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Session 4

4.1

To find files that are not owned by root, use: `find /var/spool -not -user root -ls`, which means: find *(find)* files in a directory *(/var/spool)* that are not *(-not)* from root *(-user root)* and list them *(-ls)*.

As shown with `ls -l` the directory only contains 1 folder 'mail', with root as owner, which will not be displayed as seen in the output of the first command.

```
s0242689@3networkarchitecture-s0242689:~$ find /var/spool -not -user root -ls
s0242689@3networkarchitecture-s0242689:~$ ls -l /var/spool/
total 0
lrwxrwxrwx 1 root root 7 May  7 06:43 mail → ../mail
```

4.2

Become root with `sudo su`, make a file in mnt-directory with `touch /mnt/test.txt`, followed by `exit` to go to normal user and `ls -l /mnt/test.txt` to see who owns the file.

```
s0242689@3networkarchitecture-s0242689:~$ sudo su
root@3networkarchitecture-s0242689:/home/s0242689# touch /mnt/test.txt.
root@3networkarchitecture-s0242689:/home/s0242689# exit
exit
s0242689@3networkarchitecture-s0242689:~$ ls -l /mnt/test.txt.
-rw-r--r-- 1 root root 0 Oct 23 14:18 /mnt/test.txt.
```

4.3

Adding a user with `sudo adduser user1` and giving it password 'user1'.

```
s0242689@3networkarchitecture-s0242689:~$ sudo adduser user1
Adding user `user1' ...
Adding new group `user1' (1005) ...
Adding new user `user1' (1005) with group `user1 (1005)' ...
Creating home directory `/home/user1' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
No password has been supplied.
New password:
Retype new password:
No password has been supplied.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for user1
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
Adding new user `user1' to supplemental / extra groups `users' ...
Adding user `user1' to group `users' ...
```

4.4

Becoming root as user1 will not work at first because it has no sudo permissions as shown bellow.

```
user1@3networkarchitecture-s0242689:/home/s0242689$ sudo su
[sudo] password for user1:
user1 is not in the sudoers file.
This incident has been reported to the administrator.
```

Change back to other user and edit `nano /etc/sudoers` and add user1 with all privileges like shown bellow.

(personally would have used `usermod -aG sudo user1` for this, but the exercise says specifically to 'edit the /etc/sudoers')

```
s0242689@3networkarchitecture-s0242689:~$ sudo su
root@3networkarchitecture-s0242689:/home/s0242689# nano /etc/sudoers
```

```
# User privilege specification
root    ALL=(ALL:ALL) ALL
user1   ALL=(ALL:ALL) ALL
```

Go back to user1, this time `sudo su -` will work.

```
s0242689@3networkarchitecture-s0242689:~$ su user1
Password:
user1@3networkarchitecture-s0242689:/home/s0242689$ sudo su -
root@3networkarchitecture-s0242689:~#
```

4.5

Creating a file as root while being user1 with `sudo touch /mnt/test2.txt` and use `ls -l /mnt/` to see who owns the file.

```
user1@3networkarchitecture-s0242689:/home/s0242689$ sudo touch /mnt/test2.txt
user1@3networkarchitecture-s0242689:/home/s0242689$ ls -l /mnt/
total 0
-rw-r--r-- 1 root root 0 Oct 23 14:35 test2.txt
-rw-r--r-- 1 root root 0 Oct 23 14:33 test.txt
```

4.6

Before installing packages, make sure everything else is up-to-date with `sudo apt update && sudo apt upgrade`.

