

# Linux Assignment

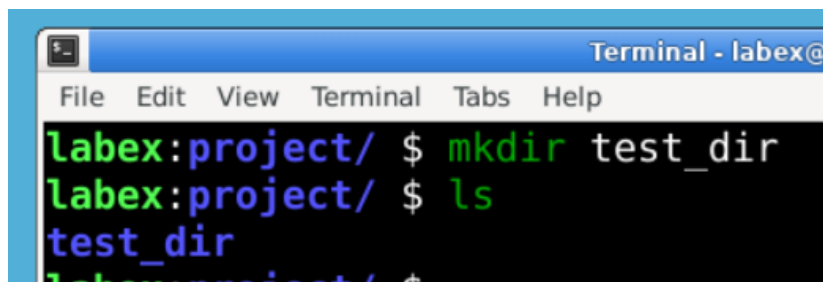
## 1. Creating and Renaming Files/Directories

- Create a directory named test\_dir using mkdir.

Ans : **mkdir test\_dir**

Explanation : Create one or more directories in the same path.

Screen Shot :

A terminal window titled "Terminal - labex@685cd83" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The terminal shows the following commands and output:

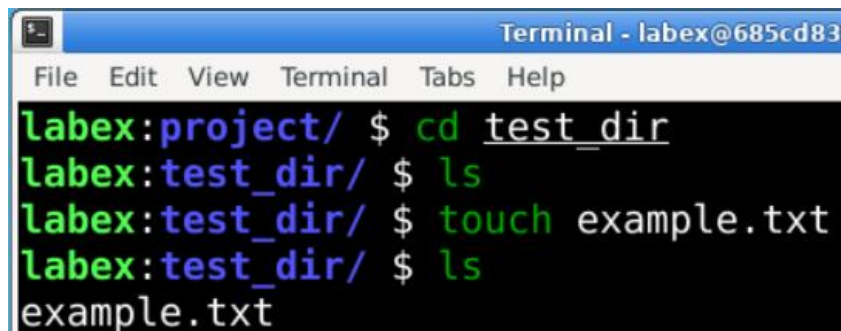
```
labex:project/ $ mkdir test_dir
labex:project/ $ ls
test_dir
labex:project/ $
```

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

Ans : **touch example.txt**

Explanation : Create new blank file(s) or update timestamp

Screen Shot :

A terminal window titled "Terminal - labex@685cd83" with a menu bar (File, Edit, View, Terminal, Tabs, Help). The terminal shows the following commands and output:

```
labex:project/ $ cd test_dir
labex:test_dir/ $ ls
labex:test_dir/ $ touch example.txt
labex:test_dir/ $ ls
example.txt
```

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

Ans : **mv example.txt renamed\_example.txt**

Explanation : Moves files or renames them.

Screen Shot :

```
labex:test_dir/ $ ls
example.txt
labex:test_dir/ $ mv example.txt renamed_example.txt
labex:test_dir/ $ ls
renamed_example.txt
labex:test_dir/ $
```

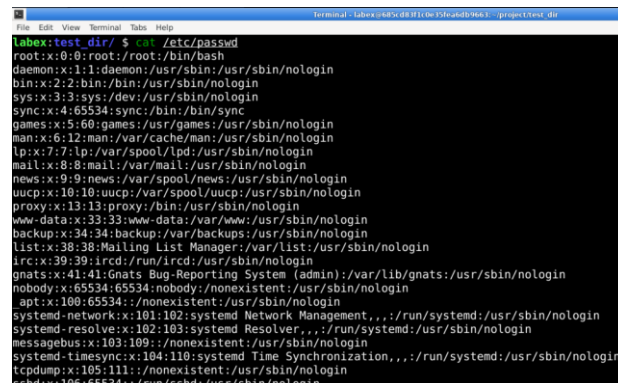
## 2. Viewing File Contents

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

Ans : **cat /etc/passwd**

Explanation : Display content of files or combine files.

