

Linux - Hands On Assignment

1.a. Need to update the System

```
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~$ sudo apt update
[sudo] password for sigmoid:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 https://dl.google.com/linux/chrome/deb stable InRelease [1,825 B]
Get:5 https://dl.google.com/linux/chrome/deb stable/main amd64 Packages [1,215 B]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1,393 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,685 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [226 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.5 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [9,660 B]
Get:12 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [917 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [207 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [71.4 kB]
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [19.6 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [311 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]
Get:21 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:22 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1,507 kB]
Get:23 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [306 kB]
Get:24 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:25 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.4 kB]
Get:26 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:27 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7,296 B]
Get:28 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:29 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [10.5 kB]
Get:30 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 7,675 kB in 9s (888 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
309 packages can be upgraded. Run 'apt list --upgradable' to see them.
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~$
```

1.b. Install postfix and mailutils packages

```
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~$ sudo apt install postfix mailutils -y
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 https://dl.google.com/linux/chrome/deb stable InRelease [1,825 B]
Get:5 https://dl.google.com/linux/chrome/deb stable/main amd64 Packages [1,215 B]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1,393 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1,685 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [226 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.5 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [9,660 B]
Get:12 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [917 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [207 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [71.4 kB]
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [19.6 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [311 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]
Get:21 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:22 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1,507 kB]
Get:23 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [306 kB]
Get:24 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:25 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.4 kB]
Get:26 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:27 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7,296 B]
Get:28 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:29 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [10.5 kB]
Get:30 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 7,675 kB in 9s (888 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
309 packages can be upgraded. Run 'apt list --upgradable' to see them.
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~$ sudo apt install postfix mailutils -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
postfix is already the newest version (3.8.6-1build2).
mailutils is already the newest version (1:3.17.1-1build3).
0 upgraded, 0 newly installed, 0 to remove and 309 not upgraded.
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~$
```

1.c. Verify Postfix is running

```
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~  
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [917 kB]  
Get:14 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [287 kB]  
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [71.4 kB]  
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [19.6 kB]  
Get:17 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]  
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [311 kB]  
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]  
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.8 kB]  
Get:21 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]  
Get:22 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1,507 kB]  
Get:23 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [306 kB]  
Get:24 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]  
Get:25 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.4 kB]  
Get:26 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]  
Get:27 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7,296 B]  
Get:28 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]  
Get:29 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [10.5 kB]  
Get:30 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]  
Fetched 7,675 kB in 9s (888 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
309 packages can be upgraded. Run 'apt list --upgradable' to see them.  
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo apt install postfix mailutils -y  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
postfix is already the newest version (3.8.6-1build2).  
mailutils is already the newest version (1:3.17-1.1build3).  
0 upgraded, 0 newly installed, 0 to remove and 309 not upgraded.  
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo systemctl status postfix  
● postfix.service - Postfix Mail Transport Agent  
   Loaded: loaded (/usr/lib/systemd/system/postfix.service; enabled; preset: enabled)  
   Active: active (exited) since Thu 2026-01-08 10:47:54 IST; 21min ago  
     Docs: man:postfix(1)  
   Process: 2642 ExecStart=/bin/true (code=exited, status=0/SUCCESS)  
    Main PID: 2642 (code=exited, status=0/SUCCESS)  
      CPU: 1ms  
  
Jan 08 10:47:54 sigmoid-IdeaPad-3-15ITL6 systemd[1]: Starting postfix.service - Postfix Mail Transport Agent...  
Jan 08 10:47:54 sigmoid-IdeaPad-3-15ITL6 systemd[1]: Finished postfix.service - Postfix Mail Transport Agent.  
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$
```

