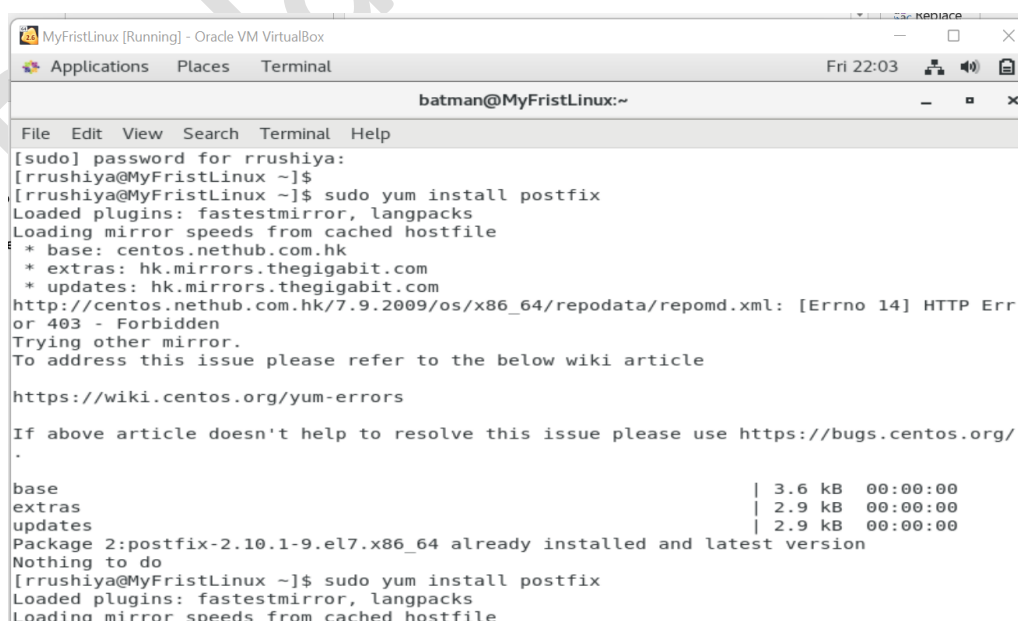1. Configure smtp in localhost.

   Steps: -
   1. Switch to root user using
      $ su –

   2. Install postfix service using command
      # yum install postfix
   3. Start postfix service using command
      # systemctl postfix start
          or
      # service postfix start
      - check status of postfix service using command
        # systemctl postfix start

   4. Now add smtp firewall using command
      # firewall-cmd --permanent --add-service=smtp
   5. Edit **/etc/postfix/main.cf file.** Change the following parameters
      - myhostname = localhost
      - mydomain = localdomain
      - intet_interfaces = $myhostname, localhost
      - mydestination = $myhostname, localhost.$mydomain, localhost
      - minework_style = host
   6. Now to test mail service use command
      - **# mail -S "Hello" username@localhost**
      - **subject:** Enter your subject
      - Enter the message body
      - Press cont+d when you finish
   7. Now switch to user and run mail command to check mail
      - **$ mail**

batman@MyFristLinux:~

File Edit View Search Terminal Help

```
[root@MyFristLinux ~]# firewall-cmd --permanent --add-service=smtp
success
[root@MyFristLinux ~]# firewall-cmd --permanent --add-service=smtp
Warning: ALREADY_ENABLED: smtp
success
[root@MyFristLinux ~]#
[root@MyFristLinux ~]# vi /etc/postfix/main.cf
[root@MyFristLinux ~]# vi /etc/postfix/main.cf
[root@MyFristLinux ~]# systemctl restart postfix
[root@MyFristLinux ~]# systemctl status  postfix
● postfix.service - Postfix Mail Transport Agent
   Loaded: loaded (/usr/lib/systemd/system/postfix.service; enabled; vendor preset: dis
abled)
   Active: active (running) since Fri 2022-07-15 21:29:06 IST; 30s ago
  Process: 24434 ExecStop=/usr/sbin/postfix stop (code=exited, status=0/SUCCESS)
  Process: 24456 ExecStart=/usr/sbin/postfix start (code=exited, status=0/SUCCESS)
  Process: 24454 ExecStartPre=/usr/libexec/postfix/chroot-update (code=exited, status=0
/SUCCESS)
  Process: 24452 ExecStartPre=/usr/libexec/postfix/aliasesdb (code=exited, status=0/SUC
CESS)
 Main PID: 24529 (master)
    Tasks: 3
   CGroup: /system.slice/postfix.service
           ├─24529 /usr/libexec/postfix/master -w
           ├─24530 pickup -l -t unix -u
           └─24531 qmgr -l -t unix -u
```

