LINUX Assignment

Task 1: File Manipulation

1. Created a directory called "LinuxAssignment" in your home directory using mkdir command.

```
           #_
  ~\_   ####_        Amazon Linux 2023
 ~~  \_#####\
 ~~     \###|
 ~~      \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
  ~~     V~' '->
   ~~~         /
     ~~._.   _/
        _/ _/
      _/m/'
Last login: Wed Sep 13 09:44:59 2023 from 13.233.177.4
[ec2-user@ip-172-31-33-109 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-33-109 ~]$ mkdir LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$
```

i-013f9840e4c4ef377 (ec2WS1)

PublicIPs: 43.205.118.93   PrivateIPs: 172.31.33.109

2. Inside LinuxAssignment Directory, file1.txt, file2.txt,file3.txt are created using touch command.
3. Used ls command to list the files in the "LinuxAssignment" directory.

```
         #_
  ~\_   ####_          Amazon Linux 2023
 ~~  \_#####\
 ~~     \###|
 ~~      \#/ ___       https://aws.amazon.com/linux/amazon-linux-2023
  ~~      V~' '->
   ~~~         /
    ~~._.   _/
       _/ _/
     _/m/'
Last login: Wed Sep 13 09:44:59 2023 from 13.233.177.4
[ec2-user@ip-172-31-33-109 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-33-109 ~]$ mkdir LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ touch file1.txt file2.txt file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file2.txt  file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ▮
```

4. renamed file2.txt to newfile.txt using mv command.

```
             #
  ~\_   ####_          Amazon Linux 2023
 ~~   \_#####\
 ~~       \###|
 ~~        \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
  ~~       V~' '->
   ~~~         /
    ~~._.   _/
       _/ _/
      _/m/'
Last login: Wed Sep 13 09:44:59 2023 from 13.233.177.4
[ec2-user@ip-172-31-33-109 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-33-109 ~]$ mkdir LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ touch file1.txt file2.txt file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file2.txt  file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv file2.txt newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file3.txt  newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

5. moved newfile.txt to a subdirectory called "docs" within "LinuxAssignment.“
6. Verified that newfile.txt is now in the "docs" subdirectory.

```
Last login: Wed Sep 13 09:44:59 2023 from 13.233.177.4
[ec2-user@ip-172-31-33-109 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-33-109 ~]$ mkdir LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ touch file1.txt file2.txt file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file2.txt  file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv file2.txt newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file3.txt  newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mkdir docs
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs  file1.txt  file3.txt  newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv newfile ~/docs/newfile.txt
mv: cannot stat 'newfile': No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv newfile.txt  ~/docs/newfile.txt
mv: cannot move 'newfile.txt' to '/home/ec2-user/docs/newfile.txt': No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv ~/LinuxAssignment/newfile.txt ~/LinuxAssignment/docs/newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls docs
newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

7. Created a copy of file1.txt and name it file1_copy.txt in the "LinuxAssignment" directory using cp command.

8. Removed file3.txt from the "LinuxAssignment" directory using rm command.

```
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ touch file1.txt file2.txt file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file2.txt  file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv file2.txt newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
file1.txt  file3.txt  newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mkdir docs
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs  file1.txt  file3.txt  newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv newfile ~/docs/newfile.txt
mv: cannot stat 'newfile': No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv newfile.txt  ~/docs/newfile.txt
mv: cannot move 'newfile.txt' to '/home/ec2-user/docs/newfile.txt': No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ mv ~/LinuxAssignment/newfile.txt ~/LinuxAssignment/docs/newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls docs
newfile.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cp ~/file1.txt ~/file1_copy.txt
cp: cannot stat '/home/ec2-user/file1.txt': No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cp ~/LinuxAssignment/file1.txt ~/LinuxAssignment/file1_copy.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs  file1.txt  file1_copy.txt  file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ rm file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs  file1.txt  file1_copy.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

