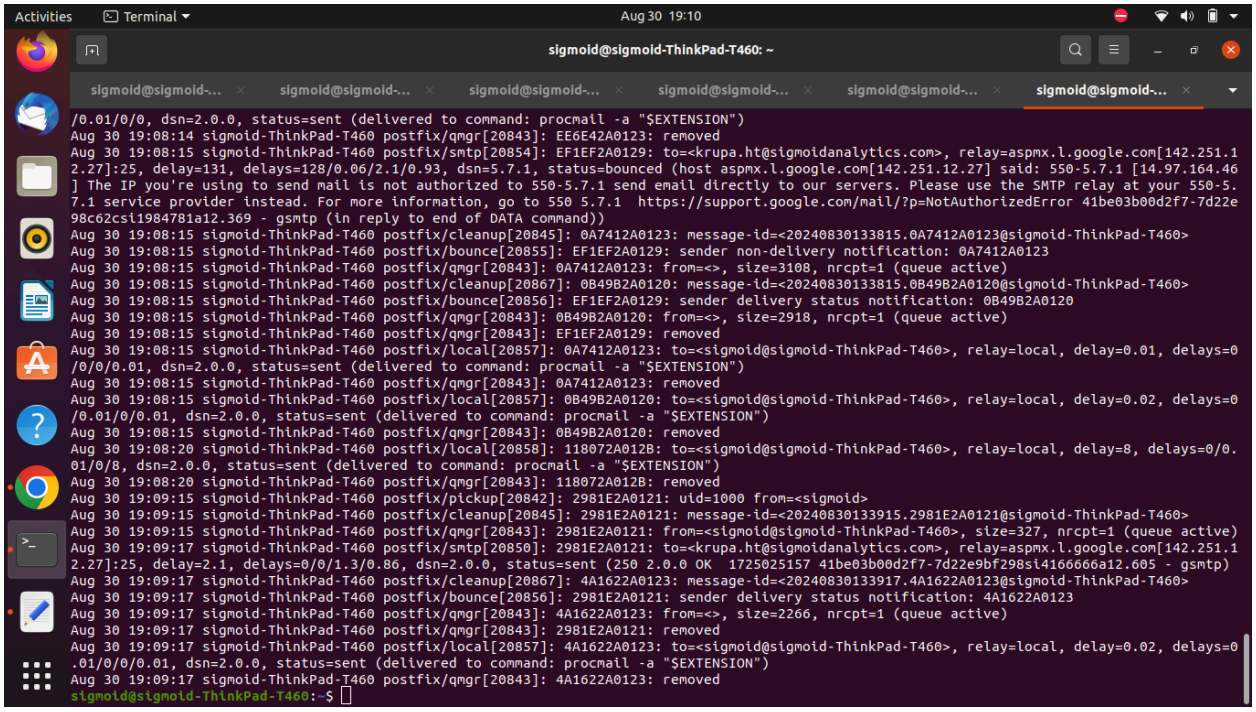
1.Configure smtp in localhost.



root@sigmoid-ThinkPad-T460:/home/sigmoid# nano /etc/systemd/system/showtime.service
root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo nano /etc/systemd/system/showtime.service
root@sigmoid-ThinkPad-T460:/home/sigmoid# nano /etc/systemd/system/showtime.service
root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo chmod +x /usr/local/bin/showtime.sh
root@sigmoid-ThinkPad-T460:/home/sigmoid# ls -l /usr/local/bin/showtime.sh
-rwxr-xr-x 1 root root 179 Aug 30 17:48 /usr/local/bin/showtime.sh
root@sigmoid-ThinkPad-T460:/home/sigmoid# cat /usr/local/bin/showtime.sh
#!/bin/bash
# Path to the file where the current time will be written
OUTPUT_FILE="/home/$(whoami)/current_time.txt"
# Write the current time to the file
date >> "$OUTPUT_FILE"
root@sigmoid-ThinkPad-T460:/home/sigmoid# nano /usr/local/bin/showtime.sh
root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo systemctl daemon-reload
root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo systemctl start showtime.service
root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo systemctl status showtime.service
● showtime.service - Showtime Service
Loaded: loaded (/etc/systemd/system/showtime.service; enabled; vendor preset: enabled)

