Linux Terminal Assignment

By: *Aditya Jadhav*

123 Your Street
Your City, ST 12345
(123) 456-7890
no_reply@example.com

1. Creating and Renaming Files/Directories

Commands:

- **mkdir test_dir**
- **cd test_dir**
- **touch example.txt**
- **mv example.txt renamed_example.txt**

```
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 5.15.167.4-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:      https://landscape.canonical.com
 * Support:         https://ubuntu.com/pro

 System information as of Wed Jul 30 13:17:39 UTC 2025

  System load:  0.16              Processes:          71
  Usage of /:   0.3% of 1006.85GB  Users logged in:    0
  Memory usage: 12%               IPv4 address for eth0: 172.21.117.222
  Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

This message is shown once a day. To disable it please create the
/home/aditya/.hushlogin file.
aditya@LAPTOP-0HEBPU7T:~$ mkdir test_dir
aditya@LAPTOP-0HEBPU7T:~$ cd test_dir
aditya@LAPTOP-0HEBPU7T:~/test_dir$ touch example.txt
aditya@LAPTOP-0HEBPU7T:~/test_dir$ mv example.txt renamed_example.txt
aditya@LAPTOP-0HEBPU7T:~/test_dir$ ls -1
renamed_example.txt
aditya@LAPTOP-0HEBPU7T:~/test_dir$
```

Explanation:
We created a directory named `test_dir`, then created an empty file `example.txt` inside it. Finally, we renamed it to `renamed_example.txt` using `mv`.

2. Viewing File Contents

Commands:

- cat /etc/passwd
- head -n 5 /etc/passwd
- tail -n 5 /etc/passwd

```
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

This message is shown once a day. To disable it please create the
/home/aditya/.hushlogin file.
aditya@LAPTOP-0HEBPU7T:~$ mkdir test_dir
aditya@LAPTOP-0HEBPU7T:~$ cd test_dir
aditya@LAPTOP-0HEBPU7T:~/test_dir$ touch example.txt
aditya@LAPTOP-0HEBPU7T:~/test_dir$ mv example.txt renamed_example.txt
aditya@LAPTOP-0HEBPU7T:~/test_dir$ ls -1
renamed_example.txt
aditya@LAPTOP-0HEBPU7T:~/test_dir$ ^C
aditya@LAPTOP-0HEBPU7T:~/test_dir$ 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:Mailing 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
landscape:x:104:105::/var/lib/landscape:/usr/sbin/nologin
polkitd:x:990:990:User for polkitd:/:/usr/sbin/nologin
aditya:x:1000:1000:,,,:/home/aditya:/bin/bash
aditya@LAPTOP-0HEBPU7T:~/test_dir$
```

Explanation:

cat displays the entire content. **head -n 5** shows the first 5 lines, while **tail -n 5** shows the last 5 lines of the **/etc/passwd** file.

3. Searching for Patterns

Command:

- grep 'root' /etc/passwd

```
aditya@LAPTOP-0HEBPU7T:~/test_dir$ grep "root" /etc/passwd
root:x:0:0:root:/root:/bin/bash
aditya@LAPTOP-0HEBPU7T:~/test_dir$
```

Explanation:

This searches for and displays lines containing the word "root" in **/etc/passwd**.

4. Zipping and Unzipping

Commands:

- zip -r test_dir.zip test_dir
- unzip test_dir.zip -d unzipped_dir

```
aditya@LAPTOP-0HEBPU7T:~$ mkdir test_dir
mkdir: cannot create directory 'test_dir': File exists
aditya@LAPTOP-0HEBPU7T:~$ cd test_dir
aditya@LAPTOP-0HEBPU7T:~/test_dir$ cd ..
aditya@LAPTOP-0HEBPU7T:~$ zip -r test_dir.zip test_dir
  adding: test_dir/ (stored 0%)
  adding: test_dir/renamed_example.txt (stored 0%)
aditya@LAPTOP-0HEBPU7T:~$ ls -1
self-healing-infra
test_dir
test_dir.zip
aditya@LAPTOP-0HEBPU7T:~$ mkdir unzipped_dir
aditya@LAPTOP-0HEBPU7T:~$ unzip test_dir.zip -d unzipped_dir
Archive:  test_dir.zip
   creating: unzipped_dir/test_dir/
 extracting: unzipped_dir/test_dir/renamed_example.txt
aditya@LAPTOP-0HEBPU7T:~$ ls -1
self-healing-infra
test_dir
test_dir.zip
unzipped_dir
aditya@LAPTOP-0HEBPU7T:~$ |
```

Explanation:

We zipped `test_dir` into `test_dir.zip`, and then unzipped it into a new directory named `unzipped_dir`.

5. Downloading Files

Command:

- wget https://example.com/sample.txt

```
aditya@LAPTOP-0HEBPU7T:~$ wget https://raw.githubusercontent.com/github/gitignore/main/Pytho
n.gitignore
ls -l
--2025-07-30 14:08:28--  https://raw.githubusercontent.com/github/gitignore/main/Python.giti
gnore
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.110.133, 185.199.
109.133, 185.199.111.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.110.133|:443...
connected.
HTTP request sent, awaiting response... 200 OK
Length: 4439 (4.3K) [text/plain]
Saving to: 'Python.gitignore'

Python.gitignore        100%[============================>]   4.33K  --.-KB/s    in 0s

2025-07-30 14:08:29 (31.8 MB/s) - 'Python.gitignore' saved [4439/4439]

total 24
-rw-r--r-- 1 aditya aditya 4439 Jul 30 14:08 Python.gitignore
drwxr-xr-x 8 aditya aditya 4096 Apr 22 08:49 self-healing-infra
drwxr-xr-x 2 aditya aditya 4096 Jul 30 13:19 test_dir
-rw-r--r-- 1 aditya aditya  352 Jul 30 14:02 test_dir.zip
drwxr-xr-x 3 aditya aditya 4096 Jul 30 14:06 unzipped_dir
```

Explanation:

`wget` downloads files from a URL. In this case, we downloaded `Python.gitignore` from GitHub.

6. Changing Permissions

Commands:

- touch secure.txt
- chmod 444 secure.txt

```
aditya@LAPTOP-0HEBPU7T:~$ touch secure.txt
aditya@LAPTOP-0HEBPU7T:~$ chmod 444 secure.txt
aditya@LAPTOP-0HEBPU7T:~$ ls -l secure.txt
secure.txt
aditya@LAPTOP-0HEBPU7T:~$ |
```

Explanation:

We created `secure.txt` and made it read-only for everyone using `chmod 444`.

7. Working with Environment Variables

Command:

- export MY_VAR="Hello, Linux!"

```
aditya@LAPTOP-0HEBPU7T:~$ export MY_VAR="Hello, Linux!"
aditya@LAPTOP-0HEBPU7T:~$ echo $MY_VAR
Hello, Linux!
aditya@LAPTOP-0HEBPU7T:~$
```

Explanation:

This sets an environment variable `MY_VAR` with the value `"Hello, Linux!"`.

8. GitHub Repository

✅ All files were committed and pushed to:

🔗 https://github.com/adityajadhav11/linux-assignment.git