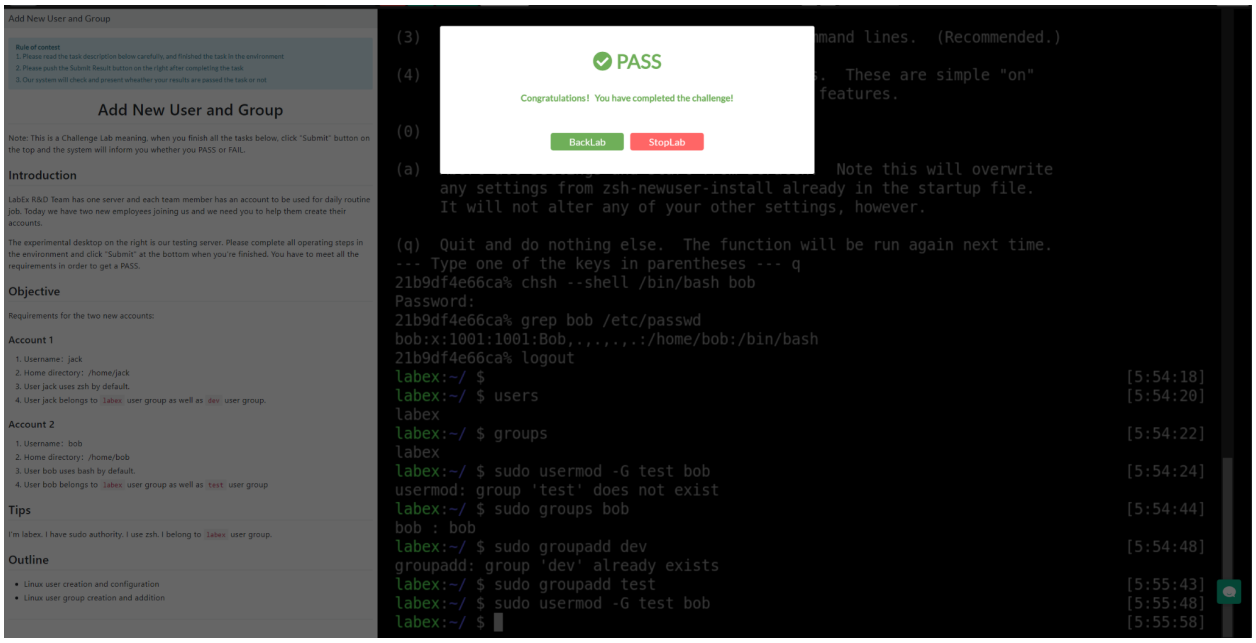
Challenge Name: Add New User and Group



From looking at the problem it looks like each user needs to be assigned to a different shell (terminal). Jack needs to be assigned to zsh and bob needs to be assigned to bash.

To check if the user is zsh is by using

vi /etc/paswd

You can also use this command to specifically filter out the rest of responses and showing only one

cat /etc/passwd | grep -E “labex”

If a user does not have the correct shell you can re-assign it by using these commands… (https://www.tecmint.com/change-a-users-default-shell-in-linux/)

Check what shells are available using

cat /etc/shells

1) CHSH Utility
    - **grep jack /etc/passwd**
    - **chsh --shell /bin/zsh jack**
    - **grep jack /etc/passwd**
2) Changing user shell using VI editor (but you need write permissions)
    - **vi /etc/passwd**

