

## Challenge Name: Add New User and Group

### Add New User and Group

**Rule of contest**

1. Please read the task description below carefully, and finished this task in the environment
2. Please push the Submit Result button on the right after completing the task
3. Our system will check and present whether your results are passed the task or not

Note: This is a Challenge Lab meaning, when you finish all the tasks below, click "Submit" button on the top and the system will inform you whether you PASS or FAIL.

#### Introduction

LabEx R&D Team has one server and each team member has an account to be used for daily routine job. Today we have two new employees joining us and we need you to help them create their accounts.

The experimental desktop on the right is our testing server. Please complete all operating steps in the environment and click "Submit" at the bottom when you're finished. You have to meet all the requirements in order to get a PASS.

#### Objective

Requirements for the two new accounts:

##### Account 1

1. Username: jack
2. Home directory: /home/jack
3. User jack uses zsh by default.
4. User jack belongs to `labex` user group as well as `dev` user group.

##### Account 2

1. Username: bob
2. Home directory: /home/bob
3. User bob uses bash by default.
4. User bob belongs to `labex` user group as well as `test` user group

#### Tips

I'm labex, I have sudo authority. I use zsh, I belong to `labex` user group.

#### Outline

- Linux user creation and configuration
- Linux user group creation and addition

(3) (4) (0) (a) (q)

**PASS**

Congratulations! You have completed the challenge!

BackLab StopLab

any settings from zsh-newuser-install already in the startup file. It will not alter any of your other settings, however.

Note this will overwrite

--- Type one of the keys in parentheses --- q

```
21b9df4e66ca% chsh --shell /bin/bash bob
Password:
21b9df4e66ca% grep bob /etc/passwd
bob:x:1001:1001:Bob,,,,,,,,:/home/bob:/bin/bash
21b9df4e66ca% logout
labex:~/ $ [5:54:18]
labex:~/ $ users [5:54:20]
labex
labex:~/ $ groups [5:54:22]
labex
labex:~/ $ sudo usermod -G test bob [5:54:24]
usermod: group 'test' does not exist
labex:~/ $ sudo groups bob [5:54:44]
bob : bob
labex:~/ $ sudo groupadd dev [5:54:48]
groupadd: group 'dev' already exists
labex:~/ $ sudo groupadd test [5:55:43]
labex:~/ $ sudo usermod -G test bob [5:55:48]
labex:~/ $ [5:55:58]
```

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**

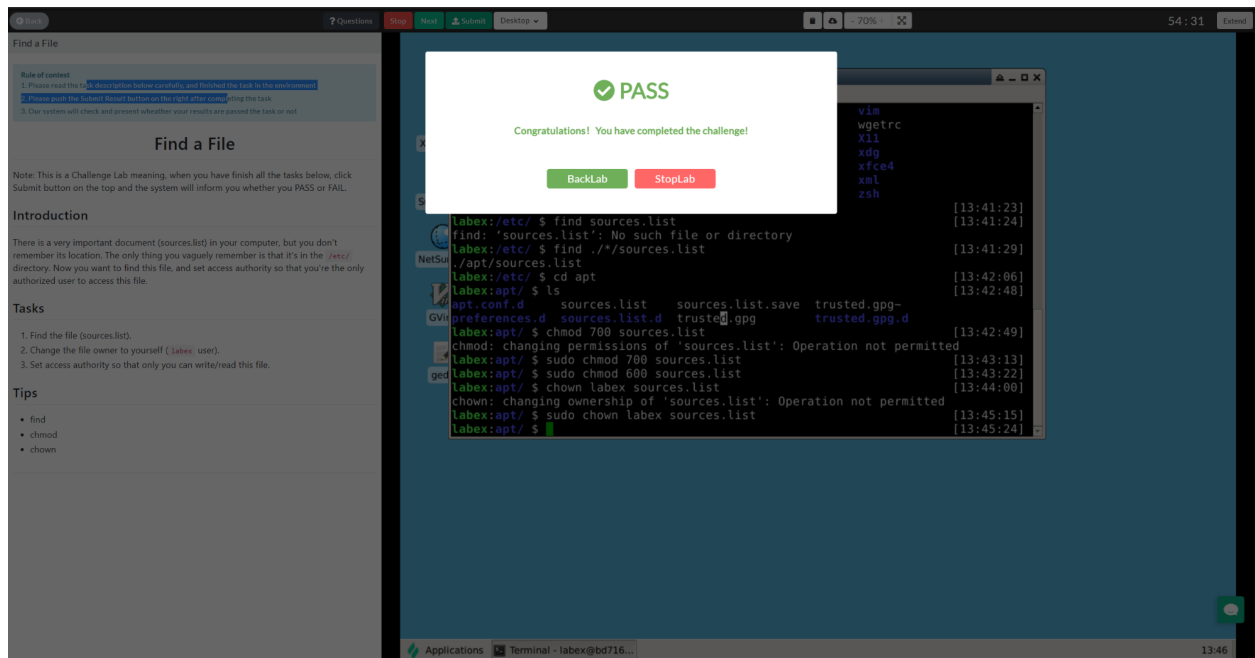
To add a user to a created group, use the following

