



**NAME: JAVERIA ISHTIAQ**

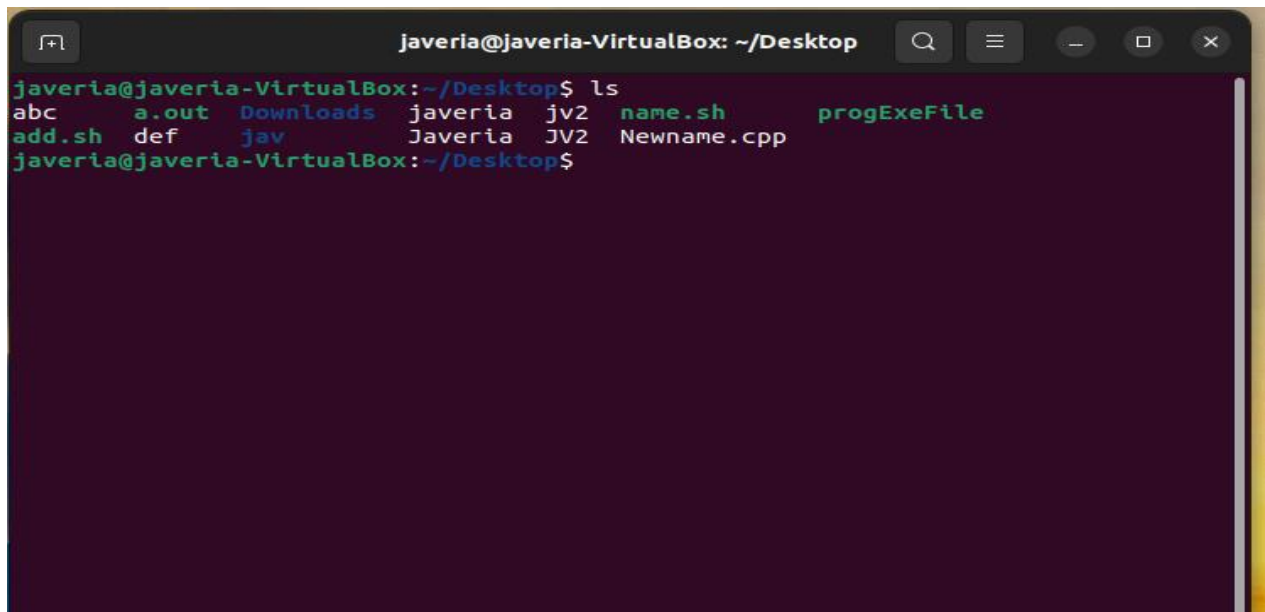
**REG NO: SP22-BSE-030**

**SUBJECT: DEVOPS FOR CLOUD COMPUTING**

**SUBMITTED TO: MUHAMMAD IBRAHIM**

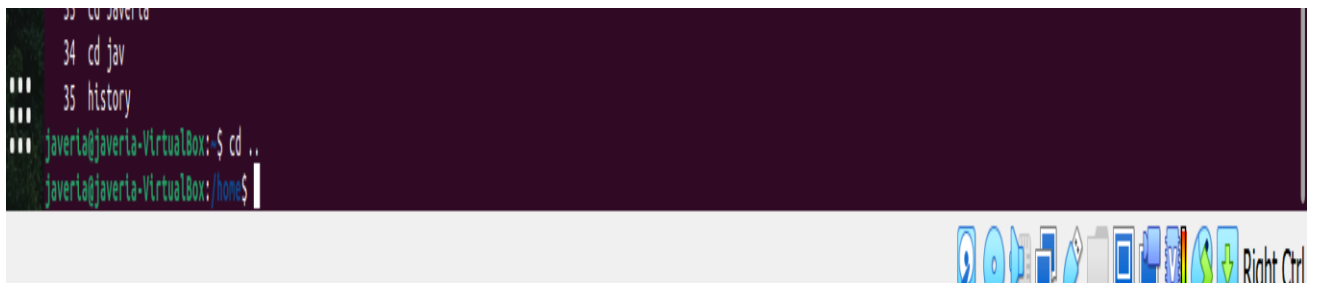
## Basic Linux Commands:

