237-[LX]-Lab - Managing File Permissions

Managing File Permissions

> **Note**
>
> All labs rely on previous courseware and lab information.

Objectives

In this lab, you will:

- Change all folder and file permissions to match the appropriate group structure
- Modify file permissions for a user
- Update the company folder structure

Duration

This lab will require approximately **35 minutes** to complete.

AWS service restrictions

In this lab environment, access to AWS services and service actions might be restricted to the ones that you need to complete the lab instructions. You might encounter errors if you attempt to access other services or perform actions beyond the ones that this lab describes.

Accessing the AWS Management Console

1. At the top of these instructions, choose ⬚ Start Lab ⬚ to launch your lab.
   A **Start Lab** panel opens, and it displays the lab status.

   > **Tip**: If you need more time to complete the lab, choose the Start Lab button again to restart the timer for the environment.

2. Wait until you see the message *Lab status: ready*, then close the **Start Lab** panel by choosing the **X**.

3. At the top of these instructions, choose ⬚ AWS ⬚.
   This opens the AWS Management Console in a new browser tab. The system will automatically log you in.

   > **Tip**: If a new browser tab does not open, a banner or icon is usually at the top of your browser with a message that your browser is preventing the site from opening pop-up windows. Choose the banner or icon and then choose **Allow pop ups**.

4. Arrange the AWS Management Console tab so that it displays along side these instructions. Ideally, you will be able to see both browser tabs at the same time so that you can follow the lab steps more easily.

Task 1: Use SSH to connect to an Amazon Linux EC2 instance

In this task, you will connect to a Amazon Linux EC2 instance. You will use an SSH utility to perform all of these operations. The following instructions vary slightly depending on whether you are using Windows or Mac/Linux.

⊞ Windows Users: Using SSH to Connect

💬 These instructions are specifically for Windows users. If you are using macOS or Linux, skip to the next section.

5. Select the ⬚ Details ⬚ drop-down menu above these instructions you are currently reading, and then select ⬚ Show ⬚. A Credentials window will be presented.

6. Select the **Download PPK** button and save the **labsuser.ppk** file.
   Typically your browser will save it to the Downloads directory.

7. Make a note of the **PublicIP** address.

8. Then exit the Details panel by selecting the **X**.

9. Download **PuTTY** to SSH into the Amazon EC2 instance. If you do not have PuTTY installed on your computer, download it here.

10. Open **putty.exe**

11. Configure your PuTTY session by following the directions in the following link: Connect to your Linux instance using PuTTY

12. Windows Users: Select here to skip ahead to the next task.

Task 2: Change file and folder ownership

In this exercise, you will change the following ownership:

21. companyA folder ownership to the CEO and group ownership to Personnel
22. HR folder ownership to the HR manager and group ownership to HR
23. Finance folder ownership to the finance manager and group ownership to Finance

24. To validate that you are in the `/home/ec2-user/companyA` folder, enter `pwd` and press Enter.

    If you are not in this folder, enter `cd companyA` and press Enter.

25. To change the ownership of the **companyA** folder structure to the CEO mjackson and the group ownership to Personnel, enter `sudo chown -R mjackson:Personnel /home/ec2-user/companyA` and press Enter.

26. To change the ownership of the HR folder to the HR manager ctee, enter `sudo chown -R ljuan:HR HR` and press Enter.

27. To change the ownership of the HR/Finance folder to the finance manager, enter `sudo chown -R mmajor:Finance HR/Finance` and press Enter.

28. To validate your work by using the recursive feature of the **ls** command, enter `ls -laR` and press Enter.

```
[ec2-user@ip-10-0-10-253 ~]$ cd companyA
[ec2-user@ip-10-0-10-253 companyA]$ sudo chown -R emcbath:Personnel /home/ec2-user/companyA
[ec2-user@ip-10-0-10-253 companyA]$ sudo chown -R ctee:HR HR
[ec2-user@ip-10-0-10-253 companyA]$ sudo chown -R dolberdi:Finance HR/Finance
[ec2-user@ip-10-0-10-253 companyA]$ ls -laR
.:
total 0
drwxr-xr-x 9 emcbath  Personnel 136 Aug 24 23:15 .
drwx------ 4 ec2-user ec2-user   90 Aug 24 23:15 ..
drwxr-xr-x 2 emcbath  Personnel    6 Aug 24 23:15 Documents
drwxr-xr-x 2 emcbath  Personnel    6 Aug 24 23:15 Employees
drwxr-xr-x 6 ctee     HR          72 Aug 24 23:15 HR
drwxr-xr-x 2 emcbath  Personnel    6 Aug 24 23:15 Management
-rw-r--r-- 1 emcbath  Personnel    0 Aug 24 23:15 Roster.csv
drwxr-xr-x 2 emcbath  Personnel    6 Aug 24 23:15 Sales
drwxr-xr-x 2 emcbath  Personnel   24 Aug 24 23:15 SharedFolders
drwxr-xr-x 2 emcbath  Personnel    6 Aug 24 23:15 Shipping
```

Figure: When using the command ls -laR the output shows the ownership permissions of the entire companyA folder structure. This folder strcutre includes the following: Documents, Employees, HR, Management, Roster.csv, Sales, SharedFolders, and Shipping.

Task 3: Change permission modes

In this task, you change permission modes. You create and change permissions using the **chomd** command.