1.d Testing local email

```
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ echo "SMTP working" | mail -s "Test Mail" sigmoid  
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ mail  
"/var/mail/sigmoid": 1 message 1 new  
>N 1 Sigmoid          Thu Jan  8 11:12 13/442  Test Mail  
? mail  
To: kishore.k@sigmoidanalyticscom  
Cc:  
Subject: Sample mail for Assignment  
Hey,  
This is a sample mail for testing the postfix smtp protocol is working fine !  
  
? mail  
To:  
Cc:  
Subject:  
  
Null message body; hope that's ok  
?  
  
Held 1 message in /var/mail/sigmoid  
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ mail  
"/var/mail/sigmoid": 1 message 1 unread  
>U 1 Sigmoid          Thu Jan  8 11:12 16/505  Test Mail  
? 1  
Return-Path: <sigmoid@sigmoid-IdeaPad-3-15ITL6>  
X-Original-To: sigmoid  
Delivered-To: sigmoid@localhost  
Received: by localhost (Postfix, from userid 1000)  
        id 2214A15C1690; Thu,  8 Jan 2026 11:12:29 +0530 (IST)  
Subject: Test Mail  
To: sigmoid@localhost  
User-Agent: mail (GNU Mailutils 3.17)  
Date: Thu,  8 Jan 2026 11:12:29 +0530  
Message-Id: <20260108054229.2214A15C1690@localhost>  
From: Sigmoid <sigmoid@sigmoid-IdeaPad-3-15ITL6>  
X-IMAPbase: 1767850950      2  
X-UID: 1  
Status: 0  
  
SMTP working  
?
```

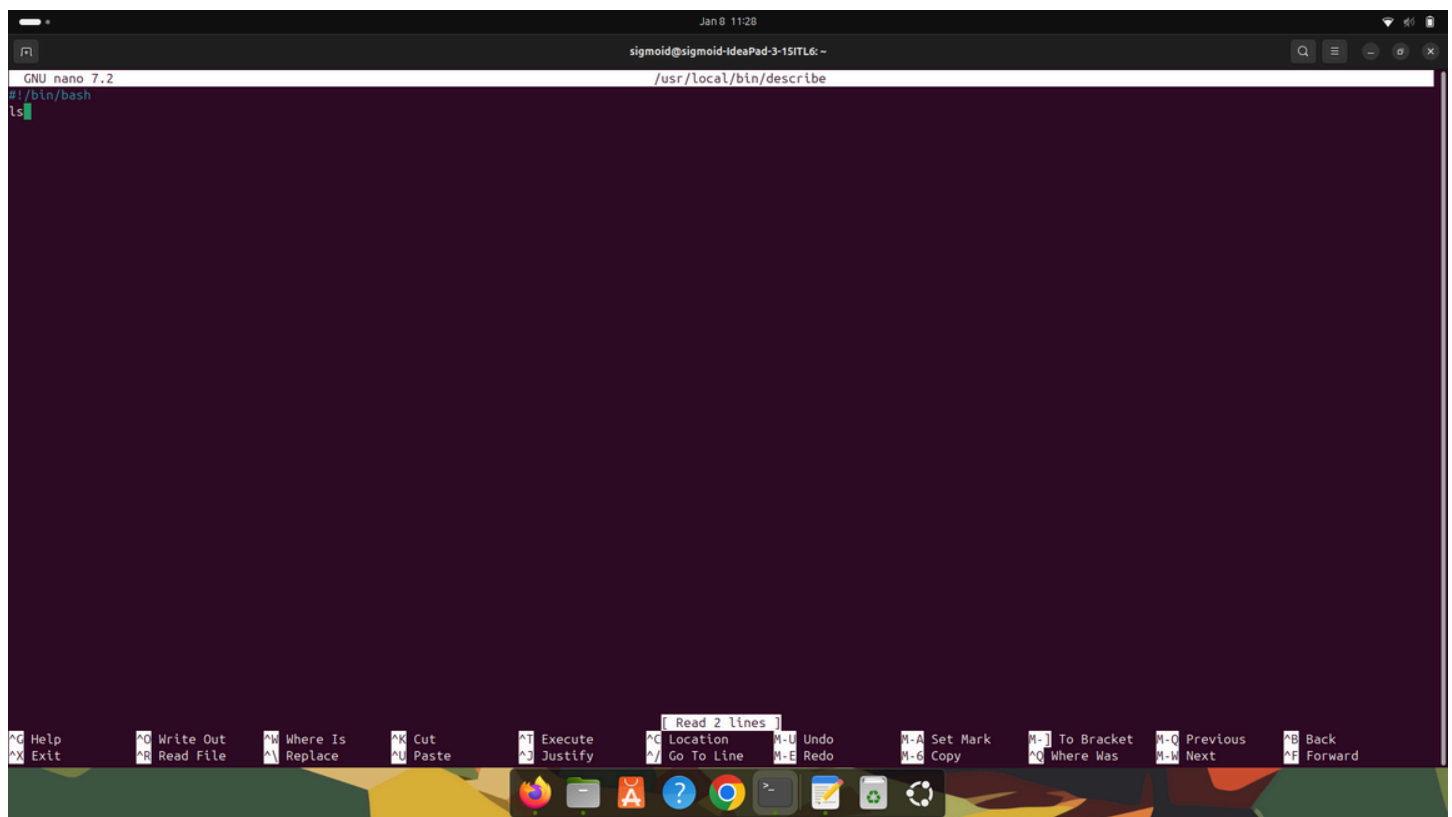
2.a Creating new user

```
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~$ sudo adduser testuser
info: Adding user 'testuser' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'testuser' (1001) ...
info: Adding new user 'testuser' (1001) with group 'testuser (1001)' ...
info: Creating home directory '/home/testuser' ...
info: Copying files from '/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for testuser
Enter the new value, or press ENTER for the default
  Full Name []: user1
  Room Number []: 01
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] y
info: Adding new user 'testuser' to supplemental / extra groups 'users' ...
info: Adding user 'testuser' to group 'users' ...
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$
```