### i. Ls



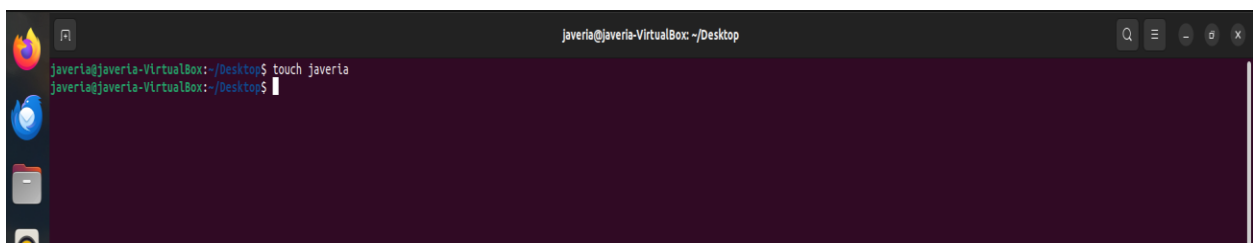
```
javeria@javeria-VirtualBox: ~/Desktop
javeria@javeria-VirtualBox:~/Desktop$ ls
abc      a.out  Downloads  javeria  jv2    name.sh      progExeFile
add.sh   def    jav        Javeria  JV2    Newname.cpp
javeria@javeria-VirtualBox:~/Desktop$
```

### ii. Cd



```
33 cd javeria
34 cd jav
35 history
javeria@javeria-VirtualBox:~$ cd ..
javeria@javeria-VirtualBox:~$
```

### iii. touch



```
javeria@javeria-VirtualBox:~/Desktop
javeria@javeria-VirtualBox:~/Desktop$ touch javeria
javeria@javeria-VirtualBox:~/Desktop$
```

#### iv. Cp

```
javeria@javeria-VirtualBox:~/Desktop$ cp jv2 Javeria
javeria@javeria-VirtualBox:~/Desktop$ cp JV2 Javeria
javeria@javeria-VirtualBox:~/Desktop$ mkdir jav
Command 'mkdir' not found, did you mean:
Command 'mdir' from deb mtools (4.0.33-1+really4.0.32-1build1)
```

#### v. mv

```
javeria@javeria-VirtualBox:~/Desktop$ echo " i am a teacher">> Javeria
javeria@javeria-VirtualBox:~/Desktop$ touch jv2
javeria@javeria-VirtualBox:~/Desktop$ mv Javeria JV2
javeria@javeria-VirtualBox:~/Desktop$ ls -l
total 4
```

### Processes and System Monitoring:

#### i. Ps

```
See 'snap info htop' for additional versions.
javeria@javeria-VirtualBox:~/Desktop$ ps
  PID TTY          TIME CMD
  3502 pts/0    00:00:00 bash
  3546 pts/0    00:00:00 ps
javeria@javeria-VirtualBox:~/Desktop$ df
```

#### ii. Top

```
javeria@javeria-VirtualBox: ~/Desktop
javeria@javeria-VirtualBox:~/Desktop$ ls
abc      a.out  Downloads  javeria  jv2  name.sh  progExeFile
add.sh   def    jav        Javeria  JV2  Newname.cpp
javeria@javeria-VirtualBox:~/Desktop$ top

top - 03:49:57 up 11 min,  1 user,  load average: 1.13, 1.73, 1.33
Tasks: 195 total,   1 running, 194 sleeping,   0 stopped,   0 zombie
%Cpu(s):  6.3 us, 15.9 sy,   0.0 ni, 58.9 id,   4.5 wa,   0.0 hi, 14.4 st,   0.0 st
MiB Mem :   5047.2 total,   1789.4 free,   759.3 used,   2498.5 buff/cache
MiB Swap:   2674.0 total,   2674.0 free,    0.0 used.  4005.1 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
  591 root        20   0 1467748 38460 20992 S   46.2   0.7   2:41.83 snapd
    23 root        20   0         0      0      0 S    7.3   0.0   0:46.69 ksoftir+
 3696 javeria    20   0  429312 30964 22368 S    2.0   0.6   0:01.85 snapd-d+
 2686 javeria    20   0 4236296 337076 141372 S    1.7   6.5   0:25.40 gnome-s+
   144 root        20   0         0      0      0 S    1.3   0.0   0:10.01 jbd2/sd+
 3152 javeria    20   0  218864  3356  2944 S    1.0   0.1   0:02.72 VBoxCli+
 3201 javeria    20   0  552700  51120 39192 S    0.7   1.0   0:02.04 gnome-t+
 3371 root         0 -20         0      0      0 I    0.7   0.0   0:01.08 kworker+
 3719 root         0 -20         0      0      0 I    0.7   0.0   0:00.47 kworker+
 3720 javeria    20   0   13080   3968  3328 R    0.7   0.1   0:00.28 top
    16 root        20   0         0      0      0 I    0.3   0.0   0:03.69 rcu_pre+
    58 root        20   0         0      0      0 I    0.3   0.0   0:06.03 kworker+
```

