haproxy:x:127:134::/var/lib/haproxy:/usr/sbin/nologin

postfix:x:128:135::/var/spool/postfix:/usr/sbin/nologin

test:x:1001:1002::/tmp:/bin/sh

**Ans: [root@localhost ~]# touch /tmp/test.txt**

[root@localhost ~]# cd /tmp/

[root@localhost tmp]# vim test.txt

I have Open the file test through vim command and copied the required data to the file and saved it.

And we can view the file on terminal through cat command as given below.

[root@localhost tmp]# cat /tmp/test.txt

root:x:0:0:root:/root:/bin/bash

daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin

bin:x:2:2:bin:/bin:/usr/sbin/nologin

sys:x:3:3:sys:/dev:/usr/sbin/nologin

sync:x:4:65534:sync:/bin:/bin/sync

games:x:5:60:games:/usr/games:/usr/sbin/nologin

man:x:6:12:man:/var/cache/man:/usr/sbin/nologin

lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin

mail:x:8:8:mail:/var/mail:/usr/sbin/nologin

news:x:9:9:news:/var/spool/news:/usr/sbin/nologin

uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin

proxy:x:13:13:proxy:/bin:/usr/sbin/nologin

www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin

backup:x:34:34:backup:/var/backups:/usr/sbin/nologin

list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin

irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin

gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologi n

nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin

systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/netif:/usr/ sbin/nologin

systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/usr/sbin/nol ogin

syslog:x:102:106::/home/syslog:/usr/sbin/nologin

messagebus:x:103:107::/nonexistent:/usr/sbin/nologin

\_apt:x:104:65534::/nonexistent:/usr/sbin/nologin

uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin

cups-pk-helper:x:106:112:user for cups-pk-helper service,,,:/home/cups-pk-helper :/usr/sbin/nologin

kernoops:x:107:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologin

rtkit:x:108:113:RealtimeKit,,,:/proc:/usr/sbin/nologin

avahi-autoipd:x:109:114:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/ nologin

usbmux:x:110:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin

lightdm:x:111:117:Light Display Manager:/var/lib/lightdm:/bin/false

dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin

saned:x:113:120::/var/lib/saned:/usr/sbin/nologin

nm-openvpn:x:114:121:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin /nologin

avahi:x:115:122:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin

colord:x:116:123:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/no login

speech-dispatcher:x:117:29:Speech Dispatcher,,,:/var/run/speech-dispatcher:/bin/ false

pulse:x:118:124:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin

hplip:x:119:7:HPLIP system user,,,:/var/run/hplip:/bin/false

geoclue:x:120:126::/var/lib/geoclue:/usr/sbin/nologin

rrrt:x:1000:1000:rrrt,,,:/home/rrrt:/bin/bash

nm-openconnect:x:121:128:NetworkManager OpenConnect plugin,,,:/var/lib/NetworkMa nager:/usr/sbin/nologin

sshd:x:122:65534::/run/sshd:/usr/sbin/nologin

libvirt-qemu:x:64055:129:Libvirt Qemu,,,:/var/lib/libvirt:/usr/sbin/nologin

libvirt-dnsmasq:x:123:132:Libvirt Dnsmasq,,,:/var/lib/libvirt/dnsmasq:/usr/sbin/ nologin

statd:x:124:65534::/var/lib/nfs:/usr/sbin/nologin

mysql:x:125:133:MySQL Server,,,:/nonexistent:/bin/false

mfe:x:999:1001::/home/mfe:/sbin/nologin

festival:x:126:29::/nonexistent:/usr/sbin/nologin

haproxy:x:127:134::/var/lib/haproxy:/usr/sbin/nologin

postfix:x:128:135::/var/spool/postfix:/usr/sbin/nologin

test:x:1001:1002::/tmp:/bin/sh

**Q.8 Find a string "dnsmasq" from a file /tmp/test1.txt with 3 NUM lines of trailing context after matching lines.**

Ans: [root@localhost ~]# grep -A3 -n "dnsmasq" /tmp/test.txt

31:dnsmasq:x:112:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin

32-saned:x:113:120::/var/lib/saned:/usr/sbin/nologin

33-nm-openvpn:x:114:121:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin

34-avahi:x:115:122:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/nologin

--

44:libvirt-dnsmasq:x:123:132:Libvirt Dnsmasq,,,:/var/lib/libvirt/dnsmasq:/usr/sbin/nologin

45-statd:x:124:65534::/var/lib/nfs:/usr/sbin/nologin

46-mysql:x:125:133:MySQL Server,,,:/nonexistent:/bin/false

47-mfe:x:999:1001::/home/mfe:/sbin/nologin

**Q.9  Find a string "hplip" from a file /tmp/test1.txt with 5 NUM lines of trailing context before matching lines.**

Ans: [root@localhost ~]# grep -B3 -n "hplip" /tmp/test.txt

35-colord:x:116:123:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin

36-speech-dispatcher:x:117:29:Speech Dispatcher,,,:/var/run/speech-dispatcher:/bin/false

37-pulse:x:118:124:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin

38:hplip:x:119:7:HPLIP system user,,,:/var/run/hplip:/bin/false

**Q.10 Create a 2 file /tmp/file1.txt  and /tmp/file2.txt with following content**

-A /tmp/file1.txt  Content "Hi MyName is Your Name"

-A /tmp/file2.txt  Content "Today i am working in question answer"

-A after creating both files you can use the Vim command and edit both files at the same Time without an exit files.

