Activity: 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 to 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: You need to modify the /home/analyst directory to the following directory and file structure: Here's how you'll do this: **First**, you'll create a new subdirectory called logs in the /home/analyst directory. **Next**, you'll remove the temp subdirectory. **Then**, you'll move the Q3patches.txt file to the reports subdirectory and delete the tempnotes.txt file. **Finally**, you'll create a new .txt file called tasks in the notes subdirectory and add a note to the file describing the tasks you've performed.

You'll need to use the commands learned in the video lesson to complete these steps.

This might sound like quite a number of tasks to perform, but you'll be guided on how to do this.

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. Create a new directory

First, you must create a dedicated subdirectory called logs, which will be used to store all future log files.

1. Create a new subdirectory called logs in the /home/analyst directory.

2. List the contents of the /home/analyst directory to confirm that you've successfully created the new logs subdirectory.

The output should list the original three directories and the new logs subdirectory:

```
analyst@6e8919f36d2c:~$ cd /home/analyst
analyst@6e8919f36d2c:~$ mkdir logs
analyst@6e8919f36d2c:~$ rmdir temp
analyst@6e8919f36d2c:~$ mv Q3patches.txt reports/
mv: cannot stat 'Q3patches.txt': No such file or directory
analyst@6e8919f36d2c:~$ ls
logs  notes  reports
analyst@6e8919f36d2c:~$ cd notes
analyst@6e8919f36d2c:~/notes$ ls
Q3patches.txt  tempnotes.txt
analyst@6e8919f36d2c:~/notes$ mv Q3patches.txt ../reports/
analyst@6e8919f36d2c:~/notes$
```

Task 2. Remove a directory

Next, you must remove the temp directory, as you'll no longer be placing items in it.

1. Remove the /home/analyst/temp directory.
2. List the contents of the /home/analyst directory to confirm that you have removed the temp subdirectory.

The temp directory should no longer be listed:

```
analyst@6e8919f36d2c:~$ cd /home/analyst
analyst@6e8919f36d2c:~$ mkdir logs
analyst@6e8919f36d2c:~$ rmdir temp
analyst@6e8919f36d2c:~$ mv Q3patches.txt reports/
mv: cannot stat 'Q3patches.txt': No such file or directory
analyst@6e8919f36d2c:~$ ls
logs  notes  reports
analyst@6e8919f36d2c:~$ cd notes
analyst@6e8919f36d2c:~/notes$ ls
Q3patches.txt  tempnotes.txt
analyst@6e8919f36d2c:~/notes$ mv Q3patches.txt ../reports/
analyst@6e8919f36d2c:~/notes$ cd /home/analyst
analyst@6e8919f36d2c:~$ rmdir temp
rmdir: failed to remove 'temp': No such file or directory
analyst@6e8919f36d2c:~$ ls
logs  notes  reports
analyst@6e8919f36d2c:~$
```

Task 3. Move a file

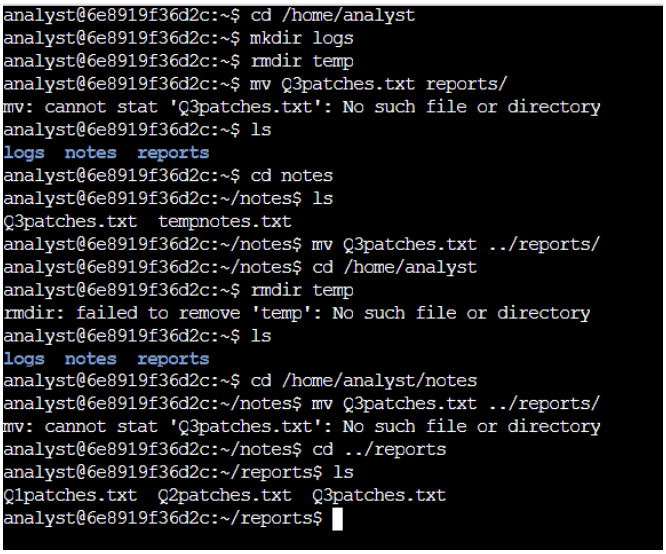
The Q3patches.txt file contains notes taken on third-quarter patches and is now in the correct reporting format.

You must move the Q3patches.txt file from the notes directory to the reports directory.

1. Navigate to the /home/analyst/notes directory.
2. Move the Q3patches.txt file from the /home/analyst/notes directory to the /home/analyst/reports directory.

3. List the contents of the /home/analyst/reports directory to confirm that you have moved the file successfully.

When you list the contents of the reports directory, it should show that three quarterly report files are now in the reports directory:



Task 4. Remove a file

Next, you must delete an unused file called tempnotes.txt from the /home/analyst/notes directory.