### iii. Kill

```
command 'kile' from deb kile (2:4.0.1)
command 'kile' from deb kile (4:2.9.93-2)
See 'snap info <snapname>' for additional versions.
javeria@javeria-VirtualBox:~/Desktop$ kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill -l [sigspec]
javeria@javeria-VirtualBox:~/Desktop$
```

## File Compression and Archiving:

### i. tar -cvf

```
javeria@javeria-VirtualBox:~/Desktop$ tar -cvf
tar: Old option 'f' requires an argument.
Try 'tar --help' or 'tar --usage' for more information.
javeria@javeria-VirtualBox:~/Desktop$
```

### ii. tar -xvf

```
javeria@javeria-VirtualBox:~/Desktop$ tar -xvf
tar: Old option 'f' requires an argument.
Try 'tar --help' or 'tar --usage' for more information.
javeria@javeria-VirtualBox:~/Desktop$ tar -xvf jav
tar: invalid option -- 'v'
Try 'tar --help' or 'tar --usage' for more information.
javeria@javeria-VirtualBox:~/Desktop$
```

## CRUD Operations:

### CREATE Operations in Linux:

#### i. Create a File:

```
javeria@javeria-VirtualBox:~/Desktop$ touch data.txt
javeria@javeria-VirtualBox:~/Desktop$
```



#### ii. Create file with content

```
javeria@javeria-VirtualBox:~/Desktop$ cat>data.txt
hello linux
javeria@javeria-VirtualBox:~/Desktop$
```

#### iii. Create directory

```
javeria@javeria-VirtualBox:~/Desktop$ cat>data.txt
hello linux
javeria@javeria-VirtualBox:~/Desktop$ mkdir new
javeria@javeria-VirtualBox:~/Desktop$
```



#### iv. Create Nested Directory



```
hello linux
javeria@javeria-VirtualBox:~/Desktop$ mkdir new
javeria@javeria-VirtualBox:~/Desktop$ mkdir -p devops/script
javeria@javeria-VirtualBox:~/Desktop$
```

## R –READ Operations in Linux:

### i. View File Content

```
javeria@javeria-VirtualBox:~/Desktop$ cat data.txt
hello linux
javeria@javeria-VirtualBox:~/Desktop$
```

### ii. View First or Last Lines

```
hello linux
javeria@javeria-VirtualBox:~/Desktop$ head abc.txt
head: cannot open 'abc.txt' for reading: No such file or directory
javeria@javeria-VirtualBox:~/Desktop$ head javeria
i am iqra
javeria@javeria-VirtualBox:~/Desktop$
```

### iii. Read a Directory

```
javeria@javeria-VirtualBox:~/Desktop$ ls
abc      a.out    def      Downloads  javeria  jv2  name.sh  Newname.cpp
add.sh   data.txt devops   jav        Javeria  JV2  new      progExeFile
javeria@javeria-VirtualBox:~/Desktop$
javeria@javeria-VirtualBox:~/Desktop$
```