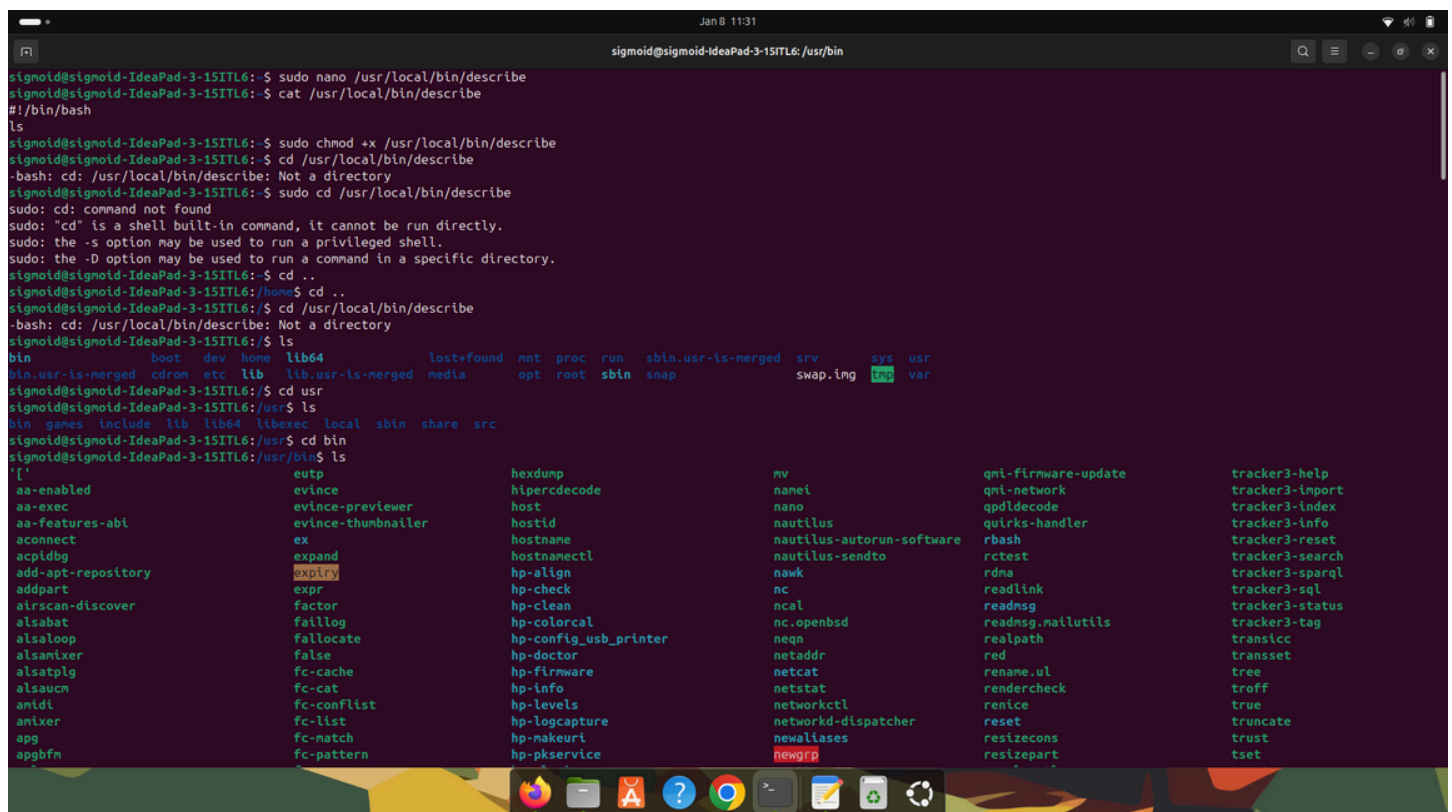
2.b. Ensure user has No sudo access and Testing

```
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo adduser testuser
info: Adding user 'testuser' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'testuser' (1001) ...
info: Adding new user 'testuser' (1001) with group 'testuser (1001)' ...
info: Creating home directory '/home/testuser' ...
info: Copying files from '/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for testuser
Enter the new value, or press ENTER for the default
  Full Name []: user1
  Room Number []: 01
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] y
info: Adding new user 'testuser' to supplemental / extra groups 'users' ...
info: Adding user 'testuser' to group 'users' ...
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ getent group sudo
sudo:x:27:sigmoid
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ su - testuser
Password:
testuser@sigmoid-IdeaPad-3-15ITL6:~$ ls
testuser@sigmoid-IdeaPad-3-15ITL6:~$ sudo ls
[sudo] password for testuser:
testuser is not in the sudoers file.
This incident has been reported to the administrator.
testuser@sigmoid-IdeaPad-3-15ITL6:~$
```