spiderman@MyFristLinux:~

File Edit View Search Terminal Help

```
[root@MyFristLinux ~]# mail -S "Welcome" spiderman@localhost
Subject: Welcome to Sigmoid
Hey Spiderman welcome to Sigmoid

Thanks and regards
root
EOT
[root@MyFristLinux ~]# su - spiderman
Last login: Fri Jul 15 17:30:50 IST 2022 on pts/0
[spiderman@MyFristLinux ~]$ mail
Heirloom Mail version 12.5 7/5/10.  Type ? for help.
"/var/spool/mail/spiderman": 1 message 1 new
>N  1 root                 Fri Jul 15 22:25   21/688   "Welcome to Sigmoid"
&
```

2. Create a Create a user in your localhost, which should not be able to execute the sudo command.

Steps: -

1. switch to root user to create the user using

  $ sudo su

2.Create a user with command

 # useradd NameOfTheUser

ex. useradd spiderman

3. set password for created user

 # passwd spiderman

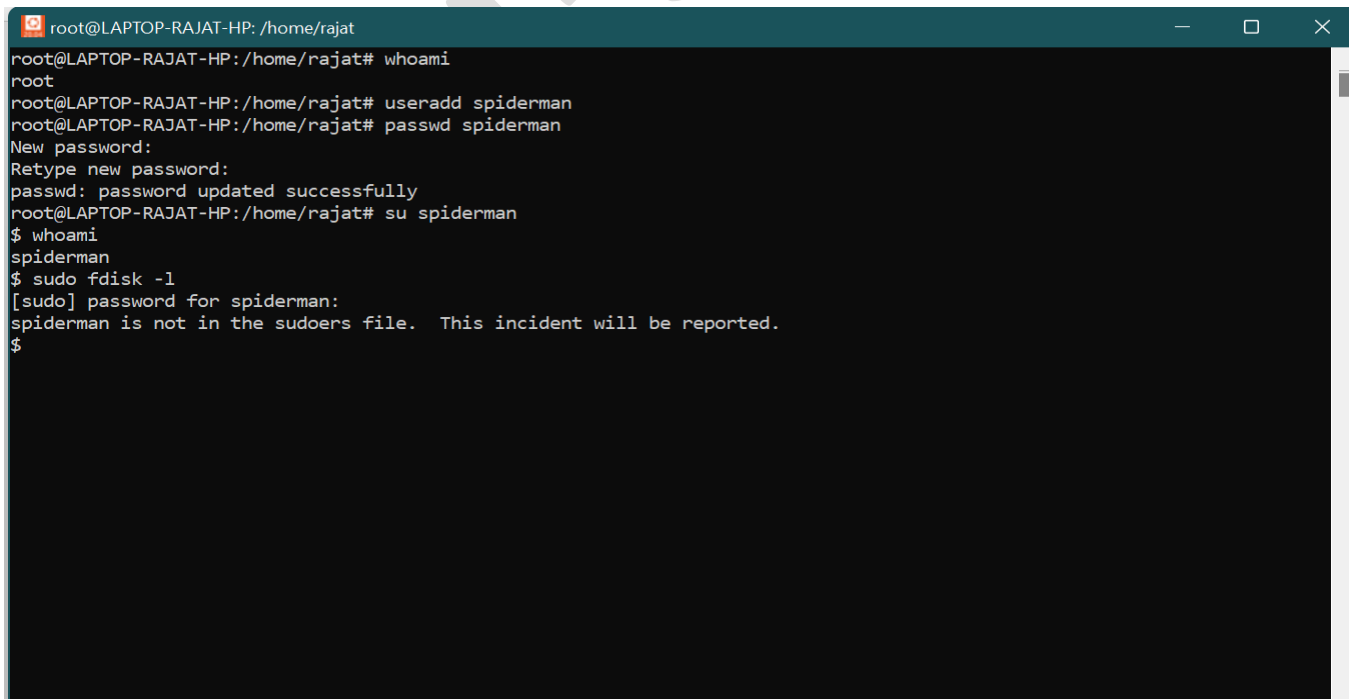4. Now confirm by running any suso command by switch into created user