Task 2: Directory Operations

1. Navigated to your home directory using the cd command.

```
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cp ~/file1.txt ~/file1_copy.txt
cp: cannot stat '/home/ec2-user/file1.txt': No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cp ~/LinuxAssignment/file1.txt ~/LinuxAssignment/file1_copy.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs   file1.txt   file1_copy.txt   file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ rm file3.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs   file1.txt   file1_copy.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cd homw
-bash: cd: homw: No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cd home
-bash: cd: home: No such file or directory
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cd ..
[ec2-user@ip-172-31-33-109 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-33-109 ~]$ cd homw
-bash: cd: homw: No such file or directory
[ec2-user@ip-172-31-33-109 ~]$ cd home
-bash: cd: home: No such file or directory
[ec2-user@ip-172-31-33-109 ~]$ cd ..
[ec2-user@ip-172-31-33-109 home]$ pwd
/home
[ec2-user@ip-172-31-33-109 home]$
```

2. Created a directory called "Data" inside your home directory.

```
[ec2-user@ip-172-31-33-109 home]$ mkdir data
mkdir: cannot create directory 'data': Permission denied
[ec2-user@ip-172-31-33-109 home]$ cd ec2-user
[ec2-user@ip-172-31-33-109 ~]$ mkdir data
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment  data
[ec2-user@ip-172-31-33-109 ~]$ rm -r data
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd ..
[ec2-user@ip-172-31-33-109 home]$ ls
ec2-user
[ec2-user@ip-172-31-33-109 home]$ mkdir data
mkdir: cannot create directory 'data': Permission denied
[ec2-user@ip-172-31-33-109 home]$ sudo chmod -R 777 homw
chmod: cannot access 'homw': No such file or directory
[ec2-user@ip-172-31-33-109 home]$ sudo chmod -R 777 home
chmod: cannot access 'home': No such file or directory
[ec2-user@ip-172-31-33-109 home]$ cd ec2-user
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ mkdir Data
[ec2-user@ip-172-31-33-109 ~]$ ls
Data  LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$
```

3. Created subdirectories Documents, Pictures, Music in Data directory.
4. listed the contents in Data directory.

```
ec2-user
[ec2-user@ip-172-31-33-109 home]$ mkdir data
mkdir: cannot create directory 'data': Permission denied
[ec2-user@ip-172-31-33-109 home]$ sudo chmod -R 777 homw
chmod: cannot access 'homw': No such file or directory
[ec2-user@ip-172-31-33-109 home]$ sudo chmod -R 777 home
chmod: cannot access 'home': No such file or directory
[ec2-user@ip-172-31-33-109 home]$ cd ec2-user
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ mkdir Data
[ec2-user@ip-172-31-33-109 ~]$ ls
Data   LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ mkdir Documents Pictures Music
[ec2-user@ip-172-31-33-109 ~]$ ls Data
[ec2-user@ip-172-31-33-109 ~]$ ls
Data   Documents  LinuxAssignment  Music   Pictures
[ec2-user@ip-172-31-33-109 ~]$ rm -r Documents Pictures Music
[ec2-user@ip-172-31-33-109 ~]$ ls
Data   LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd Data
[ec2-user@ip-172-31-33-109 Data]$ mkdir Documents Pictures Music
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents  Music   Pictures
```

5. Renamed the "Pictures" directory to "Photos."

```
chmod: cannot access 'home': No such file or directory
[ec2-user@ip-172-31-33-109 home]$ cd ec2-user
[ec2-user@ip-172-31-33-109 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ mkdir Data
[ec2-user@ip-172-31-33-109 ~]$ ls
Data    LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ mkdir Documents Pictures Music
[ec2-user@ip-172-31-33-109 ~]$ ls Data
[ec2-user@ip-172-31-33-109 ~]$ ls
Data    Documents    LinuxAssignment    Music    Pictures
[ec2-user@ip-172-31-33-109 ~]$ rm -r Documents Pictures Music
[ec2-user@ip-172-31-33-109 ~]$ ls
Data    LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd Data
[ec2-user@ip-172-31-33-109 Data]$ mkdir Documents Pictures Music
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents    Music    Pictures
[ec2-user@ip-172-31-33-109 Data]$ mv Pictures Photos
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents    Music    Photos
[ec2-user@ip-172-31-33-109 Data]$
```