3.a Create script



3.b changing permission



3.c Testing

```
Jan 8 11:33
sigmoid@sigmoid-IdeaPad-3-15ITL6: /etc

sigmoid@sigmoid-IdeaPad-3-15ITL6: /usr/bin$ cd /etc
sigmoid@sigmoid-IdeaPad-3-15ITL6: /etc$ ls
adduser.conf      cracklib           environment.d      host.conf          libibverbs.d      network            protocols          shells             udisks2
aliases            credstore          ethertypes        hostname           libnl-3            networkd-dispatcher pulse              skel               ufw
aliases.db         credstore.encrypted fonts              hosts              libpaper.d         NetworkManager    python3            snmp               updatedb.conf
alsa              cron.d             fprintd.conf      hosts.allow         locale.alias       locales            python3.12         speech-dispatcher update-manager
alternatives       cron.daily         fstab              hosts.deny          locale.conf        locale.gen         rc0.d              ssh                update-motd.d
anacrontab         cron.denys         fuse.conf          hp                  localtime          logrotate.d        rc1.d              ssl                update-notifier
apg.conf           cron.hourly        fwupd             ifplugd            logcheck           logrotate.conf     rc2.d              sssd              UPower
apm                cron.monthly       gai.conf           init                logcheck           logrotate.d        rc3.d              sudo               usb_modeswitch.conf
apparmor           cron.monthly       gdb               init.d              logcheck           logrotate.conf     rc4.d              sudo               usb_modeswitch.d
apparmor.d         cron.monthly       gdb               init.d              logcheck           logrotate.conf     rc5.d              sudo               vconsole.conf
appport            cron.monthly       gdb               init.d              logcheck           logrotate.conf     rc6.d              sudo               vim
apt                cups               gdm3              inputrc            lsb-release        machine-id          rc6.d              sudo               vsftpd.conf
avahi              cupsshelpers      geoclue           iproute2           magic              machine-id          rc6.d              sudo               vulkan
bash.bashrc        dbus-1            ghostscript       ipv6                mime               manpath.config    rc6.d              sudo               wgetrc
bash_completion    dconf             gnome              ipsec               mime               manpath.config    rc6.d              sudo               whoopsie
bindresvport.blacklist debconf.conf      gnome-remote-desktop issue.d             mime.types         mke2fs.conf       rc6.d              sudo               xattr.conf
binfmt.d           debian_version    groff             kernel              mke2fs.conf       modprobe.d        rc6.d              sudo               xdg
bluetooth          debuginfo        group             kernelloops.conf   modprobe.d        modules            rc6.d              sudo               xml
brlapi.key         default          group             kernelloops.conf   modprobe.d        modules            rc6.d              sudo               zsh_command_not_found
brltty             deluser.conf     grub.d            ld.so.cache         modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
brltty.conf        depmod.d         gshadow           ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
ca-certificates    dhcpd.conf       gshadow           ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
ca-certificates.conf dhcpcd.conf      gshadow           ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
chatscripts        dictionaries-common gssapi_mech.conf  ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
cloud              dpkg             gtk-2.0           ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
cockpit            e2scrub.conf     gtk-3.0           ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
colord             emacs            hdparm.conf       ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
console-setup      environment      hdparm.conf       ld.so.conf          modprobe.d        modules-load.d     rc6.d              sudo               zsh_command_not_found
sigmoid@sigmoid-IdeaPad-3-15ITL6: /etc$ describe
adduser.conf      cracklib           environment.d      host.conf          libibverbs.d      network            protocols          shells             udisks2
aliases            credstore          ethertypes        hostname           libnl-3            networkd-dispatcher pulse              skel               ufw
aliases.db         credstore.encrypted fonts              hosts              libpaper.d         NetworkManager    python3            snmp               updatedb.conf
alsa              cron.d             fprintd.conf      hosts.allow         locale.alias       locales            python3.12         speech-dispatcher update-manager
alternatives       cron.daily         fstab              hosts.deny          locale.conf        locale.gen         rc0.d              ssh                update-motd.d
anacrontab         cron.denys         fuse.conf          hp                  localtime          logrotate.d        rc1.d              ssl                update-notifier
apg.conf           cron.hourly        fwupd             ifplugd            logcheck           logrotate.conf     rc2.d              sssd              UPower
apm                cron.monthly       gai.conf           init                logcheck           logrotate.conf     rc3.d              sudo               usb_modeswitch.conf
apparmor           cron.monthly       gdb               init.d              logcheck           logrotate.conf     rc4.d              sudo               usb_modeswitch.d
apparmor.d         cron.monthly       gdb               init.d              logcheck           logrotate.conf     rc5.d              sudo               vconsole.conf
appport            cron.monthly       gdb               init.d              logcheck           logrotate.conf     rc6.d              sudo               vim
```

4.a Creating a research file , compress and find

```
Jan 8 11:57
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp

sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp$ vi research
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp$ gzip research
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp$ ls
forscript ifthnscrip ioscrypt research.gz script
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp$ sudo find / -type f -iname "research.*" 2>/dev/null
/home/sigmoid/Documents/Exp/research.gz
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp$
```