 # su spiderman

$ whoami

$ sudo fdisk -l

4. Confirm this user is not the member of sudo group or admin group using

$ sudo su

$ visudo


```
root@LAPTOP-RAJAT-HP: /home/rajat                                                          —     □     ×
root@LAPTOP-RAJAT-HP:/home/rajat# whoami
root
root@LAPTOP-RAJAT-HP:/home/rajat# useradd spiderman
root@LAPTOP-RAJAT-HP:/home/rajat# passwd spiderman
New password:
Retype new password:
passwd: password updated successfully
root@LAPTOP-RAJAT-HP:/home/rajat# su spiderman
$ whoami
spiderman
$ sudo fdisk -l
[sudo] password for spiderman:
spiderman is not in the sudoers file.  This incident will be reported.
$
```

```
  GNU nano 4.8                              /etc/sudoers.tmp
#
# See the man page for details on how to write a sudoers file.
#
Defaults        env_reset
Defaults        mail_badpass
Defaults        secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin"

# Host alias specification

# User alias specification

# Cmnd alias specification

# User privilege specification
root    ALL=(ALL:ALL) ALL

# Members of the admin group may gain root privileges
%admin ALL=(ALL) ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL

# See sudoers(5) for more information on "#include" directives:

#includedir /etc/sudoers.d
_


^G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify     ^C Cur Pos     M-U Undo      M-A Mark Text
^X Exit        ^R Read File   ^\ Replace     ^U Paste Text  ^T To Spell    ^_ Go To Line  M-E Redo      M-6 Copy Text
```

3. Configure your system in such a way that when a user type and executes a describe command from anywhere of the system it must list all the files and folders of the user's current directory.

 Ex:- $ describe

content1 content2

 Content3 content 4

Steps: -

1. Switch to root user using
    $ su –
2. Navigate to /usr/local/bin directory using
    # cd /usr/local/bin
3. Now add the alias with file name "describe"
    # vim describe
    press i for insert mode then type command which want to replace with alias "describe"
    # ls -all
4. Save the file
    Press "**esc** button" to come out from insert mode then type **:wq**! To save the file
5. Now confirm the file having executable permission using command
    # ls -ld /usr/local/bin/describe
6. Provide the executable permission using
    #   chmod 755 /usr/local/bin/describe
7. Now you can use "describe" to list file for current working directory.

4. Users can put a compressed file at any path of the linux file system. The name of the file will be **research** and the extension will be of compression type, example for gzip type extension will be .gz. You have to find the file and check the compression type and uncompress it.

Steps:-

1. Switch to root user using
    $ su –
2. To find file location run command
    # find / /home -xdev -name research.*.*
3. Now copy file into current directory cp command
4. To uncompress file use command
    # gzip -d research.txt.gz

5. Configure your system in such a way that any user of your system creates a file then there should not be permission to do any activity in that file.

Note:- Don't use the chmod command.

