

Troubleshooting common file access issues:

-> Cannot cd into a Directory:

```
$ cd /var/www/html
bash: cd: /var/www/html: Permission denied
```

When i checked the file permissions,

Ls -l /var/www/html

```
drwx----- 2 root root 4096 Feb 20 10:00 /var/www/html
```

Only the root has the access. The current user was 'ec2-user'. To resolve it, change the file permissions.

```
$ sudo chmod 755 /var/www/html
```

And check the permissions,

```
$ ls -ld /var/www/html
```

```
drwxr-xr-x 2 root root 4096 Feb 20 10:00 /var/www/html
```

-> Cannot open a file or cannot run a script:

I have created a simple shell script but am unable to execute it.

```
$ cat script.sh
#!/bin/bash
echo "This is a test script."

$ ./script.sh
bash: ./script.sh: Permission denied

$ ls -l script.sh
-rw-r--r-- 1 ec2-user ec2-user 35 Feb 20 12:45 script.sh
```

When I checked the permissions of the file, it doesn't have execute permission.

```
$ chmod +x script.sh

$ ls -l script.sh
-rwxr-xr-x 1 ec2-user ec2-user 35 Feb 20 12:45 script.sh

$ ./script.sh
This is a test script.
```

-> Cannot create a link of a file:
I wasn't able to create a soft link.

```
$ ln -s /home/ec2-user/original_file.txt link_to_file
ln: failed to create symbolic link 'link_to_file': Permission denied
```

The 'original_file.txt' file doesn't have the read permissions, so i have added read(r) permissions to it.

Use 'chmod +r original_file.txt'. The result was the creation of a link.

->Cannot write into a file:

I have a newuser who is unable to write into a file.

```
$ whoami
newuser

$ echo "Testing file write" > /home/ec2-user/testfile.txt
bash: /home/ec2-user/testfile.txt: Permission denied

$ ls -l /home/ec2-user/testfile.txt
-rw-r--r-- 1 ec2-user ec2-user 50 Feb 20 12:55 /home/ec2-user/testfile.txt
```

To resolve it,

```
user::rw-
user:newuser:-w-
group::r--
mask::rw-
other::r--

$ echo "Testing file write" > /home/ec2-user/testfile.txt

$ cat /home/ec2-user/testfile.txt
Testing file write
```

-> Cannot Delete, write, Rename or move File:

```
$ rm /home/ec2-user/protected_file.txt
rm: cannot remove '/home/ec2-user/protected_file.txt': Permission denied

$ mv /home/ec2-user/protected_file.txt /home/ec2-user/new_file.txt
mv: cannot move '/home/ec2-user/protected_file.txt' to '/home/ec2-user/new_file.txt': Permission denied

$ echo "Adding new content" >> /home/ec2-user/protected_file.txt
bash: /home/ec2-user/protected_file.txt: Permission denied

$ ls -l /home/ec2-user/protected_file.txt
-r--r--r-- 1 ec2-user ec2-user 50 Feb 20 13:00 /home/ec2-user/protected_file.txt
```

Changing the permission,

```
$ sudo setfacl -m u:newuser:rw /home/ec2-user/protected_file.txt

$ getfacl /home/ec2-user/protected_file.txt
```

```
user::r--
user:newuser:rw-
group::r--
mask::rw-
other::r--

$ echo "Adding new content" >> /home/ec2-user/protected_file.txt

$ mv /home/ec2-user/protected_file.txt /home/ec2-user/new_file.txt

$ ls -l /home/ec2-user/new_file.txt
-rw-r--r-- 1 ec2-user ec2-user 60 Feb 20 13:05 /home/ec2-user/new_file.txt

$ rm /home/ec2-user/new_file.txt
```