To see what user groups Jack belongs to, use the following…

sudo groups jack

To create a user group, use the following

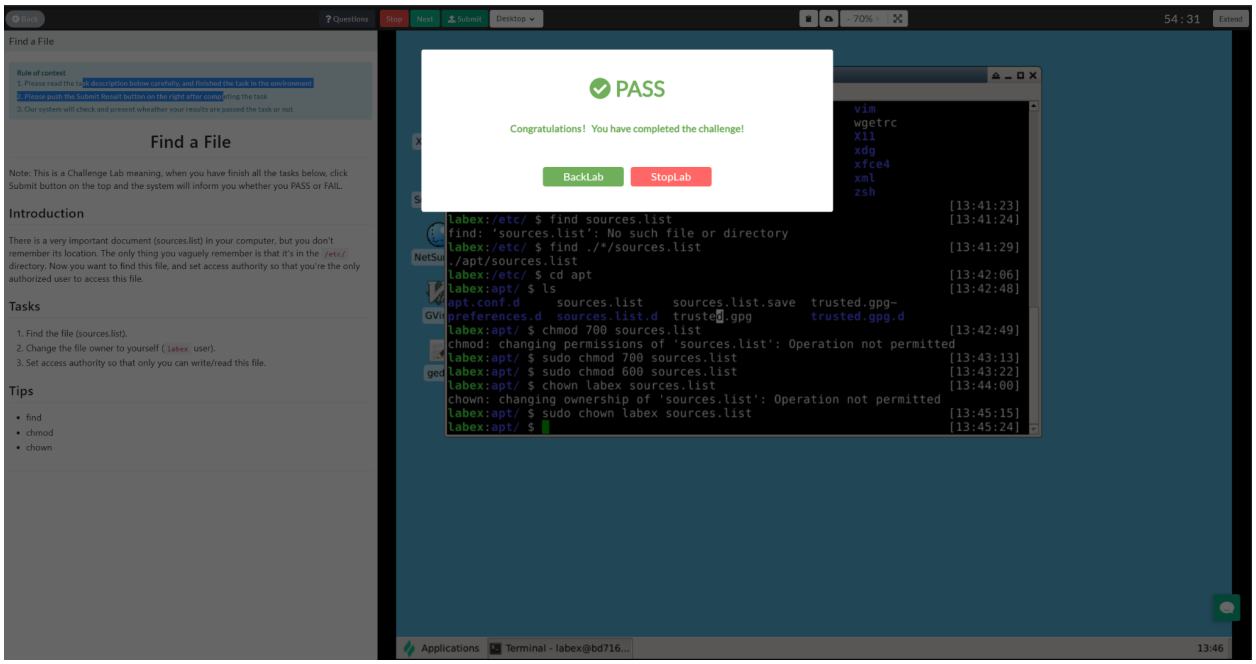
sudo groupadd dev

To add a user to a created group, use the following

sudo usermod -G dev jack

Resources:
https://www.tecmint.com/change-a-users-default-shell-in-linux/

Challenge Name: Find a File



Cd /etc

Find ./*/sources.list

./apt/sources.list

Cd apt

To change the file owner, utilize chown

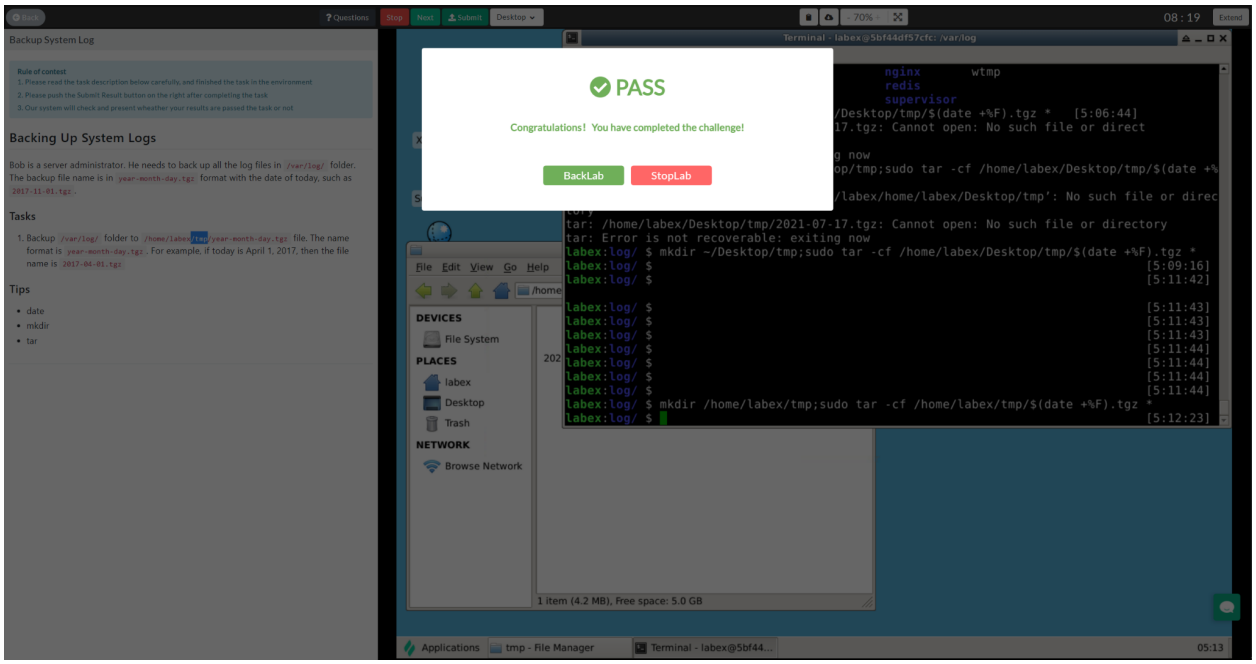
sudo chown labex source.list

To give write and read access but no execute

Sudo chmod 600 sources.list

Resources:
https://www.tecmint.com/change-a-users-default-shell-in-linux/

Challenge Name: Backup System Log