Screen Shot :



```
labex: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
gnats:x:41:41:Gnats Bug-Reporting System (admin)/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
_apt:x:100:65534:./nonexistent:/usr/sbin/nologin
systemd-network:x:101:102:systemd Network Management,./run/systemd:/usr/sbin/nologin
systemd-resolve:x:102:103:systemd Resolver,./run/systemd:/usr/sbin/nologin
messagebus:x:103:109:./nonexistent:/usr/sbin/nologin
systemd-timesync:x:104:110:systemd Time Synchronization,./run/systemd:/usr/sbin/nologin
tcpdump:x:105:111:./nonexistent:/usr/sbin/nologin
cchd:x:106:65534:./run/cchd:/usr/sbin/nologin
```

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

Ans : **head -5 /etc/passwd**

Explanation : Shows the top lines (default: 10) of a file. This one show first 5 line

Screen Shot :

```
labex:test_dir/ $ head -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
labex:test_dir/ $
```

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

Ans : **tail -5 /etc/passwd**

Explanation : Shows the bottom lines (default: 10) of a file. This one show last 5 line

Screen Shot :

```
labex:test_dir/ $ tail -5 /etc/passwd
pulse:x:112:119:PulseAudio daemon,,:/run/pulse:/usr/sbin/nologin
labex:x:5000:5000::/home/labex:/usr/bin/zsh
mysql:x:113:122:MySQL Server,,:/var/lib/mysql:/bin/false
mongodb:x:999:999::/home/mongodb:/bin/sh
redis:x:114:123::/var/lib/redis:/usr/sbin/nologin
labex:test_dir/ $
```

### **3. Searching for Patterns**

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

Ans : **grep "root" /etc/passwd**

Explanation : Searches for a pattern in a file or command output.

Screen Shot :

```
labex:test_dir/ $ grep "root" /etc/passwd
root:x:0:0:root:/root:/bin/bash
labex:test_dir/ $
```

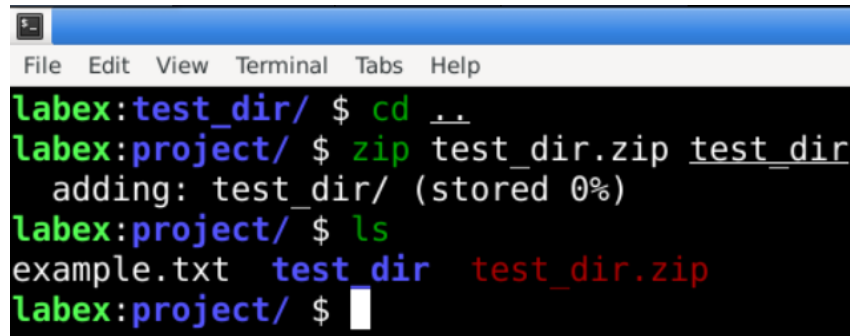
#### 4. Zippping and Unzipping

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

Ans : **zip test\_dir.zip test\_dir**

Explanation : Compress one or more files into a .zip archive.

Screen Shot :

A terminal window with a blue title bar and menu bar (File, Edit, View, Terminal, Tabs, Help). The terminal text shows the user navigating from test\_dir to project and creating a zip file.

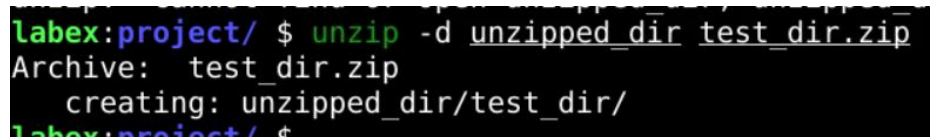
```
labex:test_dir/ $ cd ..
labex:project/ $ zip test_dir.zip test_dir
adding: test_dir/ (stored 0%)
labex:project/ $ ls
example.txt  test_dir  test_dir.zip
labex:project/ $
```

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

Ans : **unzip -d unzipped\_dir test\_dir.zip**

Explanation : Extract contents of a .zip file.

Screen Shot :

A terminal window showing the command to unzip a file into a new directory.

```
labex:project/ $ unzip -d unzipped_dir test_dir.zip
Archive:  test_dir.zip
creating: unzipped_dir/test_dir/
labex:project/ $
```

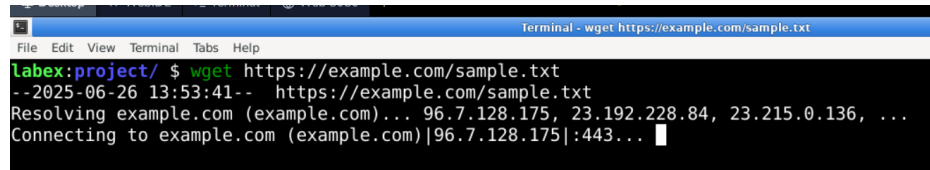
#### 5. Downloading Files

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

Ans : **wget https://example.com/sample.txt**

Explanation : Download files using the terminal. I dont know this is stuck in this screen.

Screen Shot :

A terminal window titled "Terminal - wget https://example.com/sample.txt". The prompt is "labex:project/". The command "wget https://example.com/sample.txt" has been entered. The output shows the date and time "--2025-06-26 13:53:41--", the URL "https://example.com/sample.txt", the process of resolving "example.com" to IP addresses "96.7.128.175, 23.192.228.84, 23.215.0.136, ...", and the connection attempt "Connecting to example.com (example.com)[96.7.128.175]:443...".

```
labex:project/ $ wget https://example.com/sample.txt
--2025-06-26 13:53:41-- https://example.com/sample.txt
Resolving example.com (example.com)... 96.7.128.175, 23.192.228.84, 23.215.0.136, ...
Connecting to example.com (example.com)[96.7.128.175]:443...
```

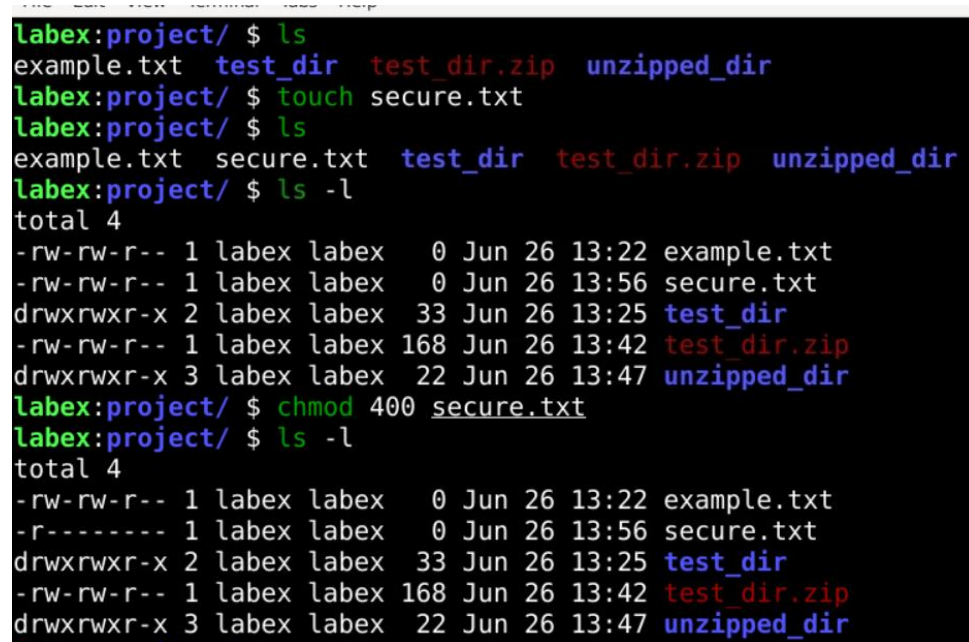
## 6. Changing Permissions

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

Ans : **chmod 400 secure.txt**

Explanation : Change who can read, write, or execute a file.

Screen Shot :

A terminal window showing a series of commands and their outputs. The prompt is "labex:project/". The commands and outputs are: "ls" showing "example.txt test\_dir test\_dir.zip unzipped\_dir"; "touch secure.txt"; "ls" showing "example.txt secure.txt test\_dir test\_dir.zip unzipped\_dir"; "ls -l" showing a detailed listing of files with permissions, owner, group, size, date, and filename; "chmod 400 secure.txt"; and "ls -l" showing the updated permissions for "secure.txt" as "-r-----".

```
labex:project/ $ ls
example.txt test_dir test_dir.zip unzipped_dir
labex:project/ $ touch secure.txt
labex:project/ $ ls
example.txt secure.txt test_dir test_dir.zip unzipped_dir
labex:project/ $ ls -l
total 4
-rw-rw-r-- 1 labex labex  0 Jun 26 13:22 example.txt
-rw-rw-r-- 1 labex labex  0 Jun 26 13:56 secure.txt
drwxrwxr-x 2 labex labex 33 Jun 26 13:25 test_dir
-rw-rw-r-- 1 labex labex 168 Jun 26 13:42 test_dir.zip
drwxrwxr-x 3 labex labex 22 Jun 26 13:47 unzipped_dir
labex:project/ $ chmod 400 secure.txt
labex:project/ $ ls -l
total 4
-rw-rw-r-- 1 labex labex  0 Jun 26 13:22 example.txt
-r----- 1 labex labex  0 Jun 26 13:56 secure.txt
drwxrwxr-x 2 labex labex 33 Jun 26 13:25 test_dir
-rw-rw-r-- 1 labex labex 168 Jun 26 13:42 test_dir.zip
drwxrwxr-x 3 labex labex 22 Jun 26 13:47 unzipped_dir
```

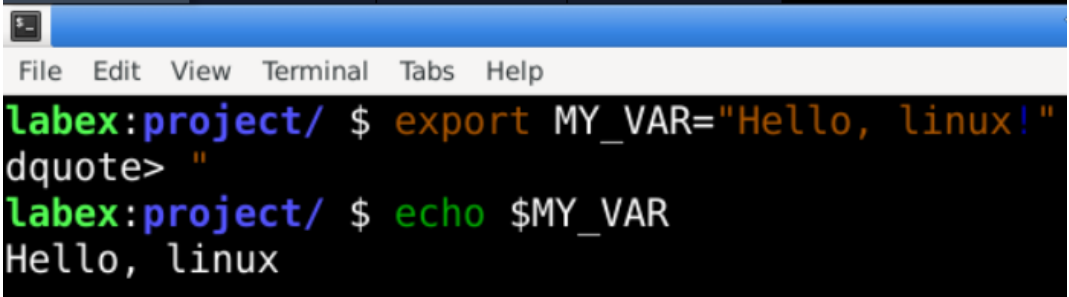
## 7. Working with Environment Variables

- Use export to set a new environment variable called MY\_VAR with the value "Hello, Linux!".

Ans : **export MY\_VAR="Hello, linux!"**

Explanation :Temporarily sets or exports environment variables for shell sessions.

Screen Shot :

A screenshot of a terminal window with a blue title bar and a menu bar containing 'File', 'Edit', 'View', 'Terminal', 'Tabs', and 'Help'. The terminal content shows a user at the 'labex:project/' prompt entering the command 'export MY\_VAR="Hello, linux!"'. The prompt then changes to 'labex:project/' and the user enters 'echo \$MY\_VAR', resulting in the output 'Hello, linux' on the next line.

```
labex:project/ $ export MY_VAR="Hello, linux!"
labex:project/ $ echo $MY_VAR
Hello, linux
```