**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

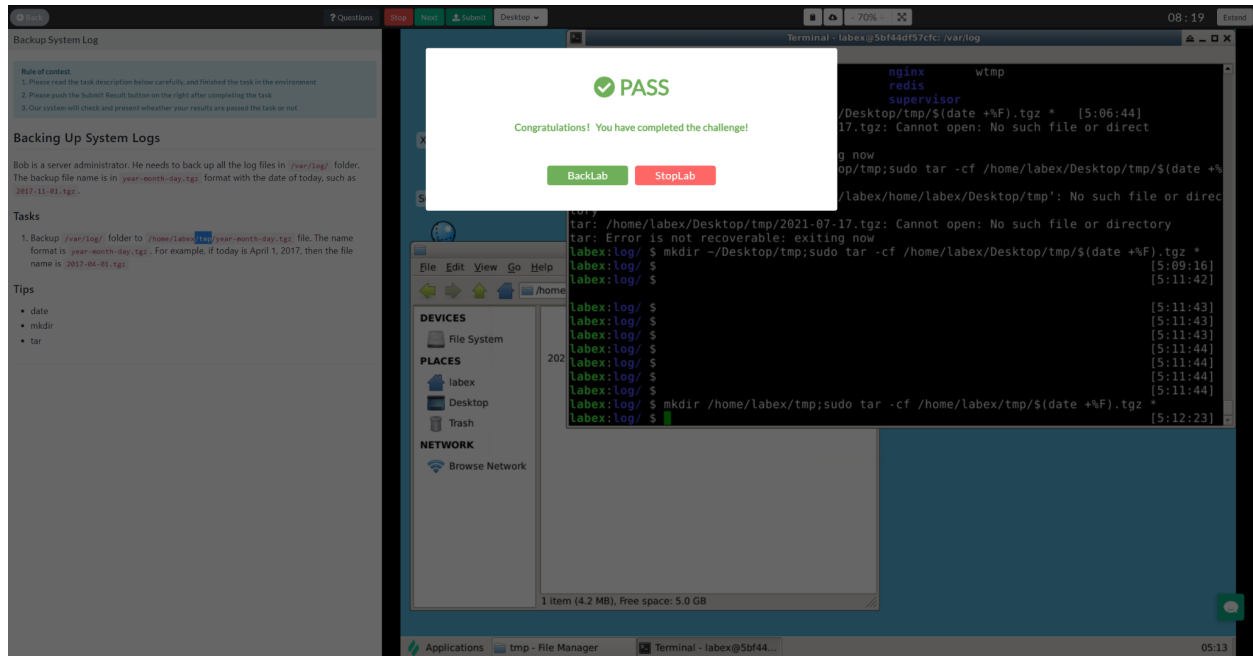
To give write and read access but no execute

