Exemplar: Find files with Linux commands

Lab · 1 hour · No cost · Introductory

★★★★★

This lab may incorporate AI tools to support your learning.

Activity overview

Personnel in a business need to be able to read and how to communicate with the OS through the shell. You are learned how to use some of the core commands to navigate the Linux file system and read content from files it contains.

These are essential skills. For example, when investigating unauthorized access, you might navigate to and then read a user access report.

In this lab activity, you'll navigate a Linux file structure, locate files, and read the contents of files. You'll also need to answer a few multiple-choice questions based on the information contained in these files.

As a security analyst, it's key that you know how to navigate, manage, and analyze files remotely via a Linux shell without a graphical user interface.

Scenario

In this scenario, you have to locate and analyze the information of certain files located in the `/home/analyst` directory.

Here's how you'll do this: **First**, you'll get the information of the current working directory you're in and to display the contents of the directory. **Second**, you'll navigate to the `reports` directory and list the subdirectories it contains. **Third**, you'll navigate to the `users` subdirectory and display the contents of the `10_added_users.txt` file. **Finally**, you'll navigate to the `logs` directory and display the first 10 lines of a file it contains.

To complete these tasks, you'll need to use commands that you've previously learned in this course. Well, it's time to practice what you've learned. Let's do this!

Note: *The lab starts with your user account, called `analyst`, already logged in to the Bash shell. This means you can start with the tasks as soon as you click the* ***Start Lab*** *button.*

Disclaimer: For optimal performance and compatibility, it is recommended to use either **Google Chrome** or **Mozilla Firefox** browsers while accessing the labs.

Start your lab

You'll need to start the lab before you can access the materials. To do this, click the green "Start Lab" button at the top of the screen.

Start Lab

After you click the **Start Lab** button, you will see a shell, where you will be performing further steps in the lab. You should have a shell like this:

```
analyst@f0c0ed8ac7c1:~$
```

When you have completed all the tasks, refer to the End your Lab section that follows the tasks for information on how to end your lab.

Task 1. Get the current directory information

In this task, you must use the commands you learned about to check the current working directory and list its contents.

1. Display your working directory.

The command to complete this step:

```
pwd
```

This will show that your current working directory is your home directory.

```
/home/analyst
```

2. Display the names of the files and directories in the current working directory.

The command to complete this step:

```
ls
```

The output should be:

```
logs  projects  reports  temp
```

> Which directory is your current working directory?
> - /home/analyst
> - /home/analyst/logs
> - /var/logs
> - /home
>
> Submit

Answer: The lab starts with `/home/analyst` as your current working directory.

> How many directories does the current working directory contain?
> - One
> - Four
> - Five
> - Two
>
> Submit

Answer: The lab starts with four subdirectories in the `/home/analyst` directory, named `logs`, `notes`, `temp`, and `reports`.

Click **Check my progress** to verify that you have completed this task correctly.

> Set the current directory information
>
> Check my progress

Note: *There is no penalty for clicking* ***Check my progress*** *and you'll be shown a hint.*

Task 2. Change directory and list the subdirectories

In this task, you must navigate to a new directory and determine the subdirectories it contains.

1. Navigate to the `/home/analyst/reports` directory.

The command to complete this step using a relative path:

```
cd reports
```

Note: *The `cd` command accepts absolute and relative paths. An absolute path includes all the directories from the root of the file system and starts with `/`. An alternative is a relative path, which is expressed starting from the current directory and starts without the initial `/`. The above command uses a relative path.*

The command to complete this step using an absolute path:

```
cd /home/analyst/reports
```

2. Display the files and subdirectories in the `/home/analyst/reports` directory.

The command to complete this step:

```
ls
```

The output should be:

```
users
```

> What is the name of the subdirectory in the /home/analyst/reports directory?
> - logs
> - analyst
> - projects
> - users
>
> Submit

Answer: The subdirectory contained in the `/home/analyst/reports` directory is called `users`.

Click **Check my progress** to verify that you have completed this task correctly.

> Change directory and list the subdirectories
>
> Check my progress

Task 3. Locate and read the contents of a file

In this task, you must navigate to a subdirectory and read the contents of a file it contains.

1. Navigate to the `/home/analyst/reports/users` directory.

The command to complete this step:

```
cd /home/analyst/reports/users
```

The above command uses an absolute path. You could also use a relative path as follows:

```
cd users
```

2. List the files in the current directory.

The command to complete this step:

```
ls
```

3. Display the contents of the `10_added_users.txt` file.

The command to complete this step:

```
cat 10_added_users.txt
```

Note: *The `cat` command prints the contents of a file to the shell. You can specify the file to display using absolute or relative paths.*

The same command using an absolute path:

```
cat /home/analyst/reports/users/10_added_users.txt
```

> What department does the employee with the username aesra work at?
> - Sales
> - Human Resources
> - Finance
> - Information Technology
>
> Submit

Answer: The employee with username aesra works in the Human Resources department.

> What is the employee_id of the user mreed in the Information Technology department?
> - 1108
> - 1177
> - 1104
> - 1001
>
> Submit

Answer: The employee_id of the employee with username mreed in the Information Technology department is 1004.

Click **Check my progress** to verify that you have completed this task correctly.

> Locate and read the contents of a file
>
> Check my progress

Task 4. Navigate to a directory and locate a file

In this task, you must navigate to a new directory, locate a file, and examine the contents of the file.

1. Navigate to the `/home/analyst/logs` directory.

The command to complete this step:

```
cd /home/analyst/logs
```

2. Display the name of the file it contains.

The command to complete this step:

```
ls
```

This command will display the following output:

```
server_logs.txt
```

3. Display the first 10 lines of this file.

The command to complete this step:

```
head server_logs.txt
```

Note: *The `head` command displays just the beginning of a file, by default ten lines. You can specify how many lines to display using the `-n` argument, which specifies the number of lines to display.*

> How many warning messages are in the first 10 lines of the server_logs.txt file?
> - Two
> - Six
> - One
> - Three
>
> Submit

Answer: There are three warning messages in the first 10 lines of the `server_logs.txt` file.

Click **Check my progress** to verify that you have completed this task correctly.

> Navigate to a directory and locate a file
>
> Check my progress

Conclusion

Great work!

You now have practical experience in using basic Linux Bash shell commands to:

- navigate directory structures with the `cd` command,
- display the current working directory with the `pwd` command,
- list the contents of a directory with the `ls` command, and
- display the contents of files with the `cat` and `head` commands.

Navigating through directories and reading file contents are fundamental skills that you'll often use when communicating through the shell.

End your lab

Before you end the lab, make sure you're satisfied that you've completed all the tasks, and follow these steps:

1. Click **End Lab**. A pop-up box will appear. Click **Submit** to confirm that you've done. Ending the lab will remove your access to the Bash shell. You won't be able to access the work you've completed in it again.
2. Another pop-up box will ask you to rate the lab and provide feedback comments. You can complete this if you choose to.
3. Close the browser tab containing the lab to return to your course.
4. Refresh the browser tab for the course to mark the lab as complete.