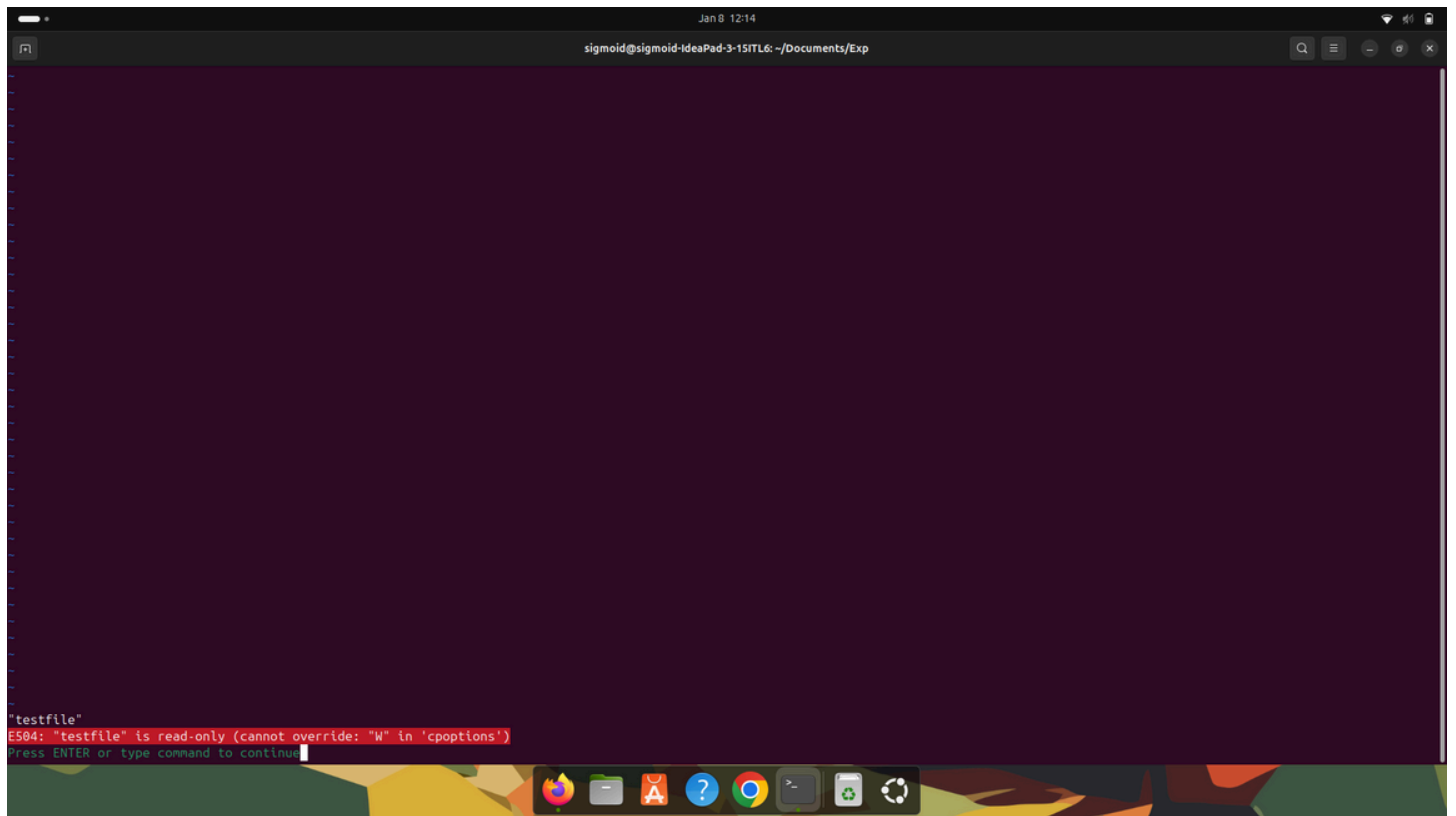
4.b Identified compression type and uncompressed the file


```
Jan 8 12:00
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ vi research
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ gzip research
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ ls
forscript ifthnscript ioscript research.gz script
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ sudo find / -type f -iname "research.*" 2>/dev/null
/home/sigmoid/Documents/Exp/research.gz
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ file research.*
research.gz: gzip compressed data, was "research", last modified: Thu Jan  8 06:23:36 2026, from Unix, original size modulo 2^32 74
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ gunzip research.gz
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ ls
forscript ifthnscript ioscript research script
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$
```