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`

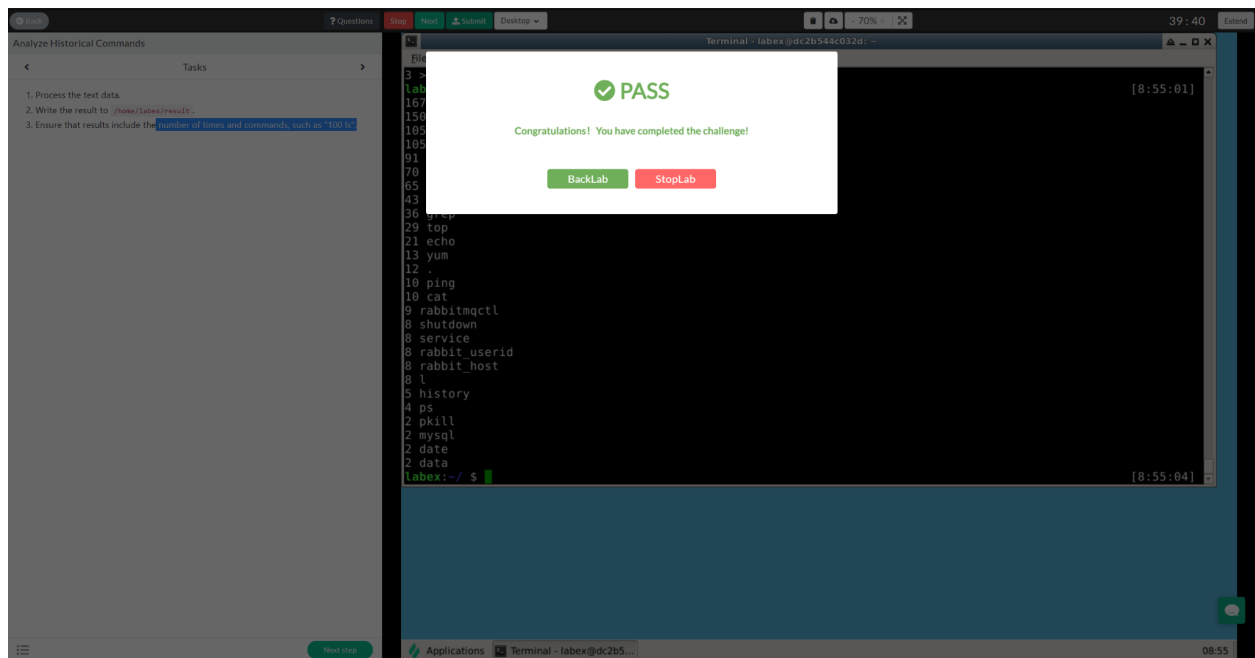
`mkdir /home/labex/tmp; sudo tar -cf /home/labex/tmp/$(date +%F).tgz *`

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,

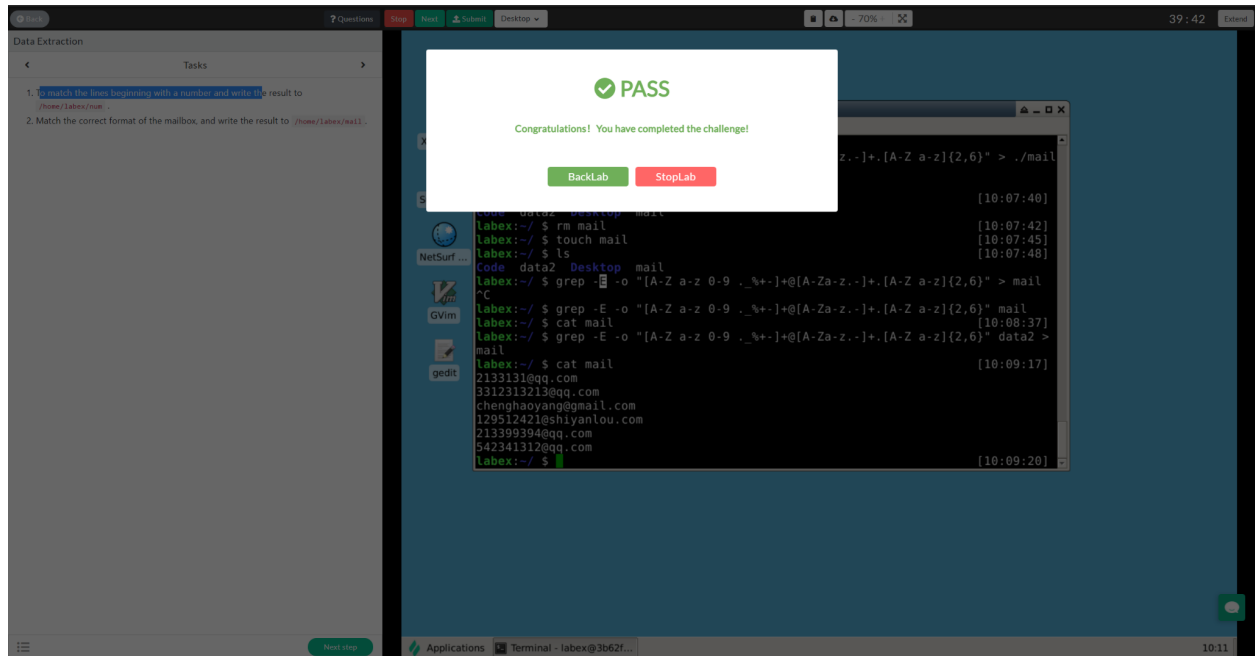
It has to have the number of times ran and number of commands

```
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 word there is a `.` and then a last word. Following this format [email@email.com](mailto: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>