

# TITLE : DEVOPS(ASSIGNMENT -1)

## 1. Creating and Renaming Files/Directories

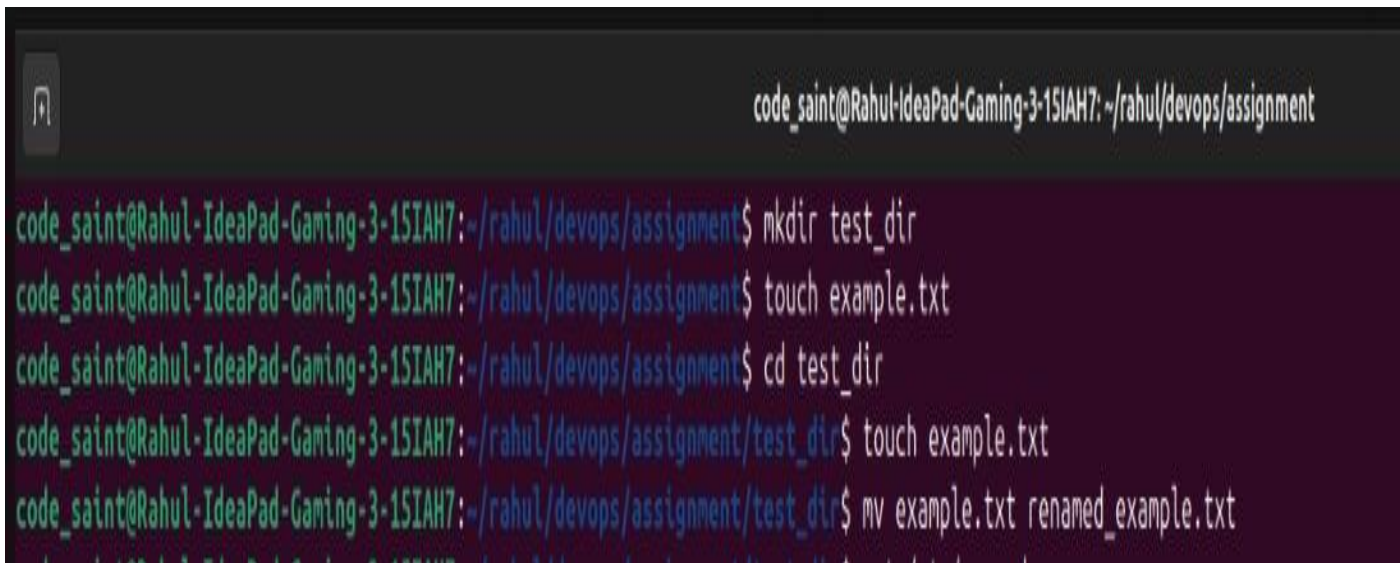
Create a directory named test\_dir using mkdir.

Inside test\_dir, create an empty file called example.txt.

Rename example.txt to renamed\_example.txt using mv

### Creating and Renaming Files/Directories

- mkdir is used to create a new directory.
- touch creates an empty file.
- mv is used to rename or move files.



```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7: ~/rahul/devops/assignment
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ mkdir test_dir
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ touch example.txt
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ cd test_dir
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment/test_dir$ touch example.txt
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment/test_dir$ mv example.txt renamed_example.txt
```

## 2. Viewing File Contents

Use cat to display the contents of /etc/passwd.

Display only the first 5 lines of /etc/passwd using head.

Display only the last 5 lines of /etc/passwd using tail.

### **Viewing File Contents**

- cat displays the entire content of a file.
- head shows the first few lines of a file.
- tail shows the last few lines of a file.

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment/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
uidd:x:103:103::/run/uidd:/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
```

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment/test_dir$ head /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
```

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment/test_dir$ tail /etc/passwd
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:/bin/false
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
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
nvidia-persistenced:x:122:124:NVIDIA Persistence Daemon,,,:/nonexistent:/usr/sbin/nologin
code_saint:x:1000:1000:Rahul:/home/code_saint:/bin/bash
```

### 3.Searching for Patterns

Use grep to find all lines containing the word "root" in /etc/passwd.

#### Searching for Patterns

- grep searches for a specific word or pattern inside a file.

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment/test_dir$ cat /etc/passwd | grep root
root:x:0:0:root:/root:/bin/bash
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
```



#### 4. Zipping and Unzipping

Compress the test\_dir directory into a file named test\_dir.zip using zip.

Unzip test\_dir.zip into a new directory named unzipped\_dir.

##### Zippping and Unzipping

- zip compresses files or directories into a zip archive.
- unzip extracts files from a zip archive.

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ zip test_dir
zip error: Nothing to do! (test_dir.zip)
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ zip -r test_dir.zip test_dir
  adding: test_dir/ (stored 0%)
  adding: test_dir/renamed_example.txt (stored 0%)
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ unzip test_dir.zip unzipped_dir
Command 'unzip' not found, but there are 16 similar ones.
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ unzip test_dir.zip unzipped_dir
Archive:  test_dir.zip
caution: filename not matched:  unzipped_dir
```

#### 5. Downloading Files

Use wget to download a file from a URL (e.g., <https://example.com/sample.txt>).

##### Downloading Files

- wget downloads files from the internet using a URL.

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ wget https://example.com/sample.txt
--2026-01-16 20:02:16-- https://example.com/sample.txt
Resolving example.com (example.com)... 2606:4700:8d92:8c7c:33d9:bd:ccc4:a209, 104.18.27.120, 104.18.26.120
Connecting to example.com (example.com)|2606:4700:8d92:8c7c:33d9:bd:ccc4:a209|:443... connected.
HTTP request sent, awaiting response... 404 Not Found
2026-01-16 20:02:16 ERROR 404: Not Found.
```

## 6. Changing Permissions

Create a file named `secure.txt` and change its permissions to read-only for everyone using `chmod`.

### Changing Permissions

- `chmod` is used to change file permissions.
- Permission `444` makes a file read-only for everyone.

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ touch secure.txt
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ ls
secure.txt  test_dir  test_dir.zip
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ chmod 444 secure.txt
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ ls -l secure.txt
-r--r--r-- 1 code_saint code_saint 0 Jan 16 20:03 secure.txt
```

## 7. Working with Environment Variables

Use `export` to set a new environment variable called `MY_VAR` with the value "Hello, Linux!".

## Working with Environment Variables

- export creates or sets an environment variable.
- Environment variables store values used by the system or programs.

```
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ export MY_VAR="Hello, Linux!"
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ echo $MY_VAR
Hello, Linux!
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$ ls
secure.txt  test_dir  test_dir.zip
code_saint@Rahul-IdeaPad-Gaming-3-15IAH7:~/rahul/devops/assignment$
```