1. **Configure smtp in localhost.**

Steps:

1: We need to install postfix first.

CMD- sudo apt update -y

sudo apt install postfix

2: Edit the configuration file

Location: /etc/postfix/mail.cf

Add smtp\_sasl\_auth\_enable = yes

smtp\_sasl\_security\_options = noanonymous

smtp\_sasl\_password\_maps = hash:/etc/postfix/sasl/sasl\_passwd

smtp\_tls\_security\_level = encrypt

smtp\_tls\_CAfile = /etc/ssl/certs/ca-certificates.crt

3: We’ll create a file to store our credentials. Before that, create an app password in your gmail.

sudo nano /*etc*/postfix/sasl/sasl\_passwd

add line [smtp.gmail.com]:587 yourgmail:app\_password

4: We’ll give this file permission in such a way that root can only read by root

sudo chmod 600 /etc/postfix/sasl/sasl\_passwd

5: Update the postfix so that it’ll use the credentials.

sudo postfix /etc/postfix/sasl/sasl\_passwd

6: Restart the postfix and check if it’s running or not

sudo systemctl restart postfix

sudo systemctl status postfix

7: Send a mail using ‘sendmail’ command

sendmail receipent@gmail.com then enter

Subject: Test mail

Body

. (if you add a . that means you have finished your writing)

Your mail has been delivered.

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

Steps:

1: First create a user

sudo adduser username

2: Check the user created successfully or not

cat /etc*/*passwd

3: Remove the user from sudo group

sudo deluser username sudo

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

(We can achieve it through alias)

Steps:

1: open .bashrc file

sudo nano ~/.bashrc

2: Add one line

# Adding the alias here

alias describe=’ls -al “pwd”’

3: Then we need to restart .bashrc file

source ~/.bashrc

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:

Here we ‘ll use a shell script file that do the specific things

#!/bin/bash

file=$(find / -name "research.\*" -type f -print -quit 2>/dev/null)

if [ -z "$file" ]; then

echo "research with compression extension doesn't exist."

exit 1

fi

compression\_type=$(file "$file" | awk '{print $2}')

case "$compression\_type" in

"gzip")

echo "Found a gzip-compressed file."

gzip -d "$research\_file"

;;

"bzip2")

echo "Found a bzip2-compressed file."

bzip2 -d "$research\_file"

;;

"XZ")

echo "Found an XZ-compressed file: $research\_file"

xz -d "$research\_file"

;;

\*)

echo "Unsupported compression type."

exit 1

;;

esac

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:

Here we’ll use the concept of umask. It sets default permissions for a newly created file and directory. (for file 666, for directory 777)

1: Set the umask value

umask 077

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. First we’ll write a shell script that creates a showtime.log file which holds the current time in every minute.

#!/bin/bash

log\_file="$HOME/showtime.log"

while true; do

echo "$(date)" >> "$log\_file"

sleep 60

done

2. Giving permission to the shell script

sudo chmod a+x showtime.sh

3. Creating a systemd service unit file named showtime.

Location: /etc/systemd/system

sudo nano /etc/systemd/system/showtime.service

4. We’ll add some content that defines the service.

[Unit]

Description=Showtime Service

[Service]

Type=simple

ExecStart=/path/to/showtime.sh

Restart=always

RestartSec=60

[Install]

WantedBy=multi-user.target

5. Enable and start the service

sudo systemctl enable showtime.service

sudo systemctl start showtime.service