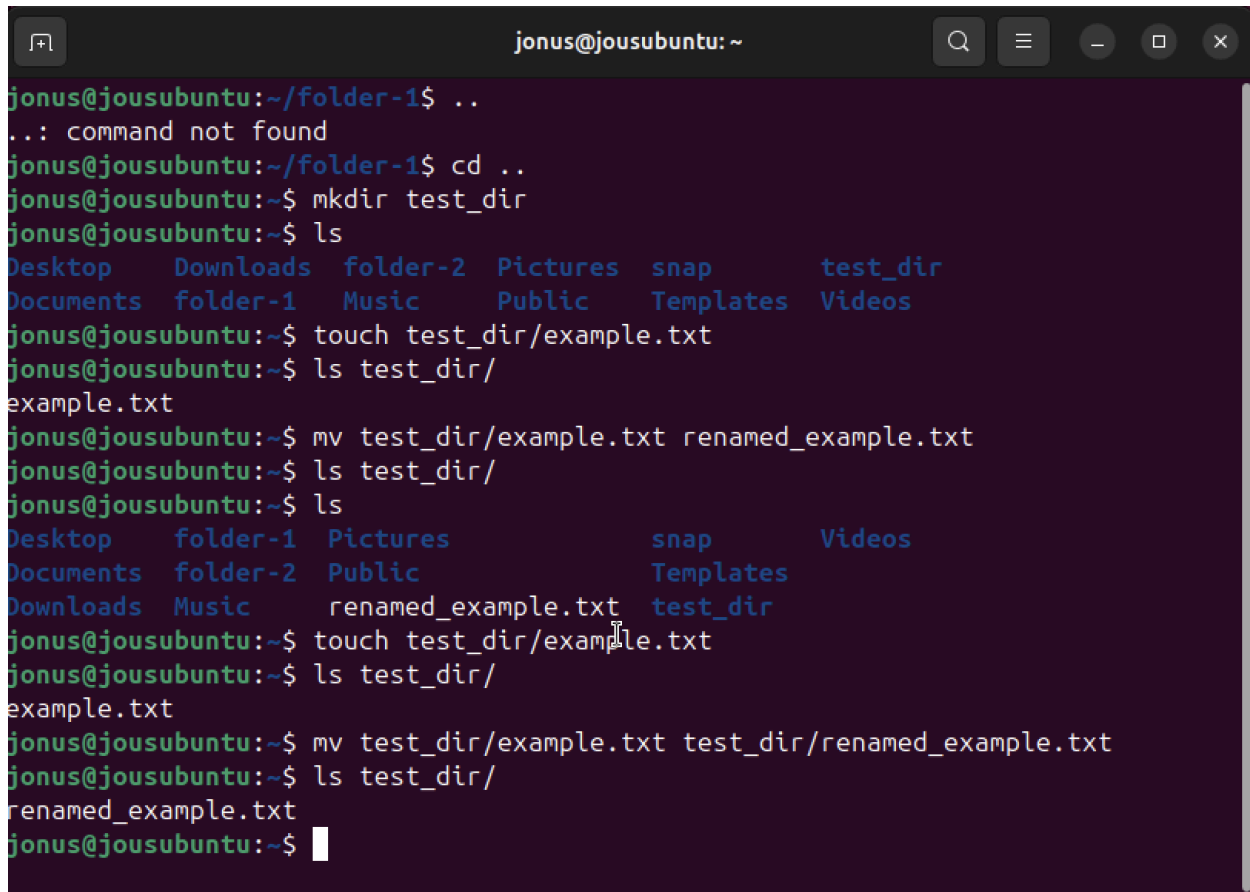


1. Creating and Renaming Files/Directories

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`

A terminal window titled 'jonus@jousubuntu: ~' with standard Ubuntu window controls. The terminal shows a sequence of commands and their outputs. The user starts in a directory named 'folder-1', moves to the parent directory, creates 'test_dir', lists the contents, creates 'example.txt' inside 'test_dir', lists 'test_dir' again, and then renames 'example.txt' to 'renamed_example.txt'. Finally, they list 'test_dir' one more time to confirm the rename.

```
jonus@jousubuntu:~/folder-1$ ..  
..: command not found  
jonus@jousubuntu:~/folder-1$ cd ..  
jonus@jousubuntu:~$ mkdir test_dir  
jonus@jousubuntu:~$ ls  
Desktop    Downloads  folder-2  Pictures  snap      test_dir  
Documents  folder-1  Music     Public    Templates Videos  
jonus@jousubuntu:~$ touch test_dir/example.txt  
jonus@jousubuntu:~$ ls test_dir/  
example.txt  
jonus@jousubuntu:~$ mv test_dir/example.txt renamed_example.txt  
jonus@jousubuntu:~$ ls test_dir/  
jonus@jousubuntu:~$ ls  
Desktop    folder-1  Pictures      snap      Videos  
Documents  folder-2  Public        Templates  
Downloads  Music     renamed_example.txt test_dir  
jonus@jousubuntu:~$ touch test_dir/example.txt  
jonus@jousubuntu:~$ ls test_dir/  
example.txt  
jonus@jousubuntu:~$ mv test_dir/example.txt test_dir/renamed_example.txt  
jonus@jousubuntu:~$ ls test_dir/  
renamed_example.txt  
jonus@jousubuntu:~$
```

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`.

```
jonus@jousubuntu: ~/folder-1
jonus@jousubuntu:~/folder-1$ cat app.py
print("hello world")jonus@jousubuntu:~/folder-1$
jonus@jousubuntu:~/folder-1$ head -n 5 sample.cpp
#include <iostream>
using namespace std;

int main() {
    int n, t1 = 0, t2 = 1, nextTerm = 0;
jonus@jousubuntu:~/folder-1$ tail -n 5 sample.cpp
        cout << nextTerm << ", ";
    }
    return 0;
}
jonus@jousubuntu:~/folder-1$
```

3. Searching for Patterns

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