6. Moved the "Photos" directory to the "Documents" directory using mv command.

7. Verified that the "Photos" directory is now inside the "Documents" directory using ls command.

8. Deletes the "Music" directory and its contents using rm -r command.

```
[ec2-user@ip-172-31-33-109 ~]$ mkdir Documents Pictures Music
[ec2-user@ip-172-31-33-109 ~]$ ls Data
[ec2-user@ip-172-31-33-109 ~]$ ls
Data    Documents    LinuxAssignment    Music    Pictures
[ec2-user@ip-172-31-33-109 ~]$ rm -r Documents Pictures Music
[ec2-user@ip-172-31-33-109 ~]$ ls
Data    LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd Data
[ec2-user@ip-172-31-33-109 Data]$ mkdir Documents Pictures Music
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents    Music    Pictures
[ec2-user@ip-172-31-33-109 Data]$ mv Pictures Photos
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents    Music    Photos
[ec2-user@ip-172-31-33-109 Data]$ mv Photos ~/Documents/Photos
mv: cannot move 'Photos' to '/home/ec2-user/Documents/Photos': No such file or directory
[ec2-user@ip-172-31-33-109 Data]$ mv Photos ~/Data/Documents/Photos
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents    Music
[ec2-user@ip-172-31-33-109 Data]$ ls Documents
Photos
[ec2-user@ip-172-31-33-109 Data]$ rm -r Music
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents
[ec2-user@ip-172-31-33-109 Data]$
```

Task 3: File Viewing and Text Editing

1. Created a new file called sample.txt inside the "LinuxAssignment" directory using touch command
2. echo command to add the text "Hello, Linux!" to sample.txt.
3. Displayed the contents of sample.txt using the cat command.

```
Documents   Music   Pictures
[ec2-user@ip-172-31-33-109 Data]$ mv Pictures Photos
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents   Music   Photos
[ec2-user@ip-172-31-33-109 Data]$ mv Photos ~/Documents/Photos
mv: cannot move 'Photos' to '/home/ec2-user/Documents/Photos': No such file or directory
[ec2-user@ip-172-31-33-109 Data]$ mv Photos ~/Data/Documents/Photos
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents   Music
[ec2-user@ip-172-31-33-109 Data]$ ls Documents
Photos
[ec2-user@ip-172-31-33-109 Data]$ rm -r Music
[ec2-user@ip-172-31-33-109 Data]$ ls
Documents
[ec2-user@ip-172-31-33-109 Data]$ cd ..
[ec2-user@ip-172-31-33-109 ~]$ ls
Data   LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ touch sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs   file1.txt   file1_copy.txt   sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ echo "Hello,Linux!" > sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```
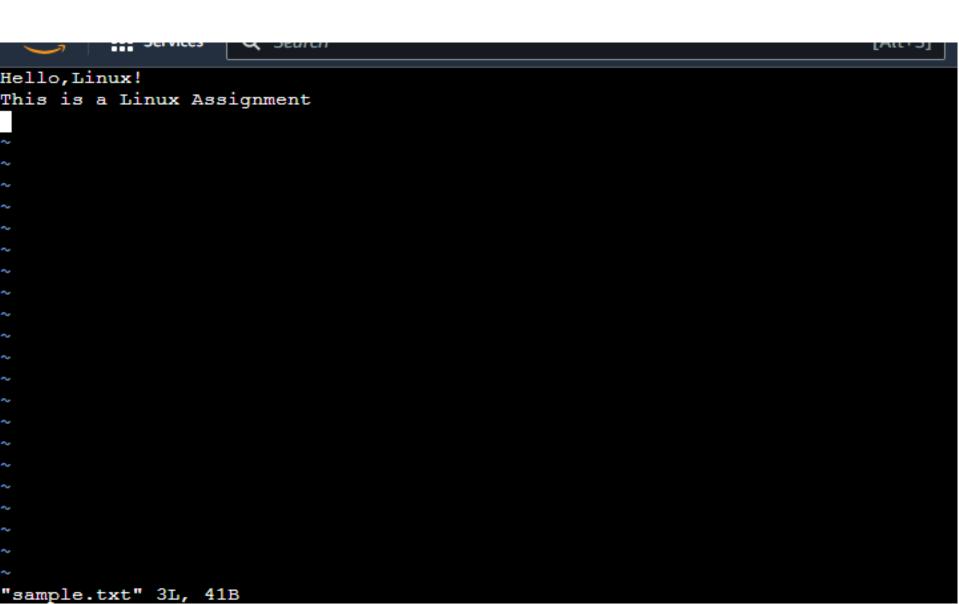
4. Appended the text "This is a Linux assignment." to sample.txt without overwriting the existing content using vim command.

