

Assignment 2]

1. Create a directory structure under `/home/archive_project` with subdirectories for docs, images, and scripts.

Using the mkdir command

The `mkdir` command is used to create directories in Linux. You can use it with the `-p` option to create nested directories, meaning it will create parent directories if they don't already exist.

Here is the command to create `/home/archive_project` with the subdirectories docs, images, and scripts:

```
sudo mkdir -p /home/archive_project/docs /home/archive_project/images  
/home/archive_project/scripts
```

- **sudo:**
 - This command runs the command with superuser (administrator) privileges. You need superuser privileges to create directories at the system level (`/home` directory).
 - You may be prompted for your password to confirm that you have permission to run this command.
- **mkdir:**
 - This is the command used to create directories.
 - **-p:** This option tells `mkdir` to create parent directories as needed. If `/home/archive_project` doesn't already exist, it will create the `archive_project` directory first, and then the docs, images, and scripts directories inside it.
 - **/home/archive_project/docs:**
 - This is the path where the first subdirectory (docs) will be created inside the `archive_project` directory.
 - **/home/archive_project/images:**
 - This is the path where the second subdirectory (images) will be created inside the `archive_project` directory.
 - **/home/archive_project/scripts:**
 - This is the path where the third subdirectory (scripts) will be created inside the `archive_project` directory.

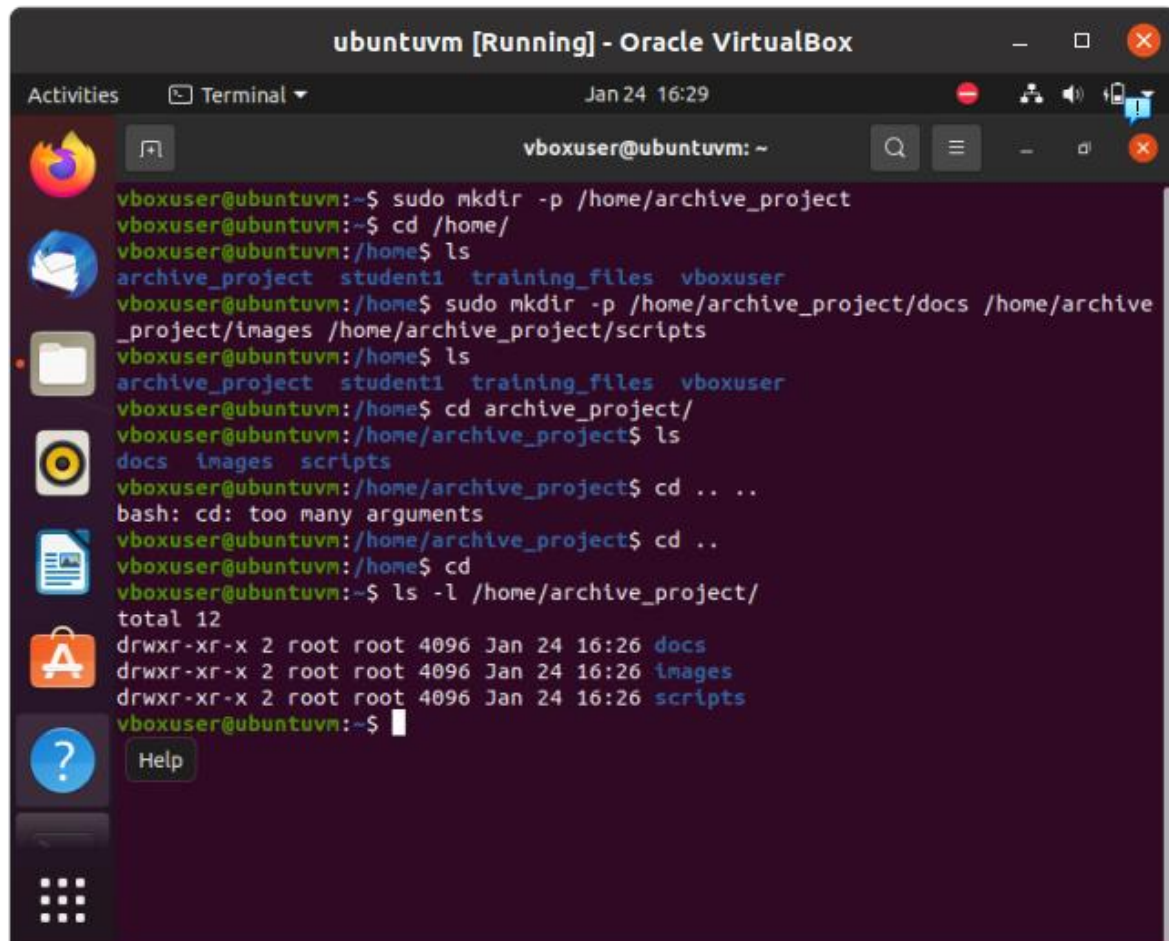
Check if `/home/archive_project` is created:

```
ls -l /home
```

Check the subdirectories inside /home/archive_project:

`ls -l /home/archive_project`

This will show you the docs, images, and scripts subdirectories inside archive_project.



```
ubuntuvm [Running] - Oracle VirtualBox
Activities Terminal Jan 24 16:29
vboxuser@ubuntuvm: ~
vboxuser@ubuntuvm:~$ sudo mkdir -p /home/archive_project
vboxuser@ubuntuvm:~$ cd /home/
vboxuser@ubuntuvm:/home$ ls
archive_project student1 training_files vboxuser
vboxuser@ubuntuvm:/home$ sudo mkdir -p /home/archive_project/docs /home/archive_project/images /home/archive_project/scripts
vboxuser@ubuntuvm:/home$ ls
archive_project student1 training_files vboxuser
vboxuser@ubuntuvm:/home$ cd archive_project/
vboxuser@ubuntuvm:/home/archive_project$ ls
docs images scripts
vboxuser@ubuntuvm:/home/archive_project$ cd .. ..
bash: cd: too many arguments
vboxuser@ubuntuvm:/home/archive_project$ cd ..
vboxuser@ubuntuvm:/home$ cd
vboxuser@ubuntuvm:~$ ls -l /home/archive_project/
total 12
drwxr-xr-x 2 root root 4096 Jan 24 16:26 docs
drwxr-xr-x 2 root root 4096 Jan 24 16:26 images
drwxr-xr-x 2 root root 4096 Jan 24 16:26 scripts
vboxuser@ubuntuvm:~$
```

2. Add some dummy text files and script files into their respective directories.

Add Dummy Text Files into the docs Directory

You'll want to create some text files in the docs directory. You can either create empty files or add some dummy content using the echo command.

Add Dummy Text Files to the docs Directory

Text files are usually just files that contain plain text data. In this case, we're adding dummy (empty) text files to the docs directory.

Navigate to the docs directory

```
cd /home/archive_project/docs
```

Create Dummy Text Files: To create empty text files, you can use the touch command. The touch command is used to create an empty file if it doesn't already exist.

Run this command to create two dummy text files inside the /home/archive_project/docs directory:

```
sudo touch /home/archive_project/docs/dummy_text_file1.txt  
/home/archive_project/docs/dummy_text_file2.txt
```

- **touch:** Creates an empty file (no content inside).
- **dummy_text_file1.txt** and **dummy_text_file2.txt:** These are the names of the files you're creating.

Verify the Files: After creating the files, you can list the contents of the directory to verify the files were created

```
ls -l /home/archive_project/docs
```

Add Dummy Image Files to the images Directory

We will now add dummy image files to the images directory. These will be placeholder image files

```
cd /home/archive_project/images
```

```
sudo touch /home/archive_project/images/image1.jpg  
/home/archive_project/images/image2.png
```

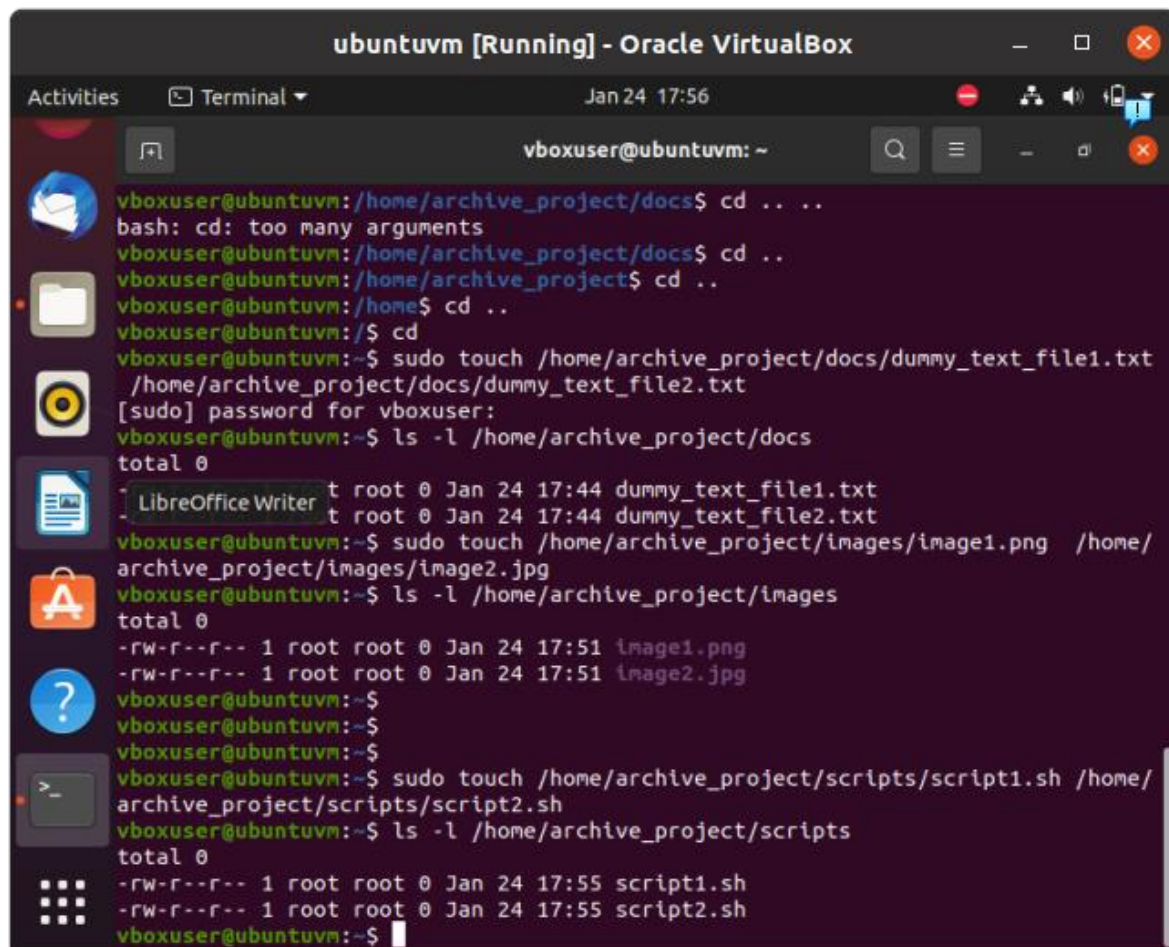
```
ls -l /home/archive_project/images
```

For the **scripts** directory, we will create empty shell script files. These files will have the .sh extension (commonly used for shell scripts)

```
cd /home/archive_project/scripts
```

```
sudo touch /home/archive_project/scripts/script1.sh  
/home/archive_project/scripts/script2.sh
```

```
ls -l /home/archive_project/scripts
```



```
ubuntuvvm [Running] - Oracle VirtualBox
Activities Terminal Jan 24 17:56
vboxuser@ubuntuvvm: ~
vboxuser@ubuntuvvm:/home/archive_project/docs$ cd .. ..
bash: cd: too many arguments
vboxuser@ubuntuvvm:/home/archive_project/docs$ cd ..
vboxuser@ubuntuvvm:/home/archive_project$ cd ..
vboxuser@ubuntuvvm:/home$ cd ..
vboxuser@ubuntuvvm:/$ cd
vboxuser@ubuntuvvm:~$ sudo touch /home/archive_project/docs/dummy_text_file1.txt
/home/archive_project/docs/dummy_text_file2.txt
[sudo] password for vboxuser:
vboxuser@ubuntuvvm:~$ ls -l /home/archive_project/docs
total 0
-rw-r--r-- 1 root 0 Jan 24 17:44 dummy_text_file1.txt
-rw-r--r-- 1 root 0 Jan 24 17:44 dummy_text_file2.txt
vboxuser@ubuntuvvm:~$ sudo touch /home/archive_project/images/image1.png /home/
archive_project/images/image2.jpg
vboxuser@ubuntuvvm:~$ ls -l /home/archive_project/images
total 0
-rw-r--r-- 1 root root 0 Jan 24 17:51 image1.png
-rw-r--r-- 1 root root 0 Jan 24 17:51 image2.jpg
vboxuser@ubuntuvvm:~$
vboxuser@ubuntuvvm:~$
vboxuser@ubuntuvvm:~$
vboxuser@ubuntuvvm:~$ sudo touch /home/archive_project/scripts/script1.sh /home/
archive_project/scripts/script2.sh
vboxuser@ubuntuvvm:~$ ls -l /home/archive_project/scripts
total 0
-rw-r--r-- 1 root root 0 Jan 24 17:55 script1.sh
-rw-r--r-- 1 root root 0 Jan 24 17:55 script2.sh
vboxuser@ubuntuvvm:~$
```

3. Create a tar archive named `project_backup.tar` for the entire `archive_project` folder.

Create the `project_backup.tar` Archive

Use the tar command to create an archive

```
tar -cvf project_backup.tar /home/archive_project
```

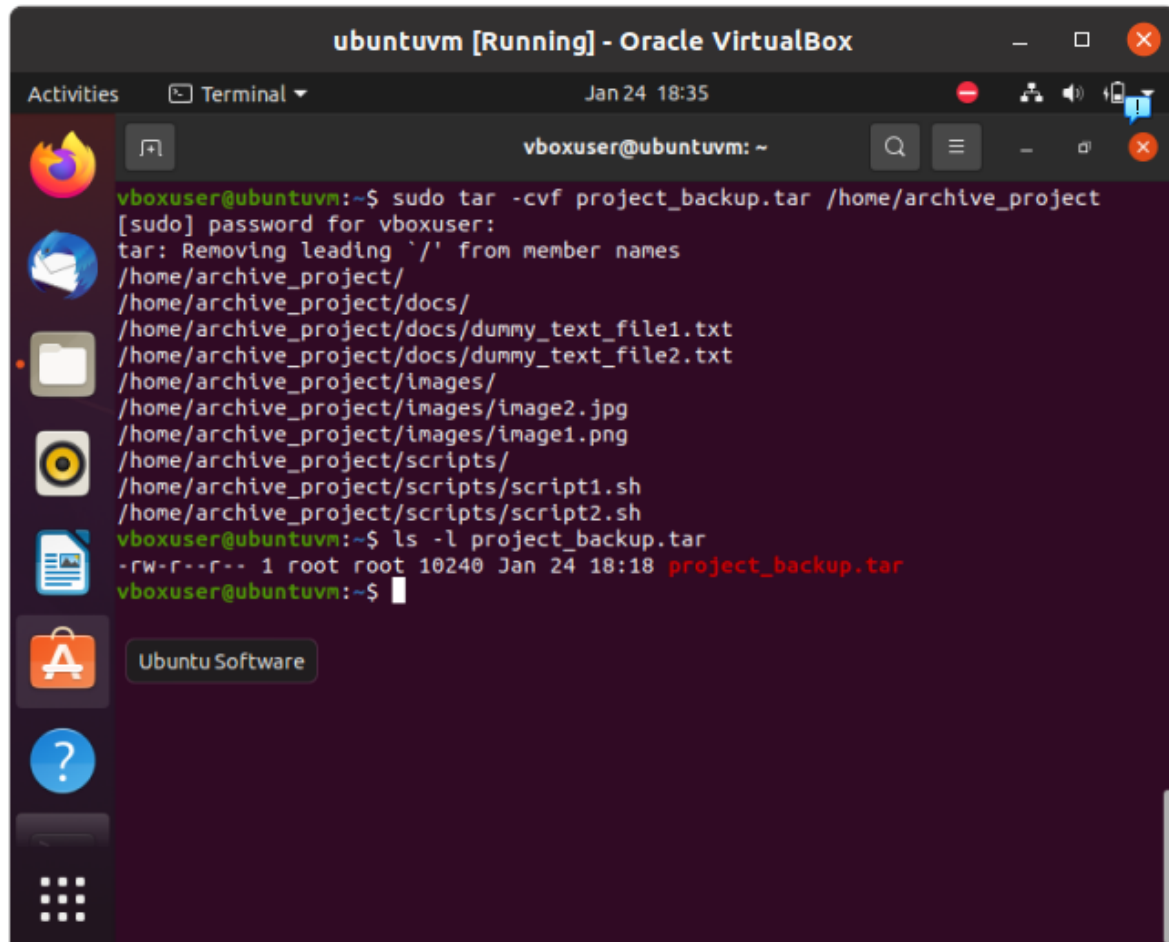
- **tar**: The command used to create and manage tar archives.
- **-c**: Create a new archive.
- **-v**: Verbose mode (shows the files being added to the archive).
- **-f**: Specifies the name of the archive file to create.
- **project_backup.tar**: The name of the archive you're creating.
- **/home/archive_project**: The directory you want to archive.

```
sudo tar -cvf project_backup.tar /home/archive_project
```

Note: The `sudo` command is used to ensure that you have the necessary permissions to access all the files in the `/home/archive_project` directory, especially if some of the files or subdirectories are owned by a different user (like `root`).

Verify the Archive: After running the command, you can check that the tar archive was successfully created by listing the contents of the directory where you ran the command.

`ls -l project_backup.tar`



```
ubuntuvvm [Running] - Oracle VirtualBox
Activities Terminal Jan 24 18:35
vboxuser@ubuntuvvm: ~
vboxuser@ubuntuvvm:~$ sudo tar -cvf project_backup.tar /home/archive_project
[sudo] password for vboxuser:
tar: Removing leading '/' from member names
/home/archive_project/
/home/archive_project/docs/
/home/archive_project/docs/dummy_text_file1.txt
/home/archive_project/docs/dummy_text_file2.txt
/home/archive_project/images/
/home/archive_project/images/image2.jpg
/home/archive_project/images/image1.png
/home/archive_project/scripts/
/home/archive_project/scripts/script1.sh
/home/archive_project/scripts/script2.sh
vboxuser@ubuntuvvm:~$ ls -l project_backup.tar
-rw-r--r-- 1 root root 10240 Jan 24 18:18 project_backup.tar
vboxuser@ubuntuvvm:~$
```