Note: since "root" was not there in the content, used "Roots" as well

```
jonus@jousubuntu: ~/folder-1
jonus@jousubuntu:~/folder-1$ cat roots.cpp | grep root
jonus@jousubuntu:~/folder-1$ cat roots.cpp | grep Roots
    cout << "Roots are real and different." << endl;
    cout << "Roots are real and same." << endl;
    cout << "Roots are complex and different." << endl;
jonus@jousubuntu:~/folder-1$ cat roots.cpp | grep Roots -n
14:    cout << "Roots are real and different." << endl;
20:    cout << "Roots are real and same." << endl;
28:    cout << "Roots are complex and different." << endl;
jonus@jousubuntu:~/folder-1$
```

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.

```
jonus@jousubuntu: ~/folder-1
jonus@jousubuntu:~/folder-1$ zip test_dir.zip test_dir/
  adding: test_dir/ (stored 0%)
jonus@jousubuntu:~/folder-1$ ls
app.py  file2.txt  file3.txt  roots.cpp  sample.cpp  test_dir  test_dir.zip
jonus@jousubuntu:~/folder-1$ unzip test_dir
test_dir/      test_dir.zip
jonus@jousubuntu:~/folder-1$ mkdir unzipped_dir
jonus@jousubuntu:~/folder-1$ unzip test_dir.zip -d unzipped_dir/
Archive:  test_dir.zip
  creating: unzipped_dir/test_dir/
jonus@jousubuntu:~/folder-1$
```

5. Downloading Files

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

```
jonus@jousubuntu: ~/folder-1
jonus@jousubuntu:~/folder-1$ wget https://example.com/sample.txt
--2025-07-15 12:07:39--  https://example.com/sample.txt
Resolving example.com (example.com)... 96.7.128.198, 23.192.228.80, 23.192.228.84, ...
Connecting to example.com (example.com)|96.7.128.198|:443... connected.
HTTP request sent, awaiting response... 404 Not Found
2025-07-15 12:07:42 ERROR 404: Not Found.

jonus@jousubuntu:~/folder-1$ wget https://github.com/hshar94/azure-devops-datascience/blob/master/README.md
--2025-07-15 12:10:10--  https://github.com/hshar94/azure-devops-datascience/blob/master/README.md
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'README.md'

README.md          [  <=>          ] 177.36K  489KB/s   in 0.4s

2025-07-15 12:10:11 (489 KB/s) - 'README.md' saved [181615]

jonus@jousubuntu:~/folder-1$
```