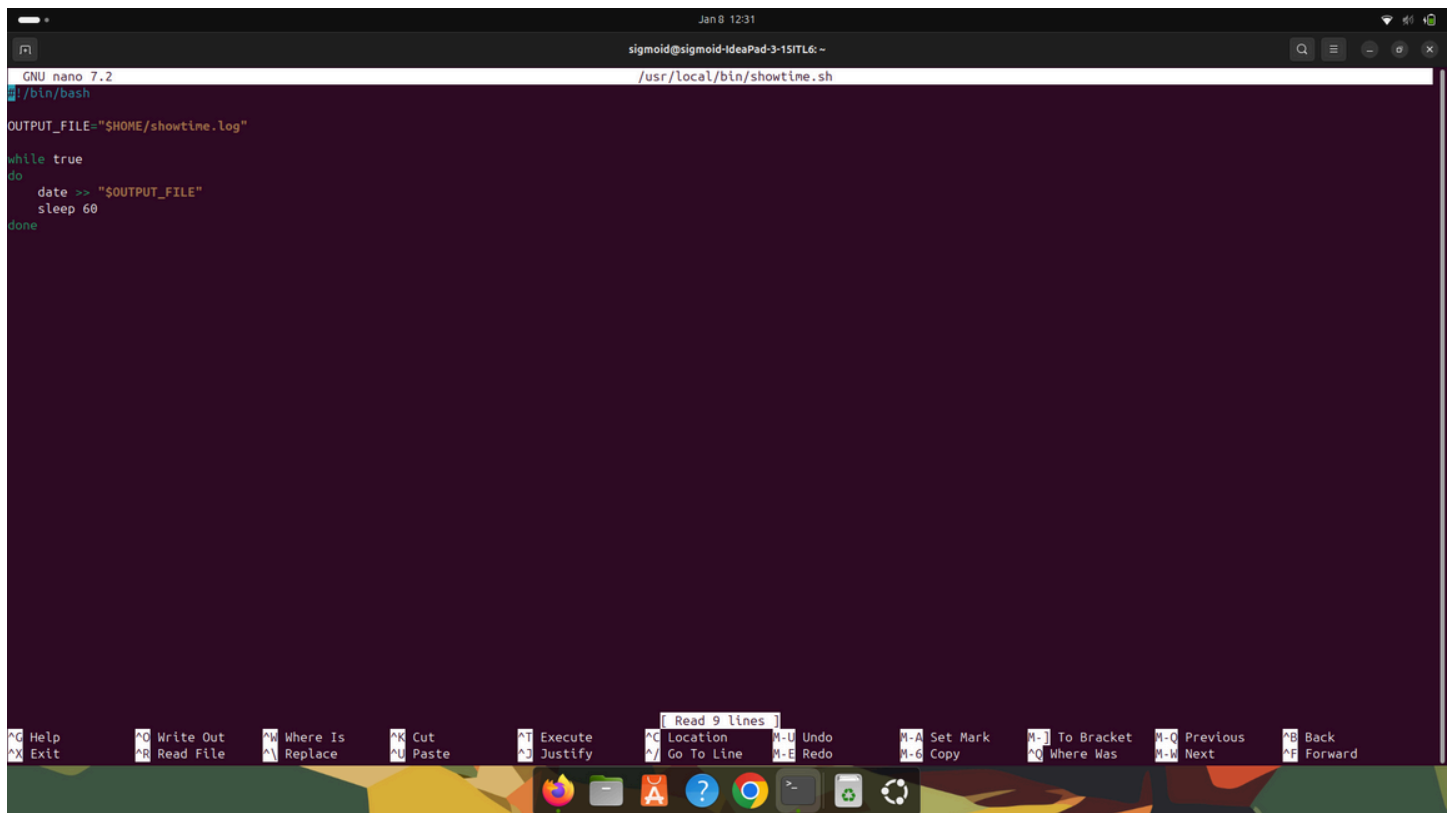
5.a Files created will have NO permissions

```
Jan 8 12:13
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~/Documents/Exp
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ vi file1
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ ls
file1 forscript ifthnscript ioscript research script
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ umask 666
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ ls
file1 forscript ifthnscript ioscript research script
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ ls -ltr
total 24
-rwxrwxr-x 1 sigmoid sigmoid 71 Dec 31 11:11 script
-rwxrwxr-x 1 sigmoid sigmoid 158 Dec 31 11:30 ioscript
-rwxrwxr-x 1 sigmoid sigmoid 111 Dec 31 11:38 ifthnscript
-rwxrwxr-x 1 sigmoid sigmoid 66 Dec 31 11:49 forscript
-rw-rw-r-- 1 sigmoid sigmoid 74 Jan  8 11:53 research
-rw-rw-r-- 1 sigmoid sigmoid 46 Jan  8 12:08 file1
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ umask
0666
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ touch testfile
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$ ls -l testfile
----- 1 sigmoid sigmoid 0 Jan  8 12:12 testfile
sigmoid@sigmoid-IdeaPad-3-15ITL6:~/Documents/Exp$
```