1. Remove the tempnotes.txt file from the /home/analyst/notes directory.
2. List the contents of the /home/analyst/notes directory to confirm that you've removed the file successfully.

No files should be listed in the notes directory.

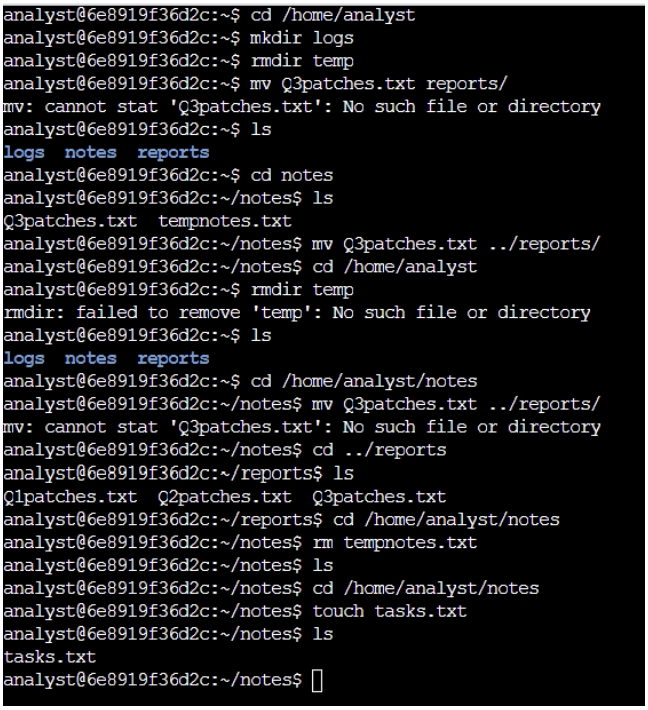
```
analyst@6e8919f36d2c:~$ cd /home/analyst
analyst@6e8919f36d2c:~$ mkdir logs
analyst@6e8919f36d2c:~$ rmdir temp
analyst@6e8919f36d2c:~$ mv Q3patches.txt reports/
mv: cannot stat 'Q3patches.txt': No such file or directory
analyst@6e8919f36d2c:~$ ls
logs  notes  reports
analyst@6e8919f36d2c:~$ cd notes
analyst@6e8919f36d2c:~/notes$ ls
Q3patches.txt  tempnotes.txt
analyst@6e8919f36d2c:~/notes$ mv Q3patches.txt ../reports/
analyst@6e8919f36d2c:~/notes$ cd /home/analyst
analyst@6e8919f36d2c:~$ rmdir temp
rmdir: failed to remove 'temp': No such file or directory
analyst@6e8919f36d2c:~$ ls
logs  notes  reports
analyst@6e8919f36d2c:~$ cd /home/analyst/notes
analyst@6e8919f36d2c:~/notes$ mv Q3patches.txt ../reports/
mv: cannot stat 'Q3patches.txt': No such file or directory
analyst@6e8919f36d2c:~/notes$ cd ../reports
analyst@6e8919f36d2c:~/reports$ ls
Q1patches.txt  Q2patches.txt  Q3patches.txt
analyst@6e8919f36d2c:~/reports$ cd /home/analyst/notes
analyst@6e8919f36d2c:~/notes$ rm tempnotes.txt
analyst@6e8919f36d2c:~/notes$ ls
analyst@6e8919f36d2c:~/notes$
```

Task 5. Create a new file

Now, you must create a file named tasks.txt in the /home/analyst/notes directory that you'll use to document completed tasks.

1. Use the touch command to create an empty file called tasks.txt in the /home/analyst/notes directory.
2. List the contents of the /home/analyst/notes directory to confirm that you have created a new file.

A file called tasks.txt should now exist in the notes directory:



Task 6. Edit a file

Finally, you must use the nano text editor to edit the tasks.txt file and add a note describing the tasks you've completed.

