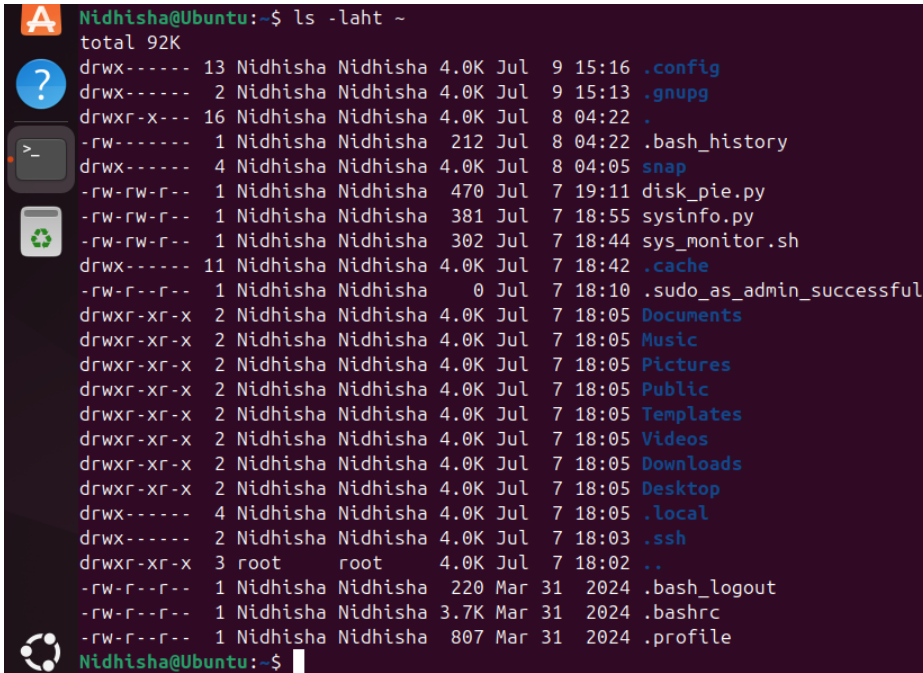


DEVOPS CHALLENGE

#DAY1

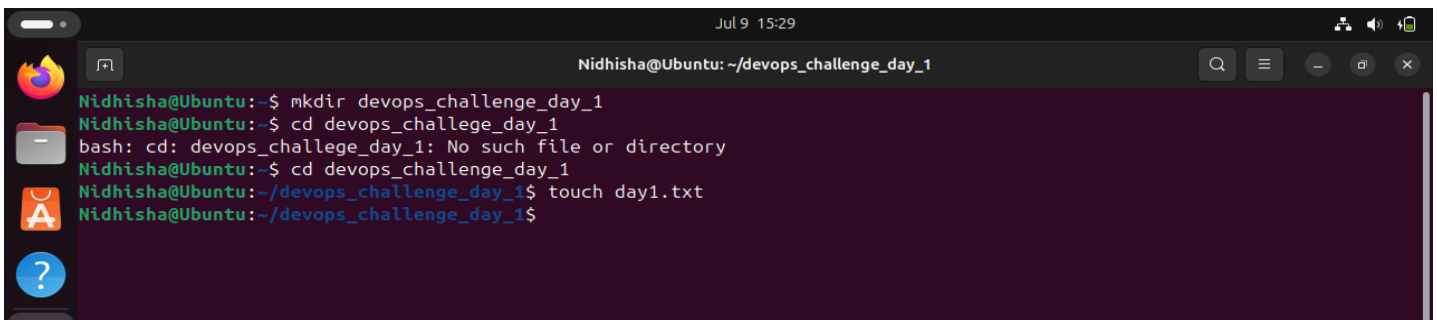
Setup Task: If you're on **Windows**, install a Linux VM or use WSL; on **Mac/Linux**, open the Terminal.

- **Challenge 1:** List all files (including hidden ones) in your home directory and sort them by modification time.



