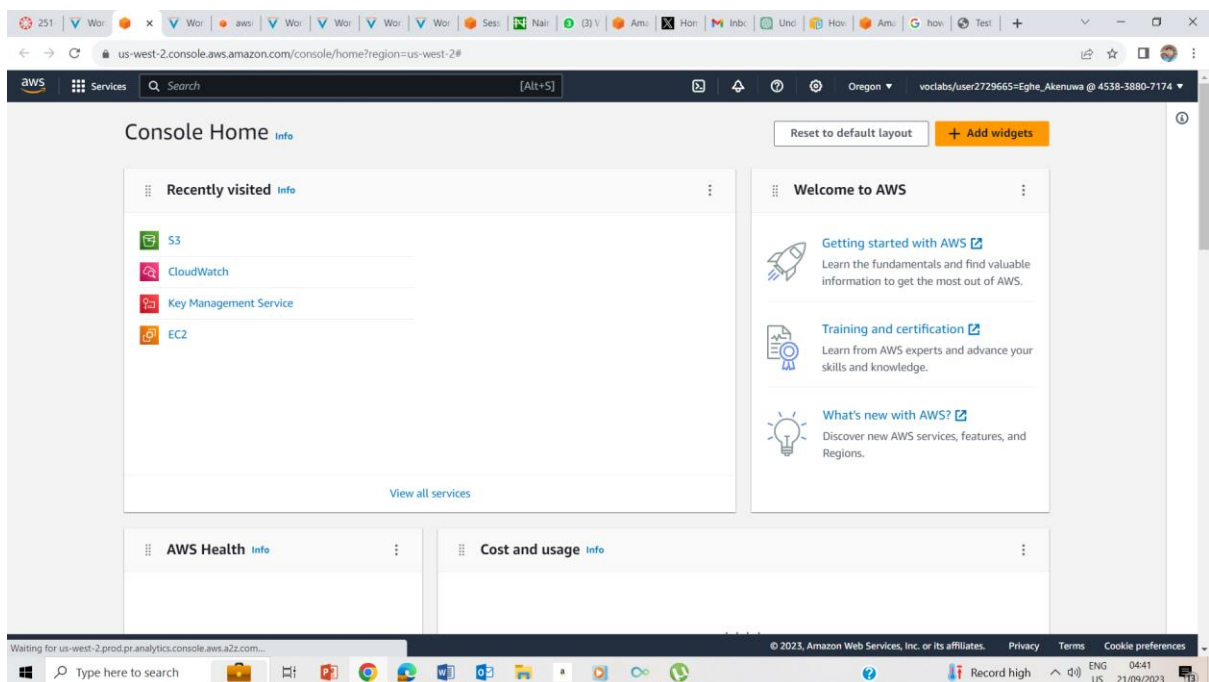