```
Hello,Linux!
This is a Linux Assignment

~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
"sample.txt" 3L, 41B
```

5. Displayed the first 5 lines of sample.txt using the head command.
6. Displayed the last 3 lines of sample.txt using the tail command.

```
Last login: Wed Sep 13 09:48:05 2023 from 13.233.177.4
[ec2-user@ip-172-31-33-109 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-33-109 ~]$ ls
Data   LinuxAssignment
[ec2-user@ip-172-31-33-109 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls
docs   file1.txt   file1_copy.txt   sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ head -n5 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ tail -n3 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

7. Opened sample.txt in a text editor using vim command and done some changes and saved it using :wq command

```
Hello,Linux!
This is a Linux Assignment
I'm Sai Prakash
I'm here a DevOps Trainee
Now I'm going through Linux
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
:wq
```

8. Displayed the contents of sample.txt again to verify your changes using ls command

```
docs    file1.txt    file1_copy.txt    sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ head -n5 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ tail -n3 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
This is a Linux Assignment
I'm Sai Prakash
I'm here a DevOps Trainee
Now I'm going through Linux
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

Task 4: Permissions and Ownership

1. Checked the permissions of the "LinuxAssignment" directory using the ls -l command.

```
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ head -n5 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ tail -n3 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
This is a Linux Assignment
I'm Sai Prakash
I'm here a DevOps Trainee
Now I'm going through Linux
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls -l
total 4
drwxr-xr-x. 2 ec2-user ec2-user  25 Sep 13 10:34 docs
-rw-r--r--. 1 ec2-user ec2-user   0 Sep 13 09:57 file1.txt
-rw-r--r--. 1 ec2-user ec2-user   0 Sep 13 10:42 file1_copy.txt
-rw-r--r--. 1 ec2-user ec2-user 110 Sep 13 12:01 sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

2. Change the permissions of sample.txt so that only the owner can read and write to it.

```
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ head -n5 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ tail -n3 sample.txt
Hello,Linux!
This is a Linux Assignment

[ec2-user@ip-172-31-33-109 LinuxAssignment]$ vi sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ cat sample.txt
Hello,Linux!
This is a Linux Assignment
I'm Sai Prakash
I'm here a DevOps Trainee
Now I'm going through Linux
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ ls -l
total 4
drwxr-xr-x. 2 ec2-user ec2-user  25 Sep 13 10:34 docs
-rw-r--r--. 1 ec2-user ec2-user   0 Sep 13 09:57 file1.txt
-rw-r--r--. 1 ec2-user ec2-user   0 Sep 13 10:42 file1_copy.txt
-rw-r--r--. 1 ec2-user ec2-user 110 Sep 13 12:01 sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$ sudo chmod -R 600 sample.txt
[ec2-user@ip-172-31-33-109 LinuxAssignment]$
```

3. Created a new user named "guest" using the adduser command.
4. Changed the ownership of the "LinuxAssignment" directory and its contents to the "guest" user.
5. Switched to the "guest" user using the su command.
6. accessed and modified the contents of sample.txt and observed the results.

```
[ec2-user@ip-172-31-46-249 LinuxAssignment]$ sudo chown -R guest .
[ec2-user@ip-172-31-46-249 LinuxAssignment]$ ls -l
total 4
drwxr-xr-x. 2 guest ec2-user 25 Sep 14 06:27 docs
-rw-r--r--. 1 guest ec2-user  0 Sep 14 06:22 file1.txt
-rw-r--r--. 1 guest ec2-user  0 Sep 14 06:29 file1_copy.txt
-rw-r--r--. 1 guest ec2-user  0 Sep 14 06:22 file3.txt
-rw-------. 1 guest ec2-user 13 Sep 14 06:31 sample.txt
[ec2-user@ip-172-31-46-249 LinuxAssignment]$ sudo su
[root@ip-172-31-46-249 LinuxAssignment]# su guest
[guest@ip-172-31-46-249 LinuxAssignment]$ passwd
Changing password for user guest.
Current password:
passwd: Authentication token manipulation error
[guest@ip-172-31-46-249 LinuxAssignment]$ ls
docs   file1.txt   file1_copy.txt   file3.txt   sample.txt
[guest@ip-172-31-46-249 LinuxAssignment]$ cat sample.txt
Hello Linux!
[guest@ip-172-31-46-249 LinuxAssignment]$ vi sample.txt
[guest@ip-172-31-46-249 LinuxAssignment]$ cat sample.txt
Hello Linux!
I'm Sai Prakash
This is Linux Assignment.

[guest@ip-172-31-46-249 LinuxAssignment]$ 
```