## Ls -l

```
javeria@javeria-VirtualBox: ~/Desktop$  
javeria@javeria-VirtualBox: ~/Desktop$ ls -l  
total 88  
-rw-rw-r-- 1 javeria javeria 0 Feb 29 2024 abc  
-rwxrwxr-x 1 javeria javeria 164 Mar 29 2024 add.sh  
-rwxrwxr-x 1 javeria javeria 16528 Mar 21 2024 a.out  
-rw-rw-r-- 1 javeria javeria 12 Sep 14 16:27 data.txt  
-rw-rw-r-- 1 javeria javeria 14 Feb 29 2024 def  
drwxrwxr-x 3 javeria javeria 4096 Sep 14 16:30 devops  
drwxr-xr-x 2 javeria javeria 4096 May 30 2024 Downloads  
drwxrwxr-x 2 javeria javeria 4096 Feb 22 2024 jav  
-rw-rw-r-- 1 javeria javeria 10 Feb 29 2024 javeria  
-rw-rw-r-- 1 javeria javeria 31 Feb 22 2024 Javeria  
-rw-rw-r-- 1 javeria javeria 0 Feb 22 2024 jv2  
-rw-rw-r-- 1 javeria javeria 31 Feb 22 2024 JV2  
-rwxrwxr-x 1 javeria javeria 56 Mar 29 2024 name.sh  
drwxrwxr-x 2 javeria javeria 4096 Sep 14 16:28 new  
-rw-r--r-- 1 root root 162 Mar 21 2024 Newname.cpp  
-rwxrwxr-x 1 javeria javeria 16536 Mar 21 2024 progExeFile  
javeria@javeria-VirtualBox: ~/Desktop$ ls -a  
.. add.sh data.txt Downloads Javeria name.sh progExeFile  
.. .add.sh.swp def jav jv2 new  
abc a.out devops javeria JV2 Newname.cpp  
javeria@javeria-VirtualBox: ~/Desktop$
```

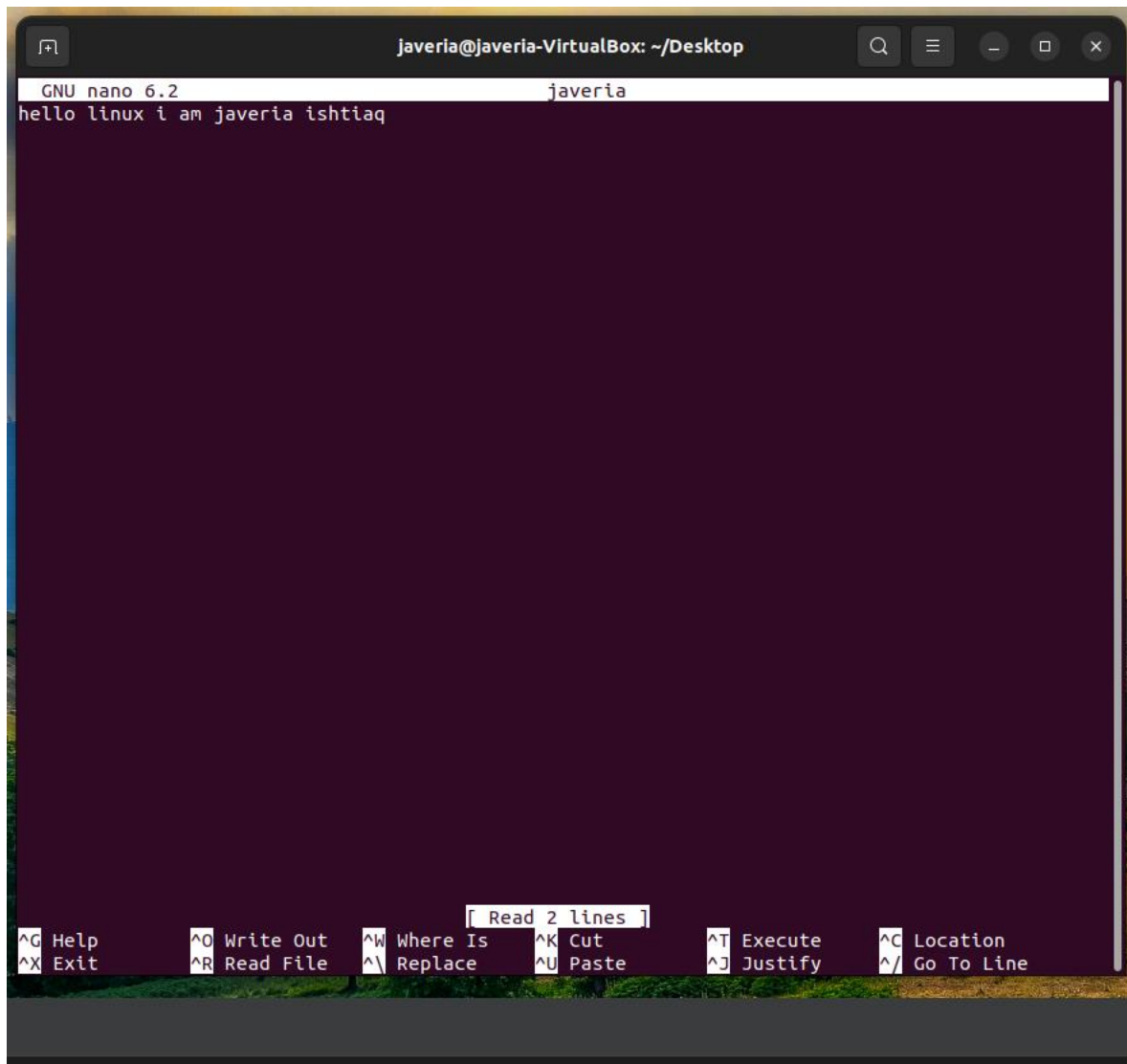
## U –UPDATE Operations in Linux:

### i. Append to File:

```
javeria@javeria-VirtualBox: ~/Desktop$ mkdir Javeria  
mkdir: cannot create directory 'Javeria': File exists  
javeria@javeria-VirtualBox: ~/Desktop$ cd Javeria  
bash: cd: Javeria: Not a directory  
javeria@javeria-VirtualBox: ~/Desktop$ cat > Javeria  
i am a student  
^C  
javeria@javeria-VirtualBox: ~/Desktop$ echo " i am a teacher">> Javeria  
javeria@javeria-VirtualBox: ~/Desktop$
```

### ii. Edit File (Using Editors):

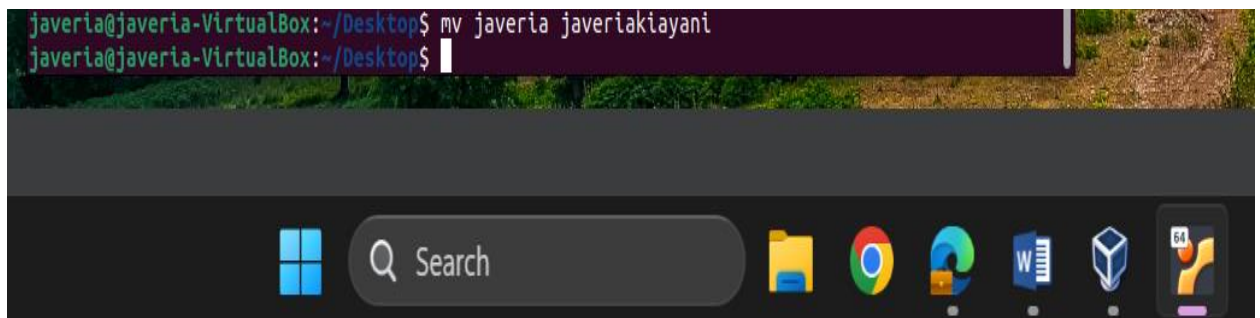
```
javeria@javeria-VirtualBox: ~/Desktop$ nano javeria  
javeria@javeria-VirtualBox: ~/Desktop$
```



```
GNU nano 6.2 javeria
hello linux i am javeria ishtiaq

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line
```

iii. **Rename File or Folder:**



```
javeria@javeria-VirtualBox:~/Desktop$ mv javeria javeriakiayani
javeria@javeria-VirtualBox:~/Desktop$
```

iv. **Move File to Different Location:**



```
javeria@javeria-VirtualBox:~/Desktop$ echo " i am a teacher">> Javeria
javeria@javeria-VirtualBox:~/Desktop$ touch jv2
javeria@javeria-VirtualBox:~/Desktop$ mv Javeria JV2
javeria@javeria-VirtualBox:~/Desktop$ ls -l
total 4
```

## D –DELETE Operations in Linux:

### i. Delete a File:

```
javeria@javeria-VirtualBox:~/Desktop$ rm data
rm: cannot remove 'data': No such file or directory
javeria@javeria-VirtualBox:~/Desktop$ rm data.txt
javeria@javeria-VirtualBox:~/Desktop$
```