**Q11. Create 3 User and Set the password**

-A Make a Folder /test

-A Provide Full Permission /test

-A set the permission no one can delete file/folder to eatch other in /test folder

[root@localhost ~]# useradd user1

[root@localhost ~]# passwd user1

Changing password for user user1.

New password:

BAD PASSWORD: The password is shorter than 8 characters

Retype new password:

passwd: all authentication tokens updated successfully.

[root@localhost ~]# useradd user2

[root@localhost ~]# passwd user2

Changing password for user user2.

New password:

BAD PASSWORD: The password is shorter than 8 characters

Retype new password:

passwd: all authentication tokens updated successfully.

[root@localhost ~]# useradd user3

[root@localhost ~]# passwd user3

Changing password for user user3.

New password:

BAD PASSWORD: The password is shorter than 8 characters

Retype new password:

passwd: all authentication tokens updated successfully.

-A Make a Folder /test

[root@localhost ~]# ls /

bin boot data dev etc home lib lib64 media mnt opt proc root run sbin shared srv sys test tmp usr var

-A Provide Full Permission /test

[root@localhost ~]# ls -ld /test/

drwxr-xr-x. 2 root root 6 Feb 21 15:23 /test/

[root@localhost ~]# chmod 777 /test/

[root@localhost ~]# ls -ld /test/

drwxrwxrwx. 2 root root 6 Feb 21 15:23 /test/

-A set the permission no one can delete file/folder to eatch other in /test folder

**Q12. Set The File/Folder Permission. if Any User Creating New File or Folder set Full Permissions automatically.**

Ans:

[root@localhost ~]# vim /etc/profile

Open the above file named /etc/profile through vim and changed the umask value 000 after save the file.create a folder with mkdir command and the folder will have full Permission as shown below.

[root@localhost ~]# mkdir Abcd

[root@localhost ~]# ls -ld Abcd

drwxrwxrwx. 2 root root 6 Feb 21 22:00 Abcd

**Q13. Grep the particular jpg(AZ00001.jpg) file from below path incase files counts 1lakh in that folder.**

[root@localhost ~]# mkdir /test1lakh

[root@localhost ~]# cd /test1lakh/

[root@localhost test1lakh]# touch hello{1..99999}

[root@localhost test1lakh]# touch AZ00001.jpg

[root@localhost test1lakh]# ls -l /test1lakh/ | grep AZ00001.jpg

-rw-r--r--. 1 root root 0 Feb 21 22:34 AZ00001.jp

**Q14.  Grep the list of file in particular folder precise date wise**

[root@localhost ~]# ls -latr /etc/

total 1372

-rw-r--r--. 1 root root 2391 Jul 24 2015 libuser.conf

-rw-r--r--. 1 root root 642 Dec 10 2016 xattr.conf

-rw-r--r--. 1 root root 60352 May 11 2017 mime.types

-rw-r--r--. 1 root root 272 May 11 2017 mailcap

-rw-r--r--. 1 root root 438 Feb 19 2018 logrotate.conf

-rw-r-----. 1 root chrony 481 Apr 4 2018 chrony.keys

-rw-r--r--. 1 root root 1083 Apr 4 2018 chrony.conf

-rw-r--r--. 1 root root 1634 Aug 1 2018 rpc

-rw-r--r--. 1 root root 28 Aug 1 2018 ld.so.conf

-rw-r--r--. 1 root root 94 Aug 12 2018 GREP\_COLORS

-rw-r--r--. 1 root root 1 Aug 12 2018 at.deny

drwxr-xr-x. 2 root root 6 Aug 12 2018 cron.weekly

-rw-r--r--. 1 root root 451 Aug 12 2018 crontab

drwxr-xr-x. 2 root root 6 Aug 12 2018 cron.monthly

-rw-r--r--. 1 root root 1174 Aug 12 2018 dleyna-server-service.conf

drwxr-xr-x. 2 root dnsmasq 6 Aug 12 2018 dnsmasq.d

-rw-r--r--. 1 root dnsmasq 26843 Aug 12 2018 dnsmasq.conf

-rw-r--r--. 1 root root 4760 Aug 12 2018 enscript.cfg

**Q15. Can you use grep to search for multiple patterns at the same time. Kindly give 2 example?**

Example 1:

[root@localhost ~]# grep -E "games|root" /etc/passwd

root:x:0:0:root:/root:/bin/bash

operator:x:11:0:operator:/root:/sbin/nologin

games:x:12:100:games:/usr/games:/sbin/nologin

example 2:

[root@localhost ~]# grep -E -i "dns|root" /etc/passwd

root:x:0:0:root:/root:/bin/bash

operator:x:11:0:operator:/root:/sbin/nologin

unbound:x:996:991:Unbound DNS resolver:/etc/unbound:/sbin/nologin

dnsmasq:x:984:984:Dnsmasq DHCP and DNS server:/var/lib/dnsmasq:/sbin/nologin

avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin

**Q16. Can you use grep to search for a pattern and print only certain parts of the matching lines, such as the first or last field?**

[root@localhost ~]# grep root /etc/passwd | grep -E "ope|login"

operator:x:11:0:operator:/root:/sbin/nologin

[root@localhost ~]# grep root /etc/passwd | grep -E -o "ope|login"

ope

ope

login