Steps:

1.Switch to root user using

$ su –

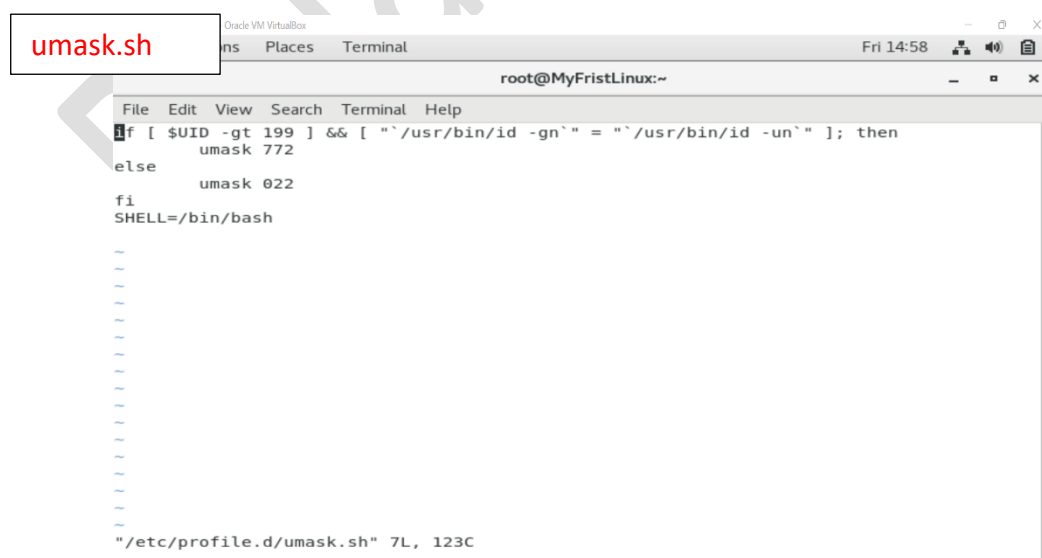2. create a file umask.sh in /etc/peofile.d/ directory

 # cd /etc/profile.d

vim umask.sh

```
if [ $UID -gt 199 ] [ "`/usr/bin/id -gn`" ="`/usr/bin/id -un`" ]; then

        umask 772

else

        umask 022

fi

SHELL=/bin/bash
```

-save file

3. close the terminal and open new terminal then create a file and check file permission.
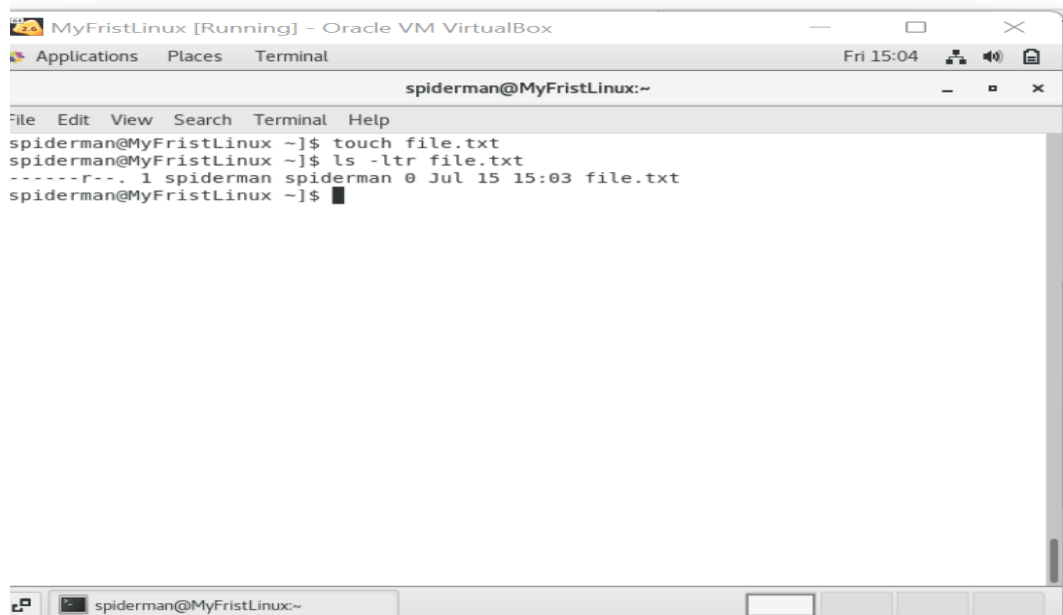
 $ touch file.txt