Task 5: Searching and Archiving

1. Searched for all files with the ".txt" extension in the "LinuxAssignment" directory using find command.

```
[guest@ip-172-31-46-249 ec2-user]$ exit
exit
[root@ip-172-31-46-249 ec2-user]# pwd
/home/ec2-user
[root@ip-172-31-46-249 ec2-user]# su ec2-user
[ec2-user@ip-172-31-46-249 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-46-249 ~]$ ls -l
total 0
drwxr-xr-x. 3 guest ec2-user 93 Sep 14 07:07 LinuxAssignment
[ec2-user@ip-172-31-46-249 ~]$ sudo chmod 600 sample.txt
chmod: cannot access 'sample.txt': No such file or directory
[ec2-user@ip-172-31-46-249 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-46-249 LinuxAssignment]$ sudo chmod 600 sample.txt
[ec2-user@ip-172-31-46-249 LinuxAssignment]$ sudo chown -R guest .
[ec2-user@ip-172-31-46-249 LinuxAssignment]$ sudo su
[root@ip-172-31-46-249 LinuxAssignment]# su guest
[guest@ip-172-31-46-249 LinuxAssignment]$ ls
docs    file1.txt    file3.txt    sample.txt
[guest@ip-172-31-46-249 LinuxAssignment]$ find . -name "*.txt"
./file3.txt
./docs/newfile.txt
./file1.txt
./sample.txt
[guest@ip-172-31-46-249 LinuxAssignment]$
```

2.Archived LinuxAssignment directory to LinuxAssignment.tar.gz and extracted
LinuxAssignment.tar.gz contents using tar -xf command
to LinuxAssignment_backup directory and verified.

```
[ec2-user@ip-172-31-36-156 ~]$ ls
LinuxAssignment  LinuxAssignment_backup
[ec2-user@ip-172-31-36-156 ~]$ ls LinuxAssignment_backup
LinuxAssignment.tar.gz
[ec2-user@ip-172-31-36-156 ~]$ cd LinuxAssignment_backup
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ ls
LinuxAssignment.tar.gz
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ tar zxvf LinuxAssignment.tar.gz
LinuxAssignment/
LinuxAssignment/docs/
LinuxAssignment/docs/newfile.txt
LinuxAssignment/file1.txt
LinuxAssignment/file1_copy.txt
LinuxAssignment/sample.txt
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ tar zxvf LinuxAssignment.tar.gz LinuxAssignment_backup
tar: LinuxAssignment_backup: Not found in archive
tar: Exiting with failure status due to previous errors
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ tar -xf LinuxAssignment.tar.gz
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ ls
LinuxAssignment   LinuxAssignment.tar.gz
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ ls LinuxAssignment
docs  file1.txt  file1_copy.txt  sample.txt
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$
```

