Manage Files with Linux Commands

Activity Overview

In this lab activity, you'll use Linux commands to modify a directory structure and the files it contains. You'll also use the nano text editor to add text to a file.

You previously learned that directories help you organize subdirectories and files in Linux. As a security analyst, creating, removing, and editing directories and files are core tasks you'll need to perform to help you manage data. When data is well organized, you can more easily detect issues and keep data safe. With that in mind, you're now ready to practice what you've learned.

Scenario

In this scenario, you need to ensure that the /home/analyst directory is properly organized. You have to make a few changes to the /home/analyst directory and the files it contains. You also have to edit a file to record the changes or updates you make to the directory.

When you start, the /home/analyst directory contains the following subdirectories and files:

home

```
└── analyst
    ├── notes
    │   ├── Q3patches.txt
    │   └── tempnotes.txt
    ├── reports
    │   ├── Q1patches.txt
    │   └── Q2patches.txt
    └── temp
```

You need to modify the /home/analyst directory to the following structure:

```
home
└── analyst
    ├── logs
    ├── notes
    │   └── tasks.txt
    └── reports
        ├── Q1patches.txt
        ├── Q2patches.txt
        └── Q3patches.txt
```

Steps include creating a new subdirectory, removing an existing directory, moving files, and creating and editing a new file. Here's how to accomplish this:

Tasks and Steps

Task 1: Create a New Directory

Objective: Create a new subdirectory called logs to store future log files.

1. Create a new subdirectory called logs in the /home/analyst directory:
   o **Command:** mkdir logs
2. List the contents of the /home/analyst directory to confirm:
   o **Command:** ls

   Expected Output: The logs subdirectory should now appear.

```
analyst@63fcced8e3bc:~$
```

Task 2: Remove a Directory

Objective: Remove the unused temp directory.

1. Remove the /home/analyst/temp directory:
   - **Command:** rmdir temp
2. List the contents of the /home/analyst directory to confirm:
   - **Command:** ls

   Expected Output: The temp directory should no longer be listed.

```
analyst@5fdbdbb5c8f6:~$ mkdir logs
analyst@5fdbdbb5c8f6:~$ ls
logs   notes   reports   temp
analyst@5fdbdbb5c8f6:~$ 
```

Task 3: Move a File

Objective: Move the Q3patches.txt file from the notes directory to the reports directory.

1. Navigate to the /home/analyst/notes directory:
   - **Command:** cd /home/analyst/notes
2. Move the Q3patches.txt file to /home/analyst/reports:
   - **Command:** mv Q3patches.txt /home/analyst/reports/
3. List the contents of the reports directory to confirm:
   - **Command:** ls /home/analyst/reports

   Expected Output: The reports directory should now contain Q1patches.txt, Q2patches.txt, and Q3patches.txt.

```
logs   notes   reports
analyst@5fdbdbb5c8f6:~$ cd notes
analyst@5fdbdbb5c8f6:~/notes$ ls
Q3patches.txt   tempnotes.txt
analyst@5fdbdbb5c8f6:~/notes$ mv Q3patches.txt /home/analyst/reports/
analyst@5fdbdbb5c8f6:~/notes$ ls
tempnotes.txt
analyst@5fdbdbb5c8f6:~/notes$ ls /home/analyst/reports/
Q1patches.txt   Q2patches.txt   Q3patches.txt
analyst@5fdbdbb5c8f6:~/notes$ 
```

Task 4: Remove a File

Objective: Delete the tempnotes.txt file from the notes directory.

1. Remove the tempnotes.txt file:
   - **Command:** rm tempnotes.txt
2. List the contents of the notes directory to confirm:
   - **Command:** ls

   Expected Output: The notes directory should no longer contain tempnotes.txt.

```
analyst@5fdbdbb5c8f6:~/notes$ ls
tempnotes.txt
analyst@5fdbdbb5c8f6:~/notes$ rm tempnotes.txt
analyst@5fdbdbb5c8f6:~/notes$ ls
analyst@5fdbdbb5c8f6:~/notes$ []
```

Task 5: Create a New File

Objective: Create a new file named tasks.txt in the notes directory.

1. Create an empty file called tasks.txt in the notes directory:
   - **Command:** touch tasks.txt
2. List the contents of the notes directory to confirm:
   - **Command:** ls

   Expected Output: The tasks.txt file should now appear in the notes directory.
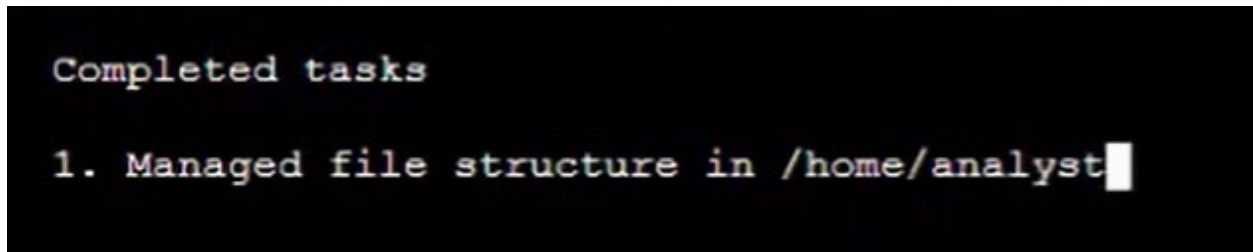
```
tasks.txt
```

Task 6: Edit a File

Objective: Use the nano text editor to document the tasks completed in tasks.txt.

1. Open the tasks.txt file in the nano editor:
   - **Command:** nano tasks.txt
2. Add the following text to the file:
3. Completed tasks

1. Managed file structure in /home/analyst

4. Save and exit nano:
   o Press CTRL+X, then Y, and ENTER to save.
5. Clear the shell window:
   o **Command:** clear
6. Display the contents of tasks.txt to confirm:
   o **Command:** cat tasks.txt

Expected Output: The file should contain the added text.

```
Completed tasks

1. Managed file structure in /home/analyst
```

Conclusion

This activity provided practical experience in:

- Creating and removing directories.
- Copying, moving, and deleting files.
- Editing files using the nano text editor.

These tasks are fundamental for managing directories and files in a Linux environment, ensuring data is organized and secure.