Recall that the **chmod** command changes the permissions of your files. There are two modes: symbolic and absolute. Symbolic mode uses both letters and symbols to manipulate permissions, and absolute mode uses only numbers to represent permissions.

29. To validate that you are in the **/home/ec2-uer/companyA** folder, enter `pwd` and press Enter.

30. Use vim to create a file called **symbolic_mode_file**. To create this file, enter `sudo vi symbolic_mode_file` and press Enter.

31. To save and close the file, press ESC. Then enter `:wq` and press Enter.

32. To use the symbolic mode for **chmod** to change the file permissions, enter `sudo chmod g+w symbolic_mode_file` and press Enter.
    You just gave the group owner write permissions to **symbolic_mode_file**.

33. Use vim to create a file called **absolute_mode_file**. To create this file, enter `sudo vi absolute_mode_file` and press Enter.

34. To save and close the file, press ESC. Then enter `:wq` and press Enter.

35. To use the absolute mode for **chmod** to change the file permissions, enter `sudo chmod 764 absolute_mode_file` and press Enter.

    764 means that the user has read, write, and execute permissions on the absolute_mode_file.

36. To confirm this information, enter the `ls -l` command and press Enter. You should see the two files that you created with the correlating read, write, and execute permissions.
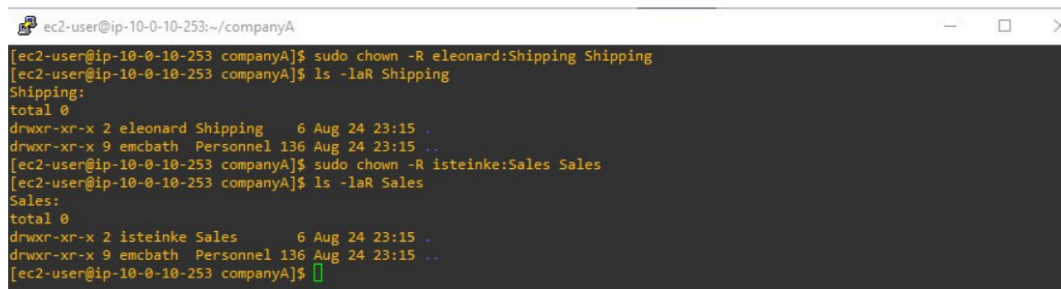
```
[ec2-user@ip-10-0-10-100 companyA]$ vi symbolic_mode_file
[ec2-user@ip-10-0-10-100 companyA]$ chmod g+w symbolic_mode_file
[ec2-user@ip-10-0-10-100 companyA]$ vi absolute_mode_file
[ec2-user@ip-10-0-10-100 companyA]$ chmod 764 absolute_mode_file
[ec2-user@ip-10-0-10-100 companyA]$ ls -l
total 8
-rwxrw-r-- 1 ec2-user ec2-user  27 Sep  7 17:09 absolute_mode_file
drwxr-xr-x 2 ec2-user Personnel  6 Sep  7 16:59 CEO
drwxr-xr-x 2 ec2-user Personnel  6 Sep  7 16:59 Documents
drwxr-xr-x 2 ec2-user Personnel  6 Sep  7 16:59 Employees
drwxr-xr-x 6 ec2-user HR        72 Sep  7 16:59 HR
drwxr-xr-x 2 ec2-user Personnel  6 Sep  7 16:59 Management
-rw-r--r-- 1 ec2-user Personnel  0 Sep  7 16:59 Roster.csv
drwxr-xr-x 2 ec2-user Sales      6 Sep  7 16:59 Sales
drwxr-xr-x 2 ec2-user Personnel 24 Sep  7 16:59 SharedFolders
drwxr-xr-x 2 ec2-user Shipping   6 Sep  7 16:59 Shipping
-rw-rw-r-- 1 ec2-user ec2-user  23 Sep  7 17:09 symbolic_mode_file
```

Figure: When using the command sudo chmod 764 absolute_mode_file, the user in the file will have read, write, and execute permissions for the absolute_mode_file. This is confirmed by running the command ls -l which lists the read, write, and execute permissions of the user.

Task 4: Assign permissions

In this exercise, you assign the appropriate permissions to the **Shipping** and **Sales** folders.

37. To validate that you are in the `/home/ec2-user/companyA` folder, enter `pwd` and press Enter.

38. To change the ownership of the **Shipping** folder to eowusu, the current shipping manager, and the group ownership to Shipping, enter `sudo chown -R eowusu:Shipping Shipping` and press Enter.

39. To change the ownership of the **Sales** folder to nwolf, the current sales manager, and the group ownership to Sales, enter `sudo chown -R nwolf:Sales Sales` and press Enter.

40. To validate your work, use the `ls` command on the folders that you just created.

    - To validate the changes to the **Shipping** folder, enter `ls -laR Shipping` and press Enter.
    - To validate the changes to the **Sales** folder, enter and `ls -laR Sales` and press Enter.

Figure: The command prompt shows the output of changing the ownership of the Shipping folder and its group to the user eleonard. This is confirmed by using the ls command. The same change of ownership is done for the Sales folder and its group to the user isteinke.

Lab Complete 🎓

🏁 Congratulations! You have completed the lab.

41. Select End Lab at the top of this page and then select **Yes** to confirm that you want to end the lab.
    A panel will appear, indicating that "DELETE has been initiated... You may close this message box now."

42. Select the **X** in the top right corner to close the panel.