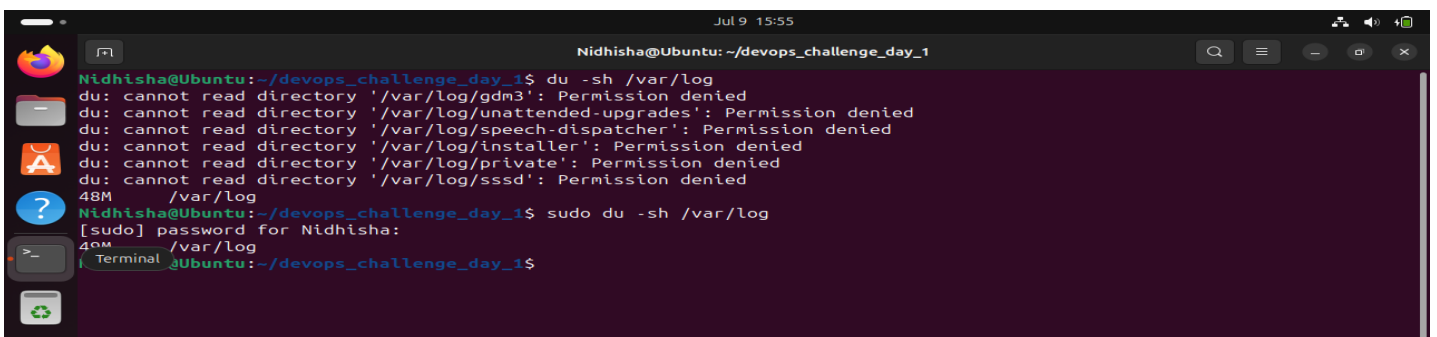
```
Nidhisha@Ubuntu:~$ ls -laht ~
total 92K
drwx----- 13 Nidhisha Nidhisha 4.0K Jul  9 15:16 .config
drwx-----  2 Nidhisha Nidhisha 4.0K Jul  9 15:13 .gnupg
drwxr-xr-x 16 Nidhisha Nidhisha 4.0K Jul  8 04:22 .
-rw-----  1 Nidhisha Nidhisha 212 Jul  8 04:22 .bash_history
drwx-----  4 Nidhisha Nidhisha 4.0K Jul  8 04:05 snap
-rw-rw-r--  1 Nidhisha Nidhisha 470 Jul  7 19:11 disk_pie.py
-rw-rw-r--  1 Nidhisha Nidhisha 381 Jul  7 18:55 sysinfo.py
-rw-rw-r--  1 Nidhisha Nidhisha 302 Jul  7 18:44 sys_monitor.sh
drwx----- 11 Nidhisha Nidhisha 4.0K Jul  7 18:42 .cache
-rw-r--r--  1 Nidhisha Nidhisha  0 Jul  7 18:10 .sudo_as_admin_successful
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Documents
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Music
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Pictures
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Public
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Templates
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Videos
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Downloads
drwxr-xr-x  2 Nidhisha Nidhisha 4.0K Jul  7 18:05 Desktop
drwx-----  4 Nidhisha Nidhisha 4.0K Jul  7 18:05 .local
drwx-----  2 Nidhisha Nidhisha 4.0K Jul  7 18:03 .ssh
drwxr-xr-x  3 root    root    4.0K Jul  7 18:02 ..
-rw-r--r--  1 Nidhisha Nidhisha 220 Mar 31 2024 .bash_logout
-rw-r--r--  1 Nidhisha Nidhisha 3.7K Mar 31 2024 .bashrc
-rw-r--r--  1 Nidhisha Nidhisha 807 Mar 31 2024 .profile
Nidhisha@Ubuntu:~$
```

- **Challenge 2:** Create a directory named `devops_challenge_day_1`, navigate into it, and create an empty file named `day1.txt`.



```
Nidhisha@Ubuntu: ~/devops_challenge_day_1
Nidhisha@Ubuntu:~$ mkdir devops_challenge_day_1
Nidhisha@Ubuntu:~$ cd devops_challenge_day_1
bash: cd: devops_challenge_day_1: No such file or directory
Nidhisha@Ubuntu:~$ cd devops_challenge_day_1
Nidhisha@Ubuntu:~/devops_challenge_day_1$ touch day1.txt
Nidhisha@Ubuntu:~/devops_challenge_day_1$
```

- **Challenge 3:** Find the total disk usage of the `/var/log` directory in human-readable format.



```
Nidhisha@Ubuntu:~/devops_challenge_day_1$ du -sh /var/log
du: cannot read directory '/var/log/gdm3': Permission denied
du: cannot read directory '/var/log/unattended-upgrades': Permission denied
du: cannot read directory '/var/log/speech-dispatcher': Permission denied
du: cannot read directory '/var/log/installer': Permission denied
du: cannot read directory '/var/log/private': Permission denied
du: cannot read directory '/var/log/sss': Permission denied
48M    /var/log
Nidhisha@Ubuntu:~/devops_challenge_day_1$ sudo du -sh /var/log
[sudo] password for Nidhisha:
40M    /var/log
Terminal @Ubuntu:~/devops_challenge_day_1$
```