### ii. Delete a Directory:

```
javeria@javeria-VirtualBox:~/Desktop$ rm new
rm: cannot remove 'new': Is a directory
javeria@javeria-VirtualBox:~/Desktop$ rm -rf new
javeria@javeria-VirtualBox:~/Desktop$
```

## Sample Exercise to Practice

# Step 1: Create a directory and file

```
mkdir devops_practice
```

```
cd devops_practice
```

```
touch inventory.txt
```

# Step 2: Add data

```
echo "Server1: 192.168.1.1" >> inventory.txt
```

```
echo "Server2: 192.168.1.2" >> inventory.txt
```

# Step 3: Read and edit

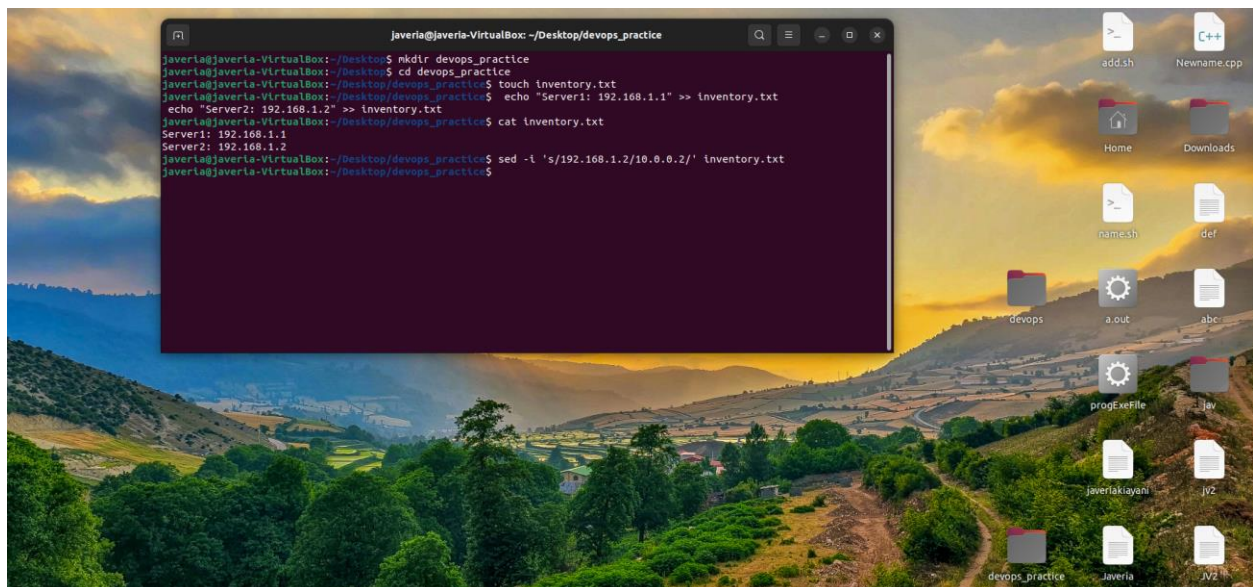
```
cat inventory.txt
```

```
sed -i 's/192.168.1.2/10.0.0.2/' inventory.txt
```

# Step 4: Delete the file

```
rm inventory.txt
```

## Step 1,2,3 :



## Step 4

```
javeria@javeria-VirtualBox:~/Desktop$ mkdir devops_practice
javeria@javeria-VirtualBox:~/Desktop$ cd devops_practice
javeria@javeria-VirtualBox:~/Desktop/devops_practice$ touch inventory.txt
javeria@javeria-VirtualBox:~/Desktop/devops_practice$ echo "Server1: 192.168.1.1" >> inventory.txt
javeria@javeria-VirtualBox:~/Desktop/devops_practice$ echo "Server2: 192.168.1.2" >> inventory.txt
javeria@javeria-VirtualBox:~/Desktop/devops_practice$ cat inventory.txt
Server1: 192.168.1.1
Server2: 192.168.1.2
javeria@javeria-VirtualBox:~/Desktop/devops_practice$ sed -i 's/192.168.1.2/10.0.0.2/' inventory.txt
javeria@javeria-VirtualBox:~/Desktop/devops_practice$ rm inventory.txt
javeria@javeria-VirtualBox:~/Desktop/devops_practice$
```