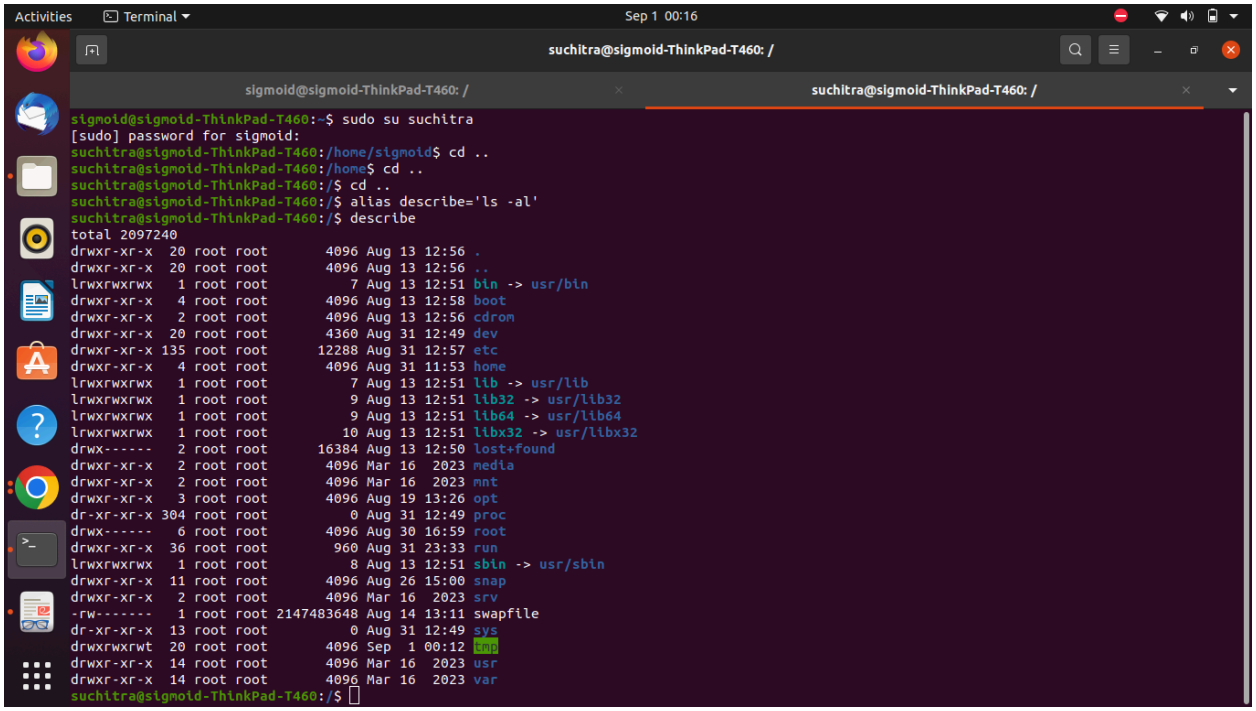
Active: active (running) since Fri 2024-08-30 20:00:58 IST; 14s ago
Main PID: 22379 (showtime.sh)
Tasks: 2 (limit: 4440)
Memory: 544.0K
CGroup: /system.slice/showtime.service
├─22379 /bin/bash /usr/local/bin/showtime.sh
└─22381 sleep 60

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

```
sigmoid@sigmoid-ThinkPad-T460:/$ sudo useradd heypentu
sigmoid@sigmoid-ThinkPad-T460:/$ su heypentu
Password:
su: Authentication failure
sigmoid@sigmoid-ThinkPad-T460:/$ sudo passwd heypentu
New password:
Retype new password:
passwd: password updated successfully
sigmoid@sigmoid-ThinkPad-T460:/$ su heypentu
Password:
$ sudo ls
[sudo] password for heypentu:
Sorry, try again.
[sudo] password for heypentu:
Sorry, try again.
[sudo] password for heypentu:
sudo: 3 incorrect password attempts
$ sudo ls
[sudo] password for heypentu:
heypentu is not in the sudoers file.  This incident will be reported.
```

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



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.

```
#!/bin/bash
# Find the file
file_path=$(sudo find / -type f -name 'research.*' 2>/dev/null)
if [ -z "$file_path" ]; then
echo "No file named 'research' found."
exit 1
fi
# Check the file type
file_type=$(file -b "$file_path")
echo "Found file: $file_path"
echo "File type: $file_type"
# Uncompress based on file type
case "$file_type" in
*gzip*)
echo "Uncompressing gzip file..."
gunzip "$file_path"
;;
*bzip2*)
echo "Uncompressing bzip2 file..."
bunzip2 "$file_path"
;;
*XZ*)
echo "Uncompressing xz file..."
unxz "$file_path"
;;
*)
echo "Unknown compression type: $file_type"
exit 1
;;
esac
echo "File uncompressed successfully."
```