ls -lrt file.txt

umask.sh

```
MyFristLinux [Running] - Oracle VM VirtualBox                         —    □    ×

Applications    Places    Terminal                    Fri 15:04   ⛓ ◀) ▤

                          spiderman@MyFristLinux:~                   _    □    ×

File  Edit  View  Search  Terminal  Help

spiderman@MyFristLinux ~]$ touch file.txt
spiderman@MyFristLinux ~]$ ls -ltr file.txt
------r--. 1 spiderman spiderman 0 Jul 15 15:03 file.txt
spiderman@MyFristLinux ~]$ █




                                                                          ▐


⊡   ▣  spiderman@MyFristLinux:~              ⬜
```

6. Create a service with the name showtime , after starting the service, every minute it should print the current time in a file in the user home directory.

Ex:- sudo service showtime start -> It should start writing in file.

sudo service showtime stop -> It should stop writing in file.

sudo service showtime status -> It should show status

Steps:

1.Create a bash script file in user home directory using

$ vim showtime.sh

 add the following script to file

```
#!/bin/bash

while true

do

        echo The current time is $(date) >> /home/username /date.txt

        sleep 60

done
```

- Save file

2. Give the executable permission to file using

$ chmod +ax showtime.sh

3. Create a custom service

- $ cd to /etc/systemd/system

- create a file showtime.service insider this directory

$ sudo vim showtime.service

add following script to file

```
[Service]

ExecSatart=/home/username/showtime.sh
```

