

Linux GREP Filtering Lab - Google Cybersecurity Certificate

Step 1: Search for Errors in a Log File

Used `grep error server_logs.txt` to filter and display only the lines in the log file that contained error messages.

Activity: Filter with grep

```
analyst@5944d674955f:~$ cd /home/analyst/logs
analyst@5944d674955f:~/logs$ grep error server_logs.txt
2022-09-28 13:56:22 error The password is incorrect
2022-09-28 15:56:22 error The username is incorrect
2022-09-28 16:56:22 error The password is incorrect
2022-09-29 13:56:22 error An unexpected error occurred
2022-09-29 15:56:22 error Unauthorized access
2022-09-29 16:56:22 error Unauthorized access
analyst@5944d674955f:~/logs$
```

How many error lines are there in the server_logs.txt file?

☐ Two

☐ Three

☒ Six

☐ Eight

Submit

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

Search for error messages in a log file

☒ Check my progress

You have completed this task and searched the server_logs.txt file for errors.

Activate Windows
Go to Settings to activate Windows.

Step 2: Search File Names Containing 'Q1' and 'access'

Navigated to the users folder and used `ls | grep Q1` and `ls | grep access` to filter files containing specific terms.

Activity: Filter with grep

```
analyst@5944d674955f:~$ cd /home/analyst/logs
analyst@5944d674955f:~/logs$ grep error server_logs.txt
2022-09-28 13:56:22 error The password is incorrect
2022-09-28 15:56:22 error The username is incorrect
2022-09-28 16:56:22 error The password is incorrect
2022-09-29 13:56:22 error An unexpected error occurred
2022-09-29 15:56:22 error Unauthorized access
2022-09-29 16:56:22 error Unauthorized access
analyst@5944d674955f:~/logs$ cd /home/analyst/reports/users
analyst@5944d674955f:~/reports/users$ ls | grep Q1
Q1_access.txt
Q1_added_users.txt
Q1_deleted_users.txt
analyst@5944d674955f:~/reports/users$ ls | grep access
Q1_access.txt
Q2_access.txt
Q3_access.txt
Q4_access.txt
analyst@5944d674955f:~/reports/users$
```

How many files contain the string Q1?

☐ Three

☐ Five

☐ None

☒ Four

Submit

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

Find files containing specific strings

☒ Check my progress

You have completed this task and used the ls, pipe, and grep commands to search for files that contain specific string data in their name.

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Step 3: Search for Specific Content in Files

Used `grep` to find lines in Q4 user files that mention the Human Resources department.

Activity: Filter with grep

```
analyst@5944d674955f:~$ cd /home/analyst/logs
analyst@5944d674955f:~/logs$ grep error server_logs.txt
2022-09-28 13:56:22 error The password is incorrect
2022-09-28 15:56:22 error The username is incorrect
2022-09-28 16:56:22 error The password is incorrect
2022-09-29 13:56:22 error An unexpected error occurred
2022-09-29 15:56:22 error Unauthorized access
2022-09-29 16:56:22 error Unauthorized access
analyst@5944d674955f:~/logs$ cd /home/analyst/reports/users
analyst@5944d674955f:~/reports/users$ ls | grep Q1
Q1_access.txt
Q1_added_users.txt
Q1_deleted_users.txt
analyst@5944d674955f:~/reports/users$ ls | grep access
Q1_access.txt
Q2_access.txt
Q3_access.txt
Q4_access.txt
analyst@5944d674955f:~/reports/users$ ls
Q1_access.txt      Q2_added_users.txt  Q3_deleted_users.txt
Q1_added_users.txt Q2_deleted_users.txt Q4_access.txt
Q1_deleted_users.txt Q3_access.txt       Q4_added_users.txt
Q2_access.txt      Q3_added_users.txt  Q4_deleted_users.txt
analyst@5944d674955f:~/reports/users$ grep jhill Q2_deleted_users.txt
1025      jhill      Sales
analyst@5944d674955f:~/reports/users$ grep "Human Resources" Q4_added_users.txt
1151      sshah      Human Resources
1145      msosa      Human Resources
analyst@5944d674955f:~/reports/users$
```

How many users were added to the Human Resources department in quarter 4?

☐ One

☒ Two

☐ Five

☐ Three

Submit

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

Search more file contents

✓ You have completed this task and searched the Q2_deleted_users.txt and Q4_added_users.txt files for user data.

Activate Windows
Go to Settings to activate Windows.

Step 4: Lab Conclusion

Demonstrated the power of `grep` for searching within files and filenames, showcasing its importance in log analysis and data parsing.

Activity: Filter with grep

```
analyst@5944d674955f:~$ cd /home/analyst/logs
analyst@5944d674955f:~/logs$ grep error server_logs.txt
2022-09-28 13:56:22 error The password is incorrect
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2022-09-29 15:56:22 error Unauthorized access
2022-09-29 16:56:22 error Unauthorized access
analyst@5944d674955f:~/logs$ cd /home/analyst/reports/users
analyst@5944d674955f:~/reports/users$ ls | grep Q1
Q1_access.txt
Q1_added_users.txt
Q1_deleted_users.txt
analyst@5944d674955f:~/reports/users$ ls | grep access
Q1_access.txt
Q2_access.txt
Q3_access.txt
Q4_access.txt
analyst@5944d674955f:~/reports/users$ ls
Q1_access.txt      Q2_added_users.txt  Q3_deleted_users.txt
Q1_added_users.txt Q2_deleted_users.txt Q4_access.txt
Q1_deleted_users.txt Q3_access.txt       Q4_added_users.txt
Q2_access.txt      Q3_added_users.txt  Q4_deleted_users.txt
analyst@5944d674955f:~/reports/users$ grep jhill Q2_deleted_users.txt
1025      jhill      Sales
analyst@5944d674955f:~/reports/users$ grep "Human Resources" Q4_added_users.txt
1151      sshah      Human Resources
1145      msosa      Human Resources
analyst@5944d674955f:~/reports/users$
```

Conclusion

Great work!

You now have practical experience in using `grep` to:

- search for specific information contained in files, and
- find files containing specific strings that were piped into `grep`.

You're well on your way to using fundamental tools in Linux to filter the information you need.

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 non-unix box will appear. Click **Submit** to confirm that you're

Activate Windows
Go to Settings to activate Windows.