

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`

⇒ # 1. Create a directory named `test_dir` using `mkdir`

- `mkdir test_dir`

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

⇒ # 2. Create an empty file inside it

- `touch test_dir/example.txt`

```
labex:Assignment/ $ ls test_dir
labex:Assignment/ $ touch test_dir/example.txt
labex:Assignment/ $ ls test_dir
example.txt
labex:Assignment/ $
```

⇒ # 3. Rename the file

- `mv test_dir/example.txt test_dir/renamed_example.txt`

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

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.

⇒ # 1. Use cat to display the contents of /etc/passwd.

- **cat /etc/passwd**

```
labex:Assignment/ $ 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:Mail 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
```

⇒ # 2. Display only the first 5 lines of /etc/passwd using head.

- **head -n 5 /etc/passwd**

```
labex:Assignment/ $ head -n 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:Assignment/ $
```

⇒ # 3. Display only the last 5 lines of /etc/passwd using tail.

- **tail -n 5 /etc/passwd**

```
labex:Assignment/ $ tail -n 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:Assignment/ $
```

Searching for Patterns

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

- ⇒ #1. Use grep to find all lines containing the word "root" in /etc/passwd.
- `grep "root" /etc/passwd`

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

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.

- ⇒ #1. Compress test_dir into test_dir.zip.
- `zip -r test_dir.zip test_dir`

```
labex:Assignment/ $ zip -r test_dir.zip test_dir
adding: test_dir/ (stored 0%)
adding: test_dir/renamed_example.txt (stored 0%)
labex:Assignment/ $ ls
test_dir  test_dir.zip
labex:Assignment/ $
```

- ⇒ #2. Unzip into a new directory.
- `unzip test_dir.zip -d unzipped_dir`

```
labex:Assignment/ $ ls
test_dir  test_dir.zip
labex:Assignment/ $ unzip test_dir.zip -d unzipped_dir
Archive:  test_dir.zip
  creating: unzipped_dir/test_dir/
  extracting: unzipped_dir/test_dir/renamed_example.txt
labex:Assignment/ $ ls
test_dir  test_dir.zip  unzipped_dir
labex:Assignment/ $
```

Downloading Files

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

⇒ #1. Use wget to download a file

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

```
labex:Assignment/ $ wget https://example.com/sample.txt
--2025-08-11 14:16:16-- https://example.com/sample.txt
Resolving example.com (example.com)... 23.215.0.138, 96.7.128.175, 23.192.228.84, ...
Connecting to example.com (example.com)|23.215.0.138|:443... failed: Connection timed out.
Connecting to example.com (example.com)|96.7.128.175|:443... failed: Connection timed out.
Connecting to example.com (example.com)|23.192.228.84|:443... █
```

Changing Permissions

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

⇒ #1. Create a file named secure.txt

- **touch secure.txt**

```
labex:Assignment/ $ ls -la
total 4
drwxrwxr-x 4 labex labex 62 Aug 11 14:23 .
drwxr-xr-x 1 labex labex 39 Aug 11 13:31 ..
drwxrwxr-x 2 labex labex 33 Aug 11 13:34 test_dir
-rw-rw-r-- 1 labex labex 352 Aug 11 14:09 test_dir.zip
drwxrwxr-x 3 labex labex 22 Aug 11 14:10 unzipped_dir
labex:Assignment/ $ touch secure.txt
labex:Assignment/ $ ls -la
total 4
drwxrwxr-x 4 labex labex 80 Aug 11 14:23 .
drwxr-xr-x 1 labex labex 39 Aug 11 13:31 ..
-rw-rw-r-- 1 labex labex 0 Aug 11 14:23 secure.txt
drwxrwxr-x 2 labex labex 33 Aug 11 13:34 test_dir
-rw-rw-r-- 1 labex labex 352 Aug 11 14:09 test_dir.zip
drwxrwxr-x 3 labex labex 22 Aug 11 14:10 unzipped_dir
labex:Assignment/ $ █
```

⇒ #2. change its permissions to read-only for everyone using chmod

- **chmod 444 secure.txt**

```

labex:Assignment/ $ ls -la
total 4
drwxrwxr-x 4 labex labex 80 Aug 11 14:23 .
drwxr-xr-x 1 labex labex 39 Aug 11 13:31 ..
-rw-rw-r-- 1 labex labex 0 Aug 11 14:23 secure.txt
drwxrwxr-x 2 labex labex 33 Aug 11 13:34 test_dir
-rw-rw-r-- 1 labex labex 352 Aug 11 14:09 test_dir.zip
drwxrwxr-x 3 labex labex 22 Aug 11 14:10 unzipped_dir
labex:Assignment/ $ chmod 444 secure.txt
labex:Assignment/ $ ls -la
total 4
drwxrwxr-x 4 labex labex 80 Aug 11 14:23 .
drwxr-xr-x 1 labex labex 39 Aug 11 13:31 ..
-r--r--r-- 1 labex labex 0 Aug 11 14:23 secure.txt
drwxrwxr-x 2 labex labex 33 Aug 11 13:34 test_dir
-rw-rw-r-- 1 labex labex 352 Aug 11 14:09 test_dir.zip
drwxrwxr-x 3 labex labex 22 Aug 11 14:10 unzipped_dir
labex:Assignment/ $

```

Working with Environment Variables

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

- ⇒ #1. set a new environment variable called MY_VAR with the value "Hello, Linux!".
 - export MY_VAR="Hello, Linux!"

```

labex:Assignment/ $ export MY_VAR="Hello, Linux
dquote> "
labex:Assignment/ $ echo $MY_VAR
Hello, Linux

```