(The reason why i use `apt` instead of `apt-get` is because it is the newer version)

```
s0242689@3networkarchitecture-s0242689:~$ sudo apt update && sudo apt upgrade
Get:1 file:/etc/apt/mirrors/debian.list Mirrorlist [30 B]
Get:2 file:/etc/apt/mirrors/debian-security.list Mirrorlist [39 B]
Hit:3 https://deb.debian.org/debian bookworm InRelease
Hit:4 https://deb.debian.org/debian bookworm-updates InRelease
Hit:5 https://deb.debian.org/debian bookworm-backports InRelease
Hit:6 https://deb.debian.org/debian-security bookworm-security InRelease
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
All packages are up to date.
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
Calculating upgrade ... Done
The following packages were automatically installed and are no longer required:
  appstream cockpit-bridge cockpit-networkmanager cockpit-packagekit cockpit-storaged cockpit-system
  cockpit-ws cracklib-runtime exfatprogs libappstream4 libatasmart4 libblockdev-crypto2 libblockdev-fs2
  libblockdev-loop2 libblockdev-mdraid2 libblockdev-part-err2 libblockdev-part2 libblockdev-swap2
  libblockdev-utils2 libblockdev2 libbytesize-common libbytesize1 libcrack2 libglib2.0-bin libice6
  libluajit-5.1-2 libluajit-5.1-common libmpfr6 libmsgpackc2 libntfs-3g89 libpackagekit-glib2-18
  libparted-fs-resize0 libpwquality-common libpwquality-tools libpwquality1 libsm6 libstemmer0d
  libtermkey1 libtree-sitter0 libudisks2-0 libunibilium4 libvolume-key1 libvterm0 libxmlb2 libxmu6
  libxt6 lua-luv mdadm neovim-runtime ntfs-3g packagekit packagekit-tools python3-greenlet
  python3-msgpack python3-pynvim udisks2 wamerican xclip
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

Now other packages can be installed without worrying about older versions of certain dependencies.

```
s0242689@3networkarchitecture-s0242689:~$ sudo apt install qemu-system libvirt-daemon-system virt-manager
Reading package lists ... Done
Building dependency tree ... Done
Reading state information ... Done
The following packages were automatically installed and are no longer required:
  appstream cockpit-bridge cockpit-networkmanager cockpit-packagekit cockpit-storaged cockpit-system
  cockpit-ws cracklib-runtime exfatprogs libappstream4 libatasmart4 libblockdev-crypto2 libblockdev-fs2
  libblockdev-loop2 libblockdev-mdraid2 libblockdev-part-err2 libblockdev-part2 libblockdev-swap2
  libblockdev-utils2 libblockdev2 libbytesize-common libbytesize1 libcrack2 libglib2.0-bin libice6
  libluajit-5.1-2 libluajit-5.1-common libmpfr6 libmsgpackc2 libntfs-3g89 libpackagekit-glib2-18
  libparted-fs-resize0 libpwquality-common libpwquality-tools libpwquality1 libsm6 libstemmer0d
  libtermkey1 libtree-sitter0 libudisks2-0 libunibilium4 libvolume-key1 libvterm0 libxmlb2 libxmu6
  libxt6 lua-luv mdadm neovim-runtime ntfs-3g packagekit packagekit-tools python3-greenlet
  python3-msgpack python3-pynvim udisks2 wamerican xclip
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  adwaita-icon-theme alsa-topology-conf alsa-ucm-conf at-spi2-common at-spi2-core dmeventd fontconfig
  fontconfig-config fonts-dejavu-core gir1.2-atk-1.0 gir1.2-ayatanaappindicator3-0.1 gir1.2-freedesktop
  gir1.2-gdkpixbuf-2.0 gir1.2-glib-2.0 gir1.2-gstreamer-1.0 gir1.2-gtk-3.0 gir1.2-gtk-vnc-2.0
  gir1.2-gtksource-4 gir1.2-harfbuzz-0.0 gir1.2-libosinfo-1.0 gir1.2-libvirt-glib-1.0 gir1.2-pango-1.0
  gir1.2-spiceclientglib-2.0 gir1.2-spiceclientgtk-3.0 gir1.2-vte-2.91 gnutls-bin gstreamer1.0-libav
  gstreamer1.0-plugins-base gstreamer1.0-plugins-good gstreamer1.0-x gtk-update-icon-cache
  hicolor-icon-theme i965-va-driver intel-media-va-driver ipxe-qemu iso-codes libaa1 libaacs0 libaom3
  libasound2 libasound2-data libass9 libasyncns0 libatk-bridge2.0-0 libatk1.0-0 libatspi2.0-0
  libavc1394-0 libavcodec59 libavfilter8 libavformat59 libavutil57 libayatana-appindicator3-1
  libayatana-ido3-0.4-0 libayatana-indicator3-7 libbdplus0 libblas3 libbluray2 libbrlapi0.8 libbs2b0
  libburn4 libcaca0 libcacard0 libcairo-gobject2 libcairo2 libcapstone4 libcdparanoia0 libchromaprint1
  libcjson1 libcodec2-1.0 libcolord2 libdatrie1 libdav1d6 libdaxctl1 libdbusmenu-glib4
  libdbusmenu-gtk3-4 libdecor-0-0 libdecor-0-plugin-1-cairo libdeflate0 libdevmapper-event1.02.1
```