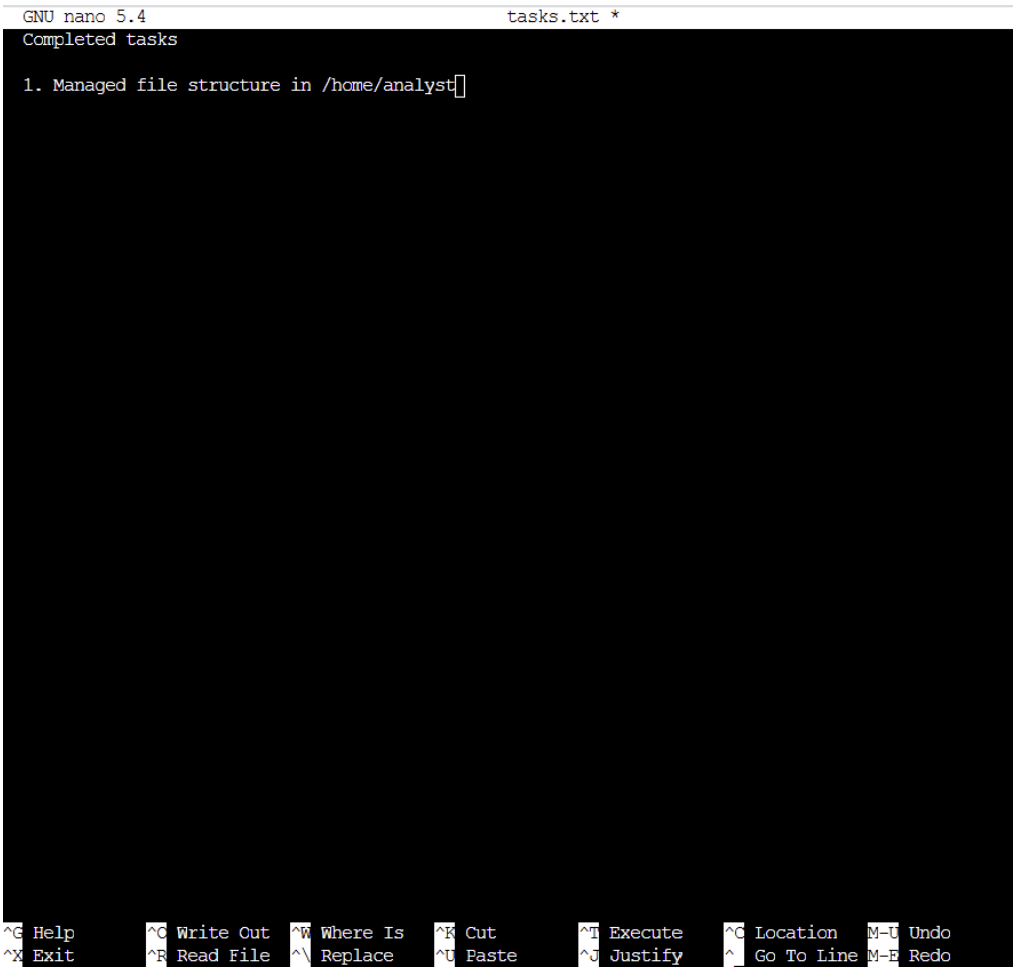
1. Using the nano text editor, open the tasks.txt file that is located in the /home/analyst/notes directory.

Note: *This action changes the shell from the normal Bash interface to the nano text editor interface.*