Task 6: SSH Communication

```
tar: LinuxAssignment_backup: Not found in archive
tar: Exiting with failure status due to previous errors
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ tar -xf LinuxAssignment.tar.gz
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ ls
LinuxAssignment    LinuxAssignment.tar.gz
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ ls LinuxAssignment
docs    file1.txt    file1_copy.txt    sample.txt
[ec2-user@ip-172-31-36-156 LinuxAssignment_backup]$ cd ~
[ec2-user@ip-172-31-36-156 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-36-156 ~]$ ssh -i "KP1.pem" ec2-user@172.31.35.189
Warning: Identity file KP1.pem not accessible: No such file or directory.
The authenticity of host '172.31.35.189 (172.31.35.189)' can't be established.
ED25519 key fingerprint is SHA256:NZII/m7kMR78AHWbLmCnJgPk5sRWF8p/anxsD3+Qjmo.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.31.35.189' (ED25519) to the list of known hosts.
ec2-user@172.31.35.189: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-172-31-36-156 ~]$ chmod 400 KP1.pem
chmod: cannot access 'KP1.pem': No such file or directory
[ec2-user@ip-172-31-36-156 ~]$ sudo chmod 400 KP1.pem
chmod: cannot access 'KP1.pem': No such file or directory
[ec2-user@ip-172-31-36-156 ~]$
```

```
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.31.35.189' (ED25519) to the list of known hosts.
ec2-user@172.31.35.189: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[ec2-user@ip-172-31-36-156 ~]$ chmod 400 KP1.pem
chmod: cannot access 'KP1.pem': No such file or directory
[ec2-user@ip-172-31-36-156 ~]$ sudo chmod 400 KP1.pem
chmod: cannot access 'KP1.pem': No such file or directory
[ec2-user@ip-172-31-36-156 ~]$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ec2-user/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ec2-user/.ssh/id_rsa
Your public key has been saved in /home/ec2-user/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:M3ZLp+HEV+hMg29pmk/p5twXT6DUiX+lZLekW2OqCb4 ec2-user@ip-172-31-36-156.ap-south-1.compute.internal
The key's randomart image is:
+---[RSA 3072]----+
|                 |
|         . .     |
|        . +o..   |
|       . =o+*.o  |
|      S *.X=o+o  |
|     . B @.oo*o  |
|      .* o =o+   |
|      . .=o+  o  |
|        E.=* ..  |
+----[SHA256]-----+
[ec2-user@ip-172-31-36-156 ~]$
```

```
        _/m/'
[ec2-user@ip-172-31-35-189 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-35-189 ~]$ ls -la
total 12
drwx------. 3 ec2-user ec2-user  74 Sep 14 09:51 .
drwxr-xr-x. 3 root     root      22 Sep 14 09:51 ..
-rw-r--r--. 1 ec2-user ec2-user  18 Jan 28  2023 .bash_logout
-rw-r--r--. 1 ec2-user ec2-user 141 Jan 28  2023 .bash_profile
-rw-r--r--. 1 ec2-user ec2-user 492 Jan 28  2023 .bashrc
drwx------. 2 ec2-user ec2-user  29 Sep 14 09:51 .ssh
[ec2-user@ip-172-31-35-189 ~]$ cd .ssh
[ec2-user@ip-172-31-35-189 .ssh]$ ls
authorized_keys
[ec2-user@ip-172-31-35-189 .ssh]$ echo "ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCUes91DOKBDk7nT1hnG4d/7mb3XgAYtn3zk
0JDI+VyC0oOXw8+6bjdjY+7uda5DbPSgt59CKYhMtk2LGr+3Kdc2K0xE9VbJDHukyPyCbilNal6ywvwEEL+91x0B1E4Z/GfjRpXLpoEssIiXYURDW
wzqIPoZDeZjBaVWY3MwJBZxrD42U/WktP9WTAG5Wot7h6PencqcFH0dEvV5ThaULEpf2Yk5iDGRH1WDZy2H3uctJ23nM4Kj5hAbJyOH3rlw+bUpeP
uJKoxrK+OfJ8CBMfDMZokC7/DT4lI311d6L462aM2NoJtW4mv8aUYyNAljFZ4DB1mmsi88krjmTWXQvqIrf8q+gad53iRzgGJP1yekDm8wh3PudUz
r@ip-172-31-36-156.ap-south-1.compute.internal" >> authorized_keys
[ec2-user@ip-172-31-35-189 .ssh]$ cat authorized_keys
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQCAERSJvk21c38T47wrQICl2CzPEc5WeqafDjrwugbzeE3JW5dsodjJxP8oDhNxfbEoaNeMreGcI
hyktLgzMDSmiteYZomh/FVmOSyEEKtyVRF+oL4o6JFRNW+qcaoqB5lCpHP+JEbybK6j4vyNem0JA0VF/ujJXK2QxuzKRLvFRCNxm+iVKdPuGGFz7X
ocD2R+mWyJZVMEp3jCQ883qRfkV2//G7/AZ97O4uafkExkQVaBGdxhnQI1Mq7WYhhWT4hb3l6KhxOp3d KP1
```

