

Linux - Assignment 1(Devops)

Name:K Sai

Course:Devops

1.Creating and Renaming Files/Directories

#command

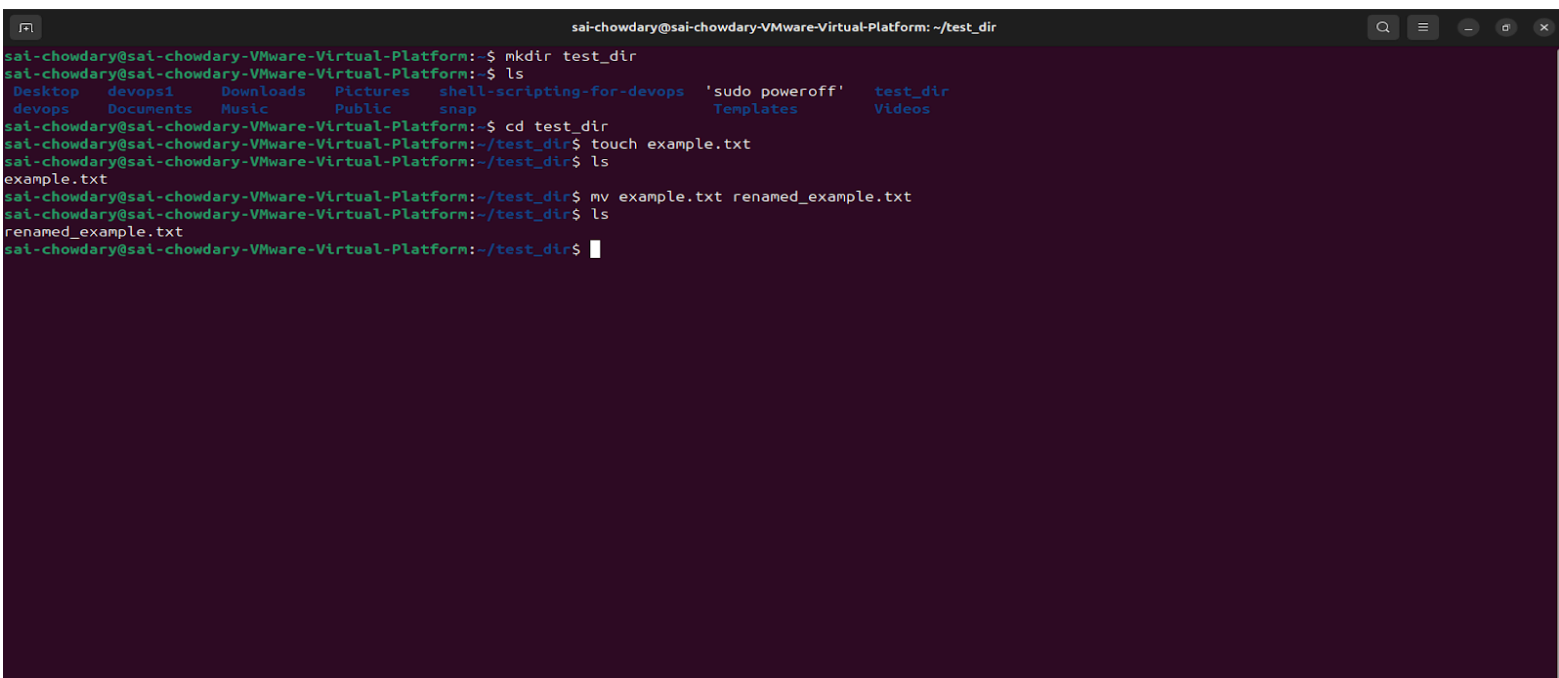
mkdir test_dir

cd test_dir

touch example.txt

mv example.txt renamed_example.txt

Output:

A terminal window titled 'sai-chowdary@sai-chowdary-VMware-Virtual-Platform: ~/test_dir' with standard Linux window controls. The terminal shows the following sequence of commands and their outputs:

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ mkdir test_dir
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ ls
Desktop  devops1  Downloads  Pictures  shell-scripting-for-devops  'sudo poweroff'  test_dir
devops   Documents  Music      Public    snap              Templates        Videos
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ cd test_dir
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~/test_dir$ touch example.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~/test_dir$ ls
example.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~/test_dir$ mv example.txt renamed_example.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~/test_dir$ ls
renamed_example.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~/test_dir$
```

Explanation:

In this task, a directory named test_dir was created. Inside it, an empty file was created and then renamed using the mv command.

2. Viewing File Contents

cat /etc/passwd

head -n 5 /etc/passwd

Tail -n 5 /etc/passwd

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailling List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
_apt:x:42:65534::/nonexistent:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:998:998:systemd Network Management:/usr/sbin/nologin
systemd-timesync:x:996:996:systemd Time Synchronization:/usr/sbin/nologin
dhcpcd:x:100:65534:DHCP Client Daemon,,,:/usr/lib/dhcpcd:/bin/false
messagebus:x:101:101::/nonexistent:/usr/sbin/nologin
syslog:x:102:102::/nonexistent:/usr/sbin/nologin
systemd-resolve:x:991:991:systemd Resolver:/usr/sbin/nologin
uuidd:x:103:103:/run/uuidd:/usr/sbin/nologin
usbmux:x:104:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
tss:x:105:105:TPM software stack,,,:/var/lib/tpm:/bin/false
systemd-oom:x:990:990:systemd Userspace OOM Killer:/usr/sbin/nologin
kernoops:x:106:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
whoopsie:x:107:109::/nonexistent:/bin/false
dnsmasq:x:999:65534:dnsmasq:/var/lib/misc:/usr/sbin/nologin
avahi:x:108:111:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
tcpdump:x:109:112:/nonexistent:/usr/sbin/nologin
sssd:x:110:113:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
cups-pk-helper:x:112:114:user for cups-pk-helper service,,,:/nonexistent:/usr/sbin/nologin
fwupd-refresh:x:989:989:Firmware update daemon:/var/lib/fwupd:/usr/sbin/nologin
saned:x:113:116:/var/lib/saned:/usr/sbin/nologin
geoclue:x:114:117:/var/lib/geoclue:/usr/sbin/nologin
cups-browsed:x:115:114:/nonexistent:/usr/sbin/nologin
hplip:x:116:7:HPLIP system user,,,:/run/hplip:/bin/false
gnome-remote-desktop:x:988:988:GNOME Remote Desktop:/var/lib/gnome-remote-desktop:/usr/sbin/nologin
polkitd:x:987:987:User for polkitd:/usr/sbin/nologin
rtkit:x:117:119:RealtimeKit,,,:/proc:/usr/sbin/nologin
colord:x:118:120:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
gnome-initial-setup:x:119:65534:/run/gnome-initial-setup:/bin/false
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
nnp-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
sai-chowdary:x:1000:1000:Sai chowdary:/home/sai-chowdary:/bin/bash
jethalal:x:1001:1001::/home/jethalal:/bin/bash
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ head -n 5 /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ tail -n 5 /etc/passwd
gnome-initial-setup:x:119:65534:/run/gnome-initial-setup:/bin/false
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
```

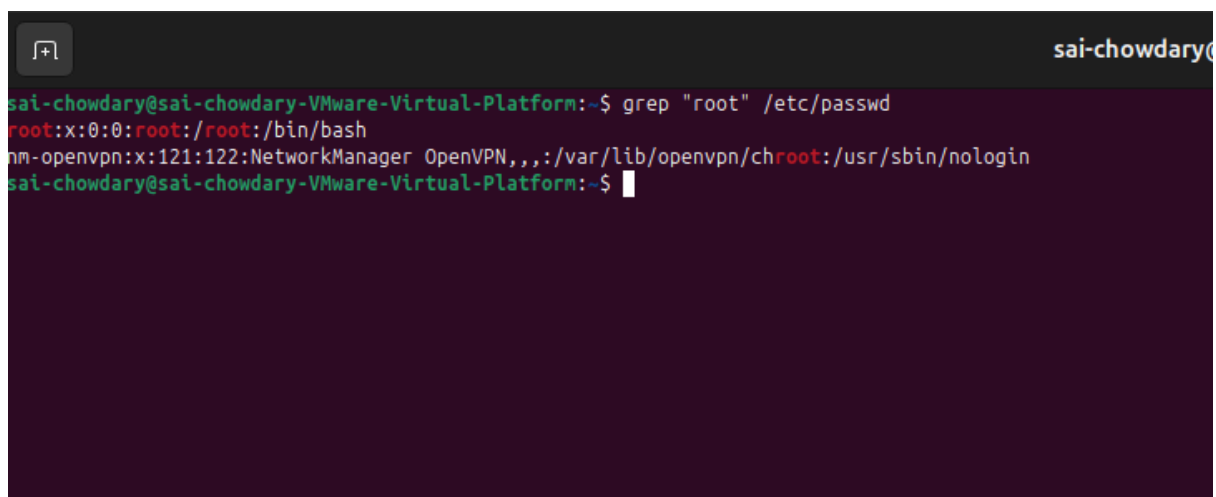
Explanation:

In this we used cat, head and tail commands to view file contents

3. Searching for Patterns

grep "root" /etc/passwd

Output:

A terminal window with a dark background. The prompt is 'sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~\$'. The command 'grep "root" /etc/passwd' has been entered. The output shows two lines: 'root:x:0:0:root:/root:/bin/bash' and 'nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin'. The prompt is now 'sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~\$' with a cursor.

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ grep "root" /etc/passwd
root:x:0:0:root:/root:/bin/bash
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$
```

Explanation:

The grep command is used to search for lines containing the word "root" in the file.

4. Zipping and Unzipping

zip test_dir.zip test_dir

unzip test_dir.zip -d unzipped_dir

Output:

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ zip test_dir.zip test_dir
adding: test_dir/ (stored 0%)
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ ls
Desktop      Downloads    shell-scripting-for-devops  test_dir
devops        Music        snap                      test_dir.zip
devops1       Pictures     'sudo poweroff'           Videos
Documents     Public      Templates
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ unzip test_dir.zip unzipped_dir
Archive: test_dir.zip
caution: filename not matched: unzipped_dir
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ unzip test_dir.zip -d unzipped_dir
Archive: test_dir.zip
creating: unzipped_dir/test_dir/
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ ls
Desktop      Downloads    shell-scripting-for-devops  test_dir
devops        Music        snap                      test_dir.zip
devops1       Pictures     'sudo poweroff'           unzipped_dir
Documents     Public      Templates                 Videos
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$
```

Explanation:

By using zip and unzip commands we are going to compress and decompress files

5. Downloading Files

wget <http://speedtest.tele2.net/1MB.zip>

Output:

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ wget http://speedtest.tele2.net/1MB.zip
--2026-01-15 16:40:45-- http://speedtest.tele2.net/1MB.zip
Resolving speedtest.tele2.net (speedtest.tele2.net)... 90.130.70.73, 2a00:800:1010::1
Connecting to speedtest.tele2.net (speedtest.tele2.net)|90.130.70.73|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1048576 (1.0M) [application/zip]
Saving to: '1MB.zip'

1MB.zip                               100%[=====] 1.00M 19.7KB/s in 31s

2026-01-15 16:41:17 (32.6 KB/s) - '1MB.zip' saved [1048576/1048576]

sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ ls
1MB.zip  devops  Documents  Music  Public  shell-scripting-for-devops  snap  Templates  test_dir.zip  Videos
Desktop  devops1  Downloads  Pictures  'sudo poweroff'  test_dir  unzipped_dir
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$
```

Explanation:

By using wget command we can able to download files from the internet

6. Changing Permissions:

`touch secure.txt`

`chmod 444 secure.txt`

`ls -l secure.txt`

Output:

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ touch secure.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ ls -l secure.txt
-rw-rw-r-- 1 sai-chowdary sai-chowdary 0 Jan 15 16:49 secure.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ chmod 444 secure.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ ls -l secure.txt
-r--r--r-- 1 sai-chowdary sai-chowdary 0 Jan 15 16:49 secure.txt
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$
```

Explanation:

By using chmod command we can able to change the permissions of a particular file, directory

7. Working with Environment Variables

`export MY_VAR="Hello, Linux!"`

`echo $MY_VAR`

Output:

```
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ export MY_VAR="Hello, Linux!"
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ echo $MY_VAR
Hello, Linux!
sai-chowdary@sai-chowdary-VMware-Virtual-Platform:~$ █
```

Explanation:

An Environment variable is created using export and verified using echo command