2. Copy and paste the following text into the text input area of the nano editor:

Completed tasks

1. Managed file structure in /home/analyst

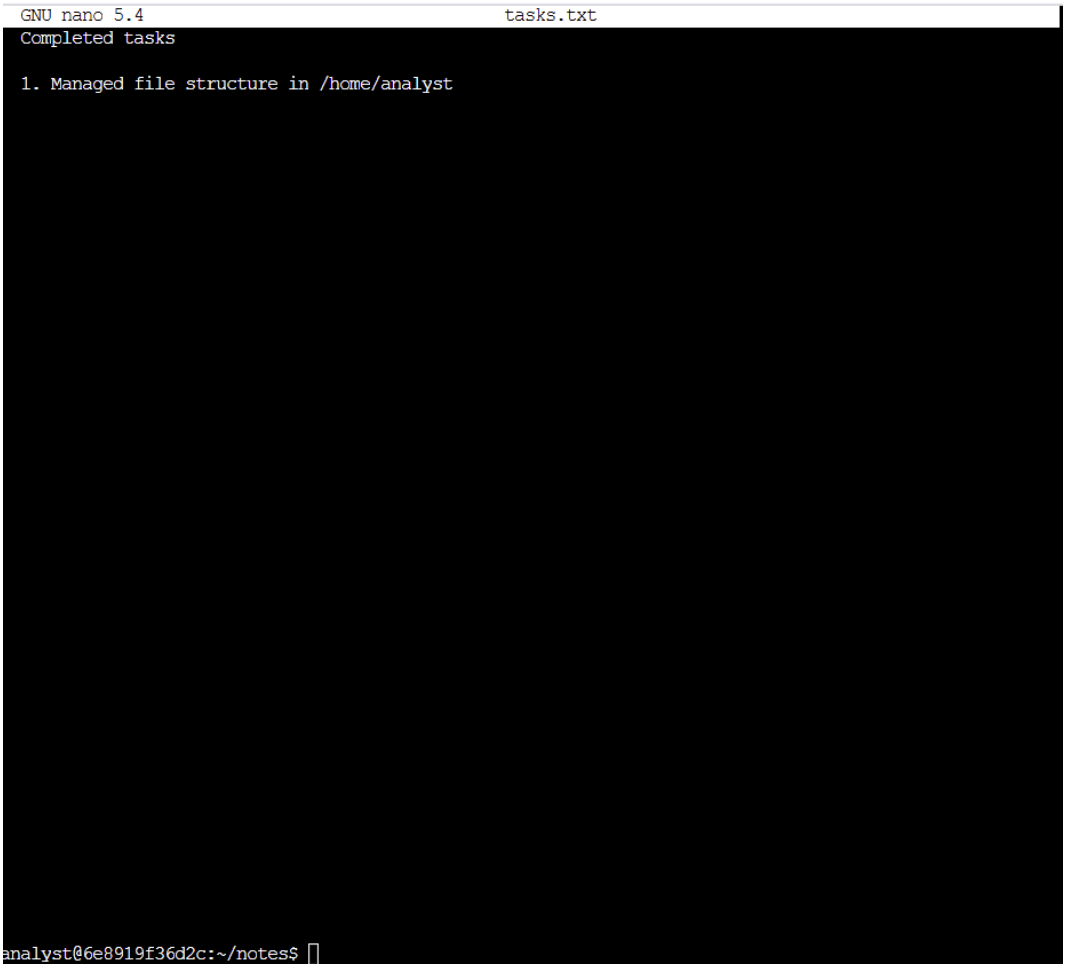


3. Press **CTRL+X** to exit the nano text editor.

This triggers a prompt asking **Save modified bufferer?**

4. Press **Y** to confirm that you want to save the new data to your file. (Answering "no" will **discard** changes.)

5. Press **ENTER** to confirm that **File Name to Write** is tasks.txt.



Note: *The recommended sequence of commands for saving a file with the nano text editor is to use* ***CTRL+O*** *to tell nano to save the file and then use* ***CTRL+X*** *to exit immediately.*

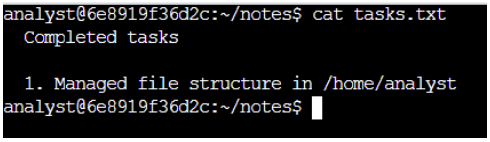
In this web-based lab environment, the ***CTRL+O*** *command is intercepted by your web browser and is interpreted as a request to save the web page. The sequence used here is a commonly used alternative that achieves the same end result.*

6. Use the clear command to clear the Bash shell window and remove any traces of the nano text input area.

Note: *Most Bash shells typically handle the screen cleanup after you exit nano. In this lab environment, nano sometimes leaves some text clutter around the edges of the screen that the clear command cleans up for you.*

7. Display the contents of the tasks.txt file to confirm that it contains the updated task details.

This file should now contain the contents of the tasks.txt file that you added and saved in previous steps:



Lab Summary: Modify Directory Structure and Files

Objective

This lab focused on managing the /home/analyst directory by creating and removing directories, moving and deleting files, and documenting changes with the nano text editor. These tasks reflect standard system administration duties that a security analyst must perform to organize and manage data effectively.

Tasks Completed

Task 1: Create a New Directory

- Navigated to /home/analyst.
- Created a new subdirectory named logs using mkdir logs.
- Verified creation with ls.

Task 2: Remove a Directory

- Removed the unused temp directory with rmdir temp.
- Verified removal by listing the contents of /home/analyst.

Task 3: Move a File

- Navigated to /home/analyst/notes.
- Moved Q3patches.txt to /home/analyst/reports using mv.
- Verified in /home/analyst/reports that Q1patches.txt, Q2patches.txt, and Q3patches.txt were present.

Task 4: Remove a File

- Deleted tempnotes.txt from the /home/analyst/notes directory using rm.
- Confirmed the file was no longer listed.

Task 5: Create a New File

- Created an empty file tasks.txt in /home/analyst/notes using touch.
- Verified creation with ls.

Task 6: Edit a File

- Opened tasks.txt with nano and added the note:
- Completed tasks
- 1. Managed file structure in /home/analyst
- Saved changes and exited nano.
- Used clear to clean up the shell display.
- Verified contents with cat tasks.txt.

Summary

This lab demonstrated how to restructure directories, move and delete files, and document changes with the nano text editor. By practicing directory management and file editing, I reinforced essential Linux administration skills that are directly applicable to daily tasks as a security analyst.