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.

```
sigmoid@sigmoid-ThinkPad-T460:~$ nano ~/.bashrc
sigmoid@sigmoid-ThinkPad-T460:~$ nano ~/.bashrc
sigmoid@sigmoid-ThinkPad-T460:~$ ls -ltr
total 2847920
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Videos
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Templates
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Public
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Music
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Documents
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Desktop
drwx------  3 sigmoid sigmoid       4096 Aug 19 13:24 snap
--wx-wx--x  1 sigmoid sigmoid          0 Aug 21 17:06 jerry
-rw-rw-r--  1 sigmoid sigmoid          0 Aug 21 17:07 hello
-rw-rw-r--  1 sigmoid sigmoid          0 Aug 21 17:07 sigu
-rw-rw-r--  1 sigmoid sigmoid          0 Aug 21 17:07 krupa
drwxrwxr-x  5 sigmoid sigmoid       4096 Aug 21 17:20 hei
drwxrwxr-x  2 sigmoid sigmoid       4096 Aug 21 17:24 heinew-bak
-rw-rw-r--  1 sigmoid sigmoid        930 Aug 22 16:06 listings
-rw-rw-r--  1 sigmoid sigmoid        930 Aug 22 17:07 hi
-rw-rw-r--  1 sigmoid sigmoid 1635911680 Aug 23 12:10 Krupatar
drwxrwxr-x 11 sigmoid sigmoid       4096 Aug 23 12:19 blah
-rw-rw-r--  1 sigmoid sigmoid      18971 Aug 26 14:53 log_activity
-rwxrwxr-x  1 sigmoid sigmoid         40 Aug 26 19:12 shellscript
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 28 15:29 Pictures
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 29 00:36 Downloads
-rw-rw-r--  1 sigmoid sigmoid         42 Aug 30 15:19 research.gz
-rw-rw-r--  1 sigmoid sigmoid 1280261054 Aug 30 15:30 krupaa.tar.gz
sigmoid@sigmoid-ThinkPad-T460:~$ umask 0777
sigmoid@sigmoid-ThinkPad-T460:~$ source ~/.bashrc
sigmoid@sigmoid-ThinkPad-T460:~$ sudo nano /etc/profile
[sudo] password for sigmoid:
sigmoid@sigmoid-ThinkPad-T460:~$
sigmoid@sigmoid-ThinkPad-T460:~$
sigmoid@sigmoid-ThinkPad-T460:~$


sigmoid@sigmoid-ThinkPad-T460:~$ touch namfile
sigmoid@sigmoid-ThinkPad-T460:~$ ls -ltr
total 2847920
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Videos
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Templates
```

```
drwxr-xr-x  2 sigmoid sigmoid       4096 Aug 14 13:11 Public
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-rw-rw-r--  1 sigmoid sigmoid 1280261054 Aug 30 15:30 krupaa.tar.gz
----------  1 sigmoid sigmoid          0 Aug 30 17:02 namfile
```

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.

```
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root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo nano
/etc/systemd/system/showtime.service
root@sigmoid-ThinkPad-T460:/home/sigmoid# nano /etc/systemd/system/showtime.service
root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo chmod +x /usr/local/bin/showtime.sh
root@sigmoid-ThinkPad-T460:/home/sigmoid# ls -l /usr/local/bin/showtime.sh
-rwxr-xr-x 1 root root 179 Aug 30 17:48 /usr/local/bin/showtime.sh
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#!/bin/bash
# Path to the file where the current time will be written
OUTPUT_FILE="/home/$(whoami)/current_time.txt"

# Write the current time to the file
date >> "$OUTPUT_FILE"

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root@sigmoid-ThinkPad-T460:/home/sigmoid# sudo systemctl daemon-reload
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     Active: active (running) since Fri 2024-08-30 20:00:58 IST; 14s ago
   Main PID: 22379 (showtime.sh)
      Tasks: 2 (limit: 4440)
     Memory: 544.0K
     CGroup: /system.slice/showtime.service
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