5.b Test



6.a Create Bash Script for showtime service



6.b Create systemd service

```
Jan 8 12:32
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~
GNU nano 7.2 /etc/systemd/system/showtime.service
[Unit]
Description=Show Time Every Minute

[Service]
Type=simple
User=sigmoid
Environment=HOME=/home/sigmoid
ExecStart=/usr/local/bin/showtime.sh
Restart=no

[Install]
WantedBy=multi-user.target

^G Help      ^O Write Out  ^W Where Is   ^X Cut        ^T Execute    ^C Location   ^U Undo       ^A Set Mark   ^I To Bracket  ^P Previous   ^B Back       ^F Forward
^H Exit      ^R Read File  ^M Replace    ^V Paste      ^D Justify    ^_ Go To Line  ^E Redo       ^G Copy       ^O Where Was  ^N Next       ^L Forward
```

6.c Verifying Output

```
Jan 8 12:33
sigmoid@sigmoid-IdeaPad-3-15ITL6: ~
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo nano /usr/local/bin/showtime.sh
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo nano /usr/local/bin/showtime.sh
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo chmod +x /usr/local/bin/showtime.sh
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo nano /etc/systemd/system/showtime.service
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo nano /etc/systemd/system/showtime.service
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ whoami
sigmoid
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo systemctl daemon-reload
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo service showtime start
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ sudo service showtime status
● showtime.service - Show Time Every Minute
   Loaded: loaded (/etc/systemd/system/showtime.service; disabled; preset: enabled)
   Active: active (running) since Thu 2026-01-08 12:33:10 IST; 15s ago
     Main PID: 12334 (showtime.sh)
        Tasks: 2 (limit: 9106)
      Memory: 584.0K (peak: 1.1M)
         CPU: 2ms
       CGroup: /system.slice/showtime.service
              └─12334 /bin/bash /usr/local/bin/showtime.sh
                └─12336 sleep 60

Jan 08 12:33:10 sigmoid-IdeaPad-3-15ITL6 systemd[1]: Started showtime.service - Show Time Every Minute.
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$ cat ~/showtime.log
Thu Jan  8 12:33:10 PM IST 2026
sigmoid@sigmoid-IdeaPad-3-15ITL6:~$
```