Tar is used to save many files together. DD would not work because it can't copy directories.

I am not sure if we are supposed to fill in the date manually or find a command.

$(date +%F) is for best practice.

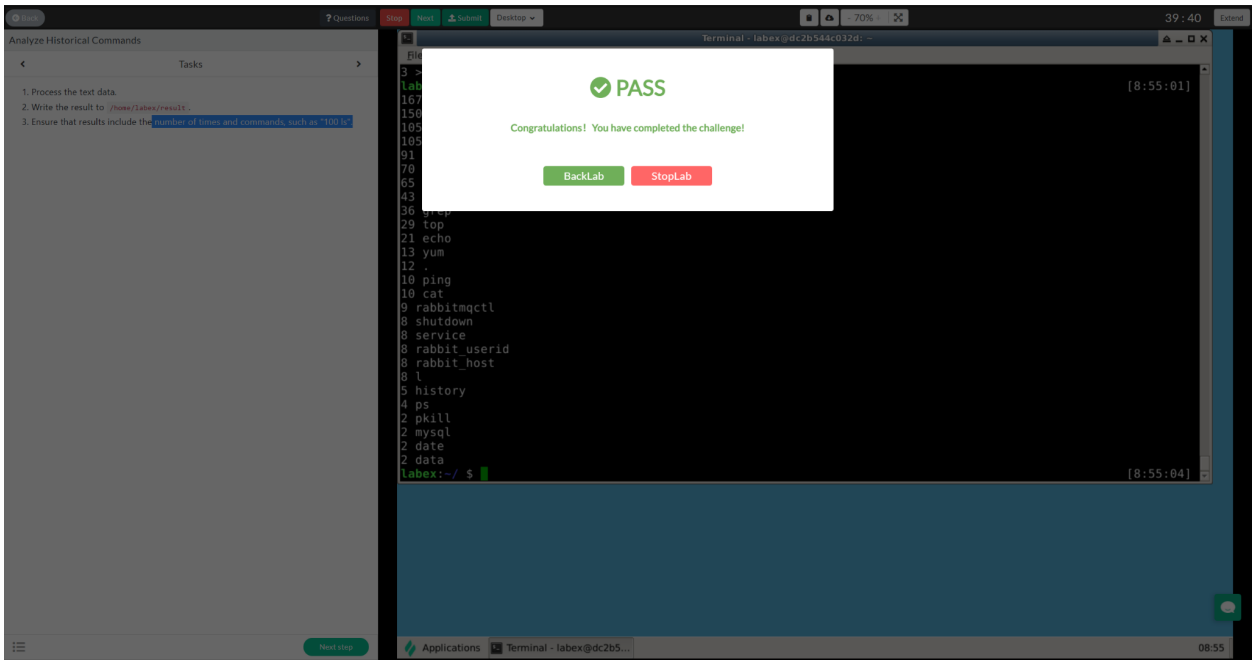
After researching it's best to be in the /var/log folder before running tar command or it wont work. cd /var/log

mkdir /home/labex/tmp; sudo tar -cf /home/labex/tmp/$(date +%F).tgz *

Two commands are ran in one line. First I make the tmp file. Then I ran the tar command while inside the var/logs. This basically copies all the files and puts it in tmp

Resources:
https://www.shell-tips.com/linux/how-to-format-date-and-time-in-linux-macos-and-bash/#:~:text=To%20format%20date%20in%20DD,T%5Cn%22%20%24EPOCHSECONDS%20.