6. Changing Permissions

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

```
jonus@jousubuntu: ~/folder-1
jonus@jousubuntu:~/folder-1$ touch secure.txt
jonus@jousubuntu:~/folder-1$ ls -al
total 216
drwxrwxr-x 4 jonus jonus 4096 Jul 15 12:48 .
drwxr-x-- 22 jonus jonus 4096 Jul 15 12:10 ..
-rw-rw-r-- 1 jonus jonus 45 Jul 15 10:59 app.py
-rw-rw-r-- 1 jonus jonus 2 Jul 15 09:55 file2.txt
-rw-rw-r-- 1 jonus jonus 0 Jul 10 05:52 file3.txt
-rw-rw-r-- 1 jonus jonus 181615 Jul 15 12:10 README.md
-rw-rw-r-- 1 jonus jonus 982 Jul 15 11:07 roots.cpp
-rw-rw-r-- 1 jonus jonus 567 Jul 15 09:57 sample.cpp
-rw-rw-r-- 1 jonus jonus 0 Jul 15 12:48 secure.txt
drwxrwxr-x 2 jonus jonus 4096 Jul 15 11:16 test_dir
-rw-rw-r-- 1 jonus jonus 168 Jul 15 11:25 test_dir.zip
drwxrwxr-x 3 jonus jonus 4096 Jul 15 11:31 unzipped_dir
jonus@jousubuntu:~/folder-1$ chmod a-wx secure.txt
jonus@jousubuntu:~/folder-1$ ls -al
total 216
drwxrwxr-x 4 jonus jonus 4096 Jul 15 12:48 .
drwxr-x-- 22 jonus jonus 4096 Jul 15 12:10 ..
-rw-rw-r-- 1 jonus jonus 45 Jul 15 10:59 app.py
-rw-rw-r-- 1 jonus jonus 2 Jul 15 09:55 file2.txt
-rw-rw-r-- 1 jonus jonus 0 Jul 10 05:52 file3.txt
-rw-rw-r-- 1 jonus jonus 181615 Jul 15 12:10 README.md
-rw-rw-r-- 1 jonus jonus 982 Jul 15 11:07 roots.cpp
-rw-rw-r-- 1 jonus jonus 567 Jul 15 09:57 sample.cpp
-r--r--r-- 1 jonus jonus 0 Jul 15 12:48 secure.txt
drwxrwxr-x 2 jonus jonus 4096 Jul 15 11:16 test_dir
-rw-rw-r-- 1 jonus jonus 168 Jul 15 11:25 test_dir.zip
drwxrwxr-x 3 jonus jonus 4096 Jul 15 11:31 unzipped_dir
jonus@jousubuntu:~/folder-1$
```

7. Working with Environment Variables

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

```
jonus@jousubuntu: ~/folder-1
jonus@jousubuntu:~/folder-1$ export MY_VAR = "Hello, Linux!"
bash: export: `=': not a valid identifier
bash: export: `Hello, Linux!': not a valid identifier
jonus@jousubuntu:~/folder-1$ export $MY_VAR = "Hello, Linux!"
bash: export: `=': not a valid identifier
bash: export: `Hello, Linux!': not a valid identifier
jonus@jousubuntu:~/folder-1$ export $MY_VAR = Hello,Linux!
bash: export: `=': not a valid identifier
bash: export: `Hello,Linux!': not a valid identifier
jonus@jousubuntu:~/folder-1$ export MY_VAR=Hello,Linux!
jonus@jousubuntu:~/folder-1$ echo MY_VAR
MY_VAR
jonus@jousubuntu:~/folder-1$ echo $MY_VAR
Hello,Linux!
jonus@jousubuntu:~/folder-1$ ls
app.py      file3.txt  roots.cpp  secure.txt  test_dir.zip
file2.txt  README.md  sample.cpp  test_dir    unzipped_dir
jonus@jousubuntu:~/folder-1$
```

Submission Guidelines -: Attach Screenshots or command along with explanation and submit in doc(google doc or microsoft doc) format also attach github repo link

Git repo link:

<https://github.com/sunojkm>