- **Challenge 4: Create a new user called devops_user and add them to the sudo group.**

```
Jul 9 18:00
Nidhisha@Ubuntu: ~/devops_challenge_day_1

Nidhisha@Ubuntu:~/devops_challenge_day_1$ sudo adduser devops_user
[sudo] password for Nidhisha:
info: Adding user `devops_user' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `devops_user' (1001) ...
info: Adding new user `devops_user' (1001) with group `devops_user (1001)' ...
info: Creating home directory `/home/devops_user' ...
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:
Retype new password:
passwd: password updated successfully
Changing the user information for devops_user
Enter the new value, or press ENTER for the default
  Full Name []:
  Room Number []: 18
  Work Phone []: 8009347223
  Home Phone []: 9237548922
  Other []:
Is the information correct? [Y/n] Y
info: Adding new user `devops_user' to supplemental / extra groups `users' ...
info: Adding user `devops_user' to group `users' ...
Nidhisha@Ubuntu:~/devops_challenge_day_1$ sudo usermod -aG sudo devops_user
Nidhisha@Ubuntu:~/devops_challenge_day_1$ getent group sudo
sudo:x:27:Nidhisha,devops_user
Nidhisha@Ubuntu:~/devops_challenge_day_1$
```

- **Challenge 5: Create a group called devops_team and add devops_user to that group.**

```
Nidhisha@Ubuntu:~/devops_challenge_day_1$ sudo groupadd devops_team
Nidhisha@Ubuntu:~/devops_challenge_day_1$ sudo usermod -aG devops_team devops_user
Nidhisha@Ubuntu:~/devops_challenge_day_1$ groups devops_user
devops_user : devops_user sudo users devops_team
Nidhisha@Ubuntu:~/devops_challenge_day_1$
```

- **Challenge 6: Change the permissions of day1.txt to allow only the owner to read and write, but no permissions for others.**

```
Jul 9 18:09
Nidhisha@Ubuntu: ~/devops_challenge_day_1

Nidhisha@Ubuntu:~/devops_challenge_day_1$ chmod 600 day1.txt
Nidhisha@Ubuntu:~/devops_challenge_day_1$ ls -l day1.txt
-rw----- 1 Nidhisha Nidhisha 0 Jul  9 15:29 day1.txt
Nidhisha@Ubuntu:~/devops_challenge_day_1$
```

- **Challenge 7: Find all files in /etc that were modified in the last 7 days.**

```
Nidhisha@Ubuntu:~/devops_challenge_day_1$ sudo find /etc -type f -mtime -7
[sudo] password for Nidhisha:
/etc/ssh/ssh_host_ecdsa_key
/etc/ssh/ssh_host_ecdsa_key.pub
/etc/ssh/ssh_host_rsa_key
/etc/ssh/ssh_host_ed25519_key
/etc/ssh/ssh_host_ed25519_key.pub
/etc/ssh/ssh_host_rsa_key.pub
/etc/subuid-
/etc/systemd/system/snap-core22-2010.mount
/etc/systemd/system/snap-snapd\x2ddesktop\x2dintegration-315.mount
/etc/systemd/system/snap-snapd-24792.mount
/etc/systemd/user/snap.snapd-desktop-integration.snapd-desktop-integration.service
/etc/systemd/timesyncd.conf.d/cloud-init.conf
/etc/shadow-
/etc/locale.gen
/etc/passwd-
/etc/console-setup/cached_setup_keyboard.sh
/etc/console-setup/cached_setup_terminal.sh
/etc/console-setup/cached_UTF-8_del.kmap.gz
/etc/console-setup/cached_Uni2-Fixed16.psf.gz
/etc/console-setup/cached_setup_font.sh
```

- **Challenge 8:** Write a one-liner command to find the most frequently used command in your shell history.

```
Jul 9 18:18
Nidhisha@Ubuntu: ~/devops_challenge_day_1
Nidhisha@Ubuntu:~/devops_challenge_day_1$ history | awk '{CMD[$2]++;} END {for (a in CMD) print CMD[a], a;}'
7 cd
5 nano
1 chmod
1 touch
1 mkdir
2 find
1 free
1 ip
1 history
6 sudo
8 ls
1 groups
1 du
1 lscpu
1 getent
Nidhisha@Ubuntu:~/devops_challenge_day_1$
```