- Save file

4. Now run the command to start the service

$ sudo service showtime start

- For check status run
  $ sudo service showtime status
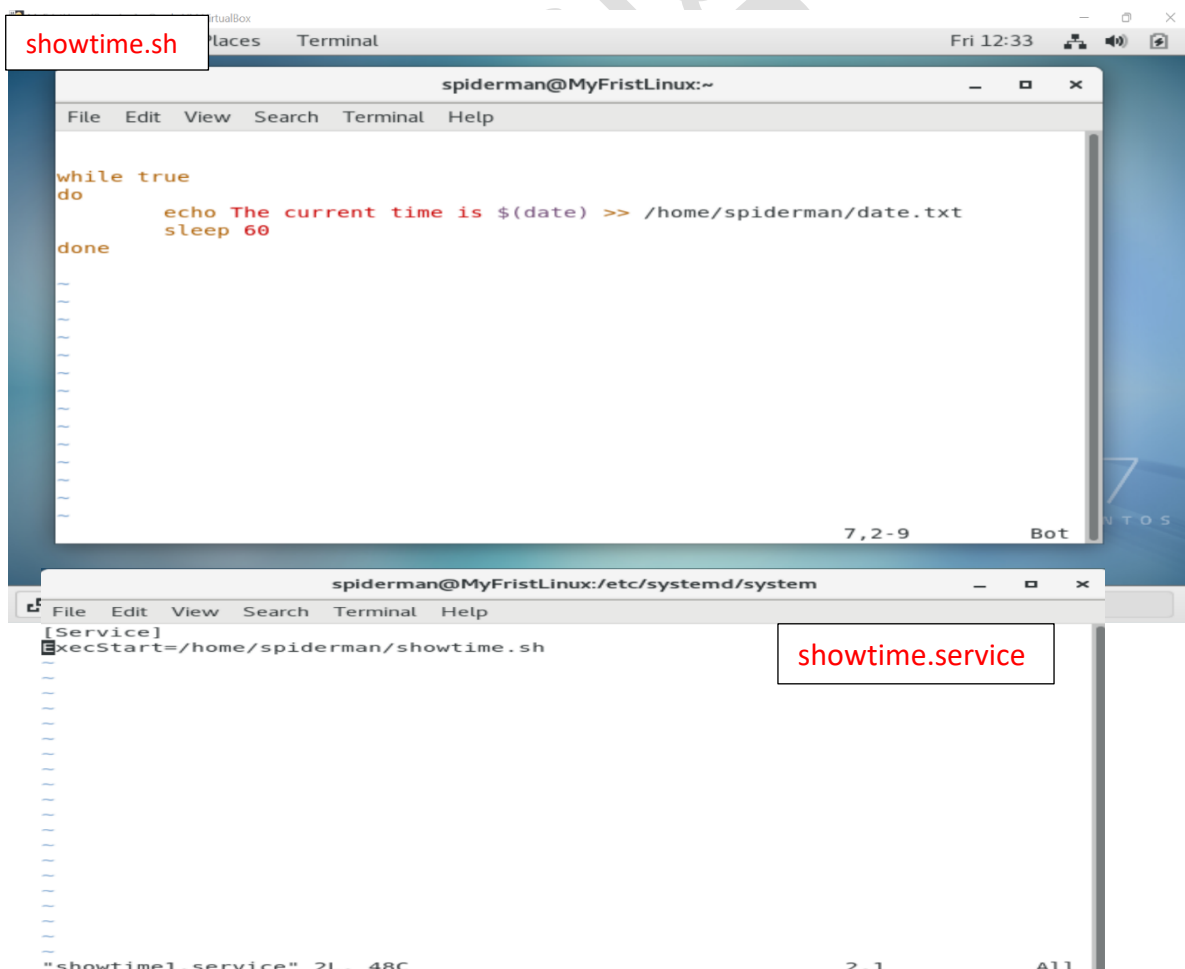- For stop service run
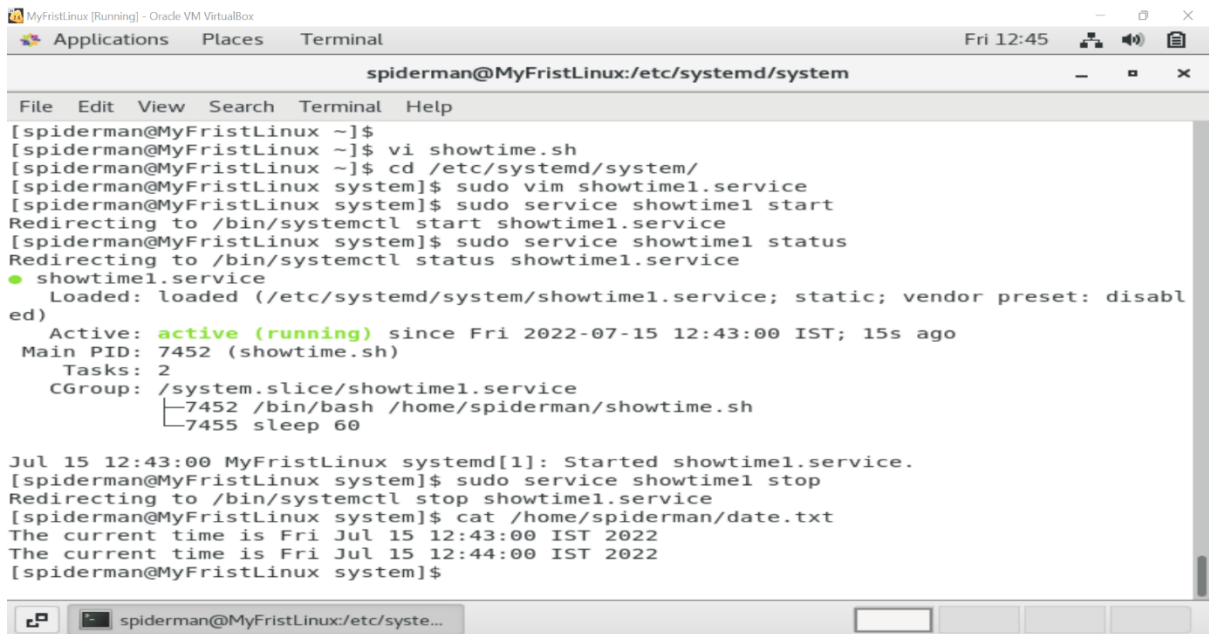
$ sudo service showtime stop

5. check the entry in date.txt file using command

 $ cat /home/username/date.txt