Challenge Name: Analyze Historical Commands



First you need to mkdir results

Based off the tips,

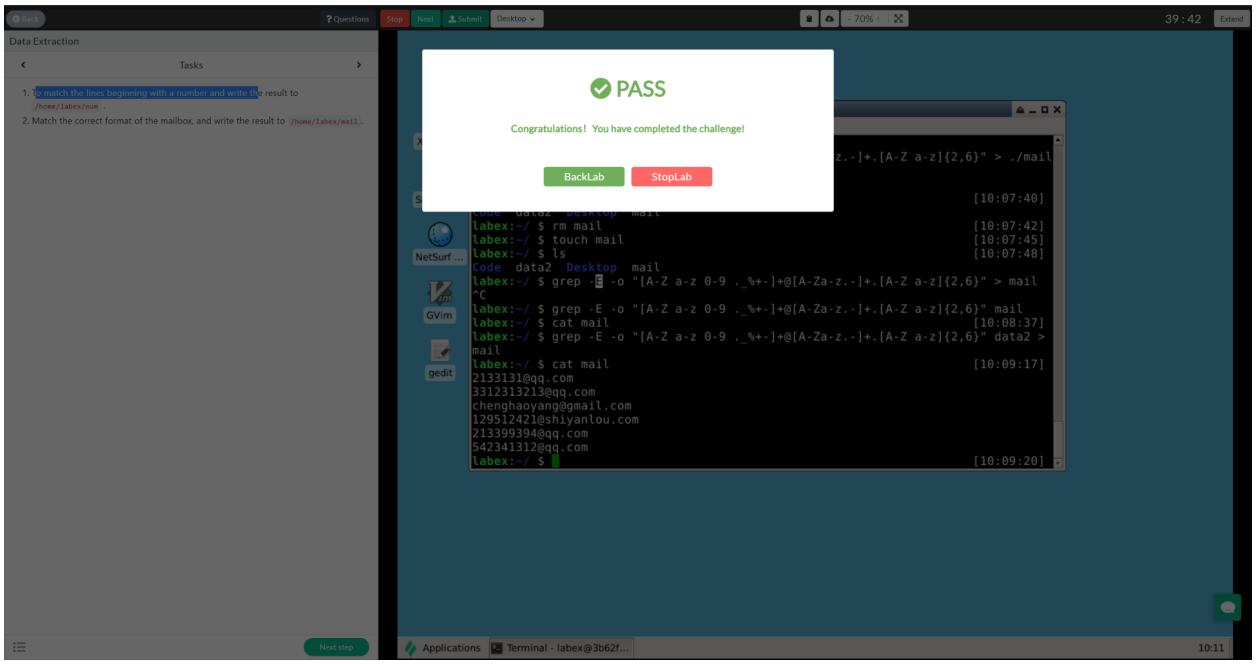
It has to have the number of times ran and number of commands

cat data1 | cut -c 8- | cut -d ‘ ‘ -f 1 | sort | uniq -dc | sort -nr | tr -s ‘ ‘ | cut -d ‘ ‘ -f 2,3 > ./result

So you have to show the data1 and follow it with a pipe. Cut -c 8- basically ignores the blank lines. Cut -d ‘ ‘ -f 1 takes the first command column. It is then sorted. Uniq basically removes all duplicates. Its then sorted in reverse to show the highest number. Use the tr command to squeeze it so you can have the output LabEx wants. You cut once more to remove all blank spaces. And output the result to a file.

Resources: Labex Notes

Challenge Name: Data Extraction



grep -E -o "[A-Z a-z 0-9 ._%+-]+@[A-Za-z.-]+.[A-Z a-z]{2,6}" data2 > mail

So basically, grep -E is an extended regular expression. -o is basically printing the only matched part of the lines.

"[A-Z a-z 0-9 ._%+-]+@[A-Za-z.-]+.[A-Z a-z]{2,6}"

Basically you start off by explaining what the format of an email is. It can have capital and lowercase letters through a-z, it can have numbers. Then its followed by an @ and that is usually followed by another word. Once that world there is a . and then a last word. Following this format email@email.com.

Once the expression is set, it has to have a file to read from. The data file is provided by Labex. Then you need to set an output file which is mail

Resources:
https://likegeeks.com/regex-tutorial-linux/

https://linux.die.net/man/1/grep