SSH Connection From Server1 to Server2 using ssh-keygen command

```
-rw-r--r--. 1 ec2-user ec2-user  492 Jan 28  2023 .bashrc
drwx------. 2 ec2-user ec2-user   80 Sep 14 10:02 .ssh
-rw-------. 1 ec2-user ec2-user 1192 Sep 14 09:28 .viminfo
drwxr-xr-x. 3 ec2-user ec2-user   75 Sep 14 09:28 LinuxAssignment
drwxr-xr-x. 3 ec2-user ec2-user   59 Sep 14 09:40 LinuxAssignment_backup
[ec2-user@ip-172-31-36-156 ~]$ cd .ssh
[ec2-user@ip-172-31-36-156 .ssh]$ ls
authorized_keys  id_rsa  id_rsa.pub  known_hosts
[ec2-user@ip-172-31-36-156 .ssh]$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCUes91DOKBDk7nT1hnG4d/7mb3XgAYtn3zkfdPK+YnBrSr7snLwSy
tk2LGr+3Kdc2K0xE9VbJDHukyPyCbilNal6ywvwEEL+91x0B1E4Z/GfjRpXLpoEssIiXYURDWNyxWAV/bSxgdJWH3J2
ot7h6PencqcFH0dEvV5ThaULEpf2Yk5iDGRH1WDZy2H3uctJ23nM4Kj5hAbJyOH3rlw+bUpePaRIpRSnjM76I+U1gmu
2NoJtW4mv8aUYyNAljFZ4DB1mmsi88krjmTWXQvqIrf8q+gad53iRzgGJP1yekDm8wh3PudUzfzebMliOokI5W//TBM
ternal
[ec2-user@ip-172-31-36-156 .ssh]$ ssh ec2-user@172.31.35.189
      ,        #_
   ~\_   ####_         Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___     https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Thu Sep 14 10:13:13 2023 from 13.233.177.5
[ec2-user@ip-172-31-35-189 ~]$
```

SSH Connection From Server2 to Server1 using ssh-keygen command

```
        .  ==o=       |
+----[SHA256]-----+
[ec2-user@ip-172-31-35-189 .ssh]$ ls
authorized_keys  id_rsa  id_rsa.pub  known_hosts  known_hosts.old
[ec2-user@ip-172-31-35-189 .ssh]$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCz1ExWgt8N1DZ33qmjg1x/eKXkZWrxg5BAhUfDuMN/
qE2acEytVVDE/tqPbUagSPbcSb1JWgnZo7aAcN/zOtyJeAhTf4Fxk9emFiyZNcrXiG/q1gmcwrdv/HZ/
0+0fiR0DO62pr0j5eRiYZ4CtRg9qpr4Zx20Pr2mx6QRgoigjHOrGkHXj3QpZFBK1WzzRTkF0f0uHgprz
cTQ6sr7dqiQugXa6DQ5R5KwSgioLe/6K/X/Dpbn+DhwRtKhdci3MSGBKXd+PdTZLhoD2eEppWWqC0tz0
ternal
[ec2-user@ip-172-31-35-189 .ssh]$ ssh ec2-user@172.31.36.156
     ,       #_
    ~\_  ####_          Amazon Linux 2023
   ~~  \_#####\
   ~~      \###|
   ~~       \#/ ___      https://aws.amazon.com/linux/amazon-linux-2023
    ~~       V~' '->
     ~~~        /
       ~~._.   _/
          _/ _/
         _/m/'
Last login: Thu Sep 14 12:25:39 2023 from 13.233.177.5
[ec2-user@ip-172-31-36-156 ~]$
```

Transferred LinuxAssignment directory to server2 using scp -r command

```
LinuxAssignment is not a regular file
failed to upload file LinuxAssignment to /home/ec2-user/LinuxAssignment
[ec2-user@ip-172-31-36-156 ~]$ scp -r LinuxAssignment ec2-user@172.31.35.189:/home/ec2-user/LinuxAssignment
newfile.txt                                                                          100%    0       0.0KB/s
file1.txt                                                                            100%    0       0.0KB/s
file1_copy.txt                                                                       100%    0       0.0KB/s
sample.txt                                                                           100%   87     174.8KB/s
```

```
sample.txt
[ec2-user@ip-172-31-36-156 ~]$ ssh ec2-user@172.31.35.189
      ,        #_
   ~\_   ####_               Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ____          https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Thu Sep 14 12:11:57 2023 from 172.31.36.156
[ec2-user@ip-172-31-35-189 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-35-189 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-35-189 ~]$ ls
LinuxAssignment
[ec2-user@ip-172-31-35-189 ~]$ cd LinuxAssignment
[ec2-user@ip-172-31-35-189 LinuxAssignment]$ ls
docs   file1.txt   file1_copy.txt   sample.txt
[ec2-user@ip-172-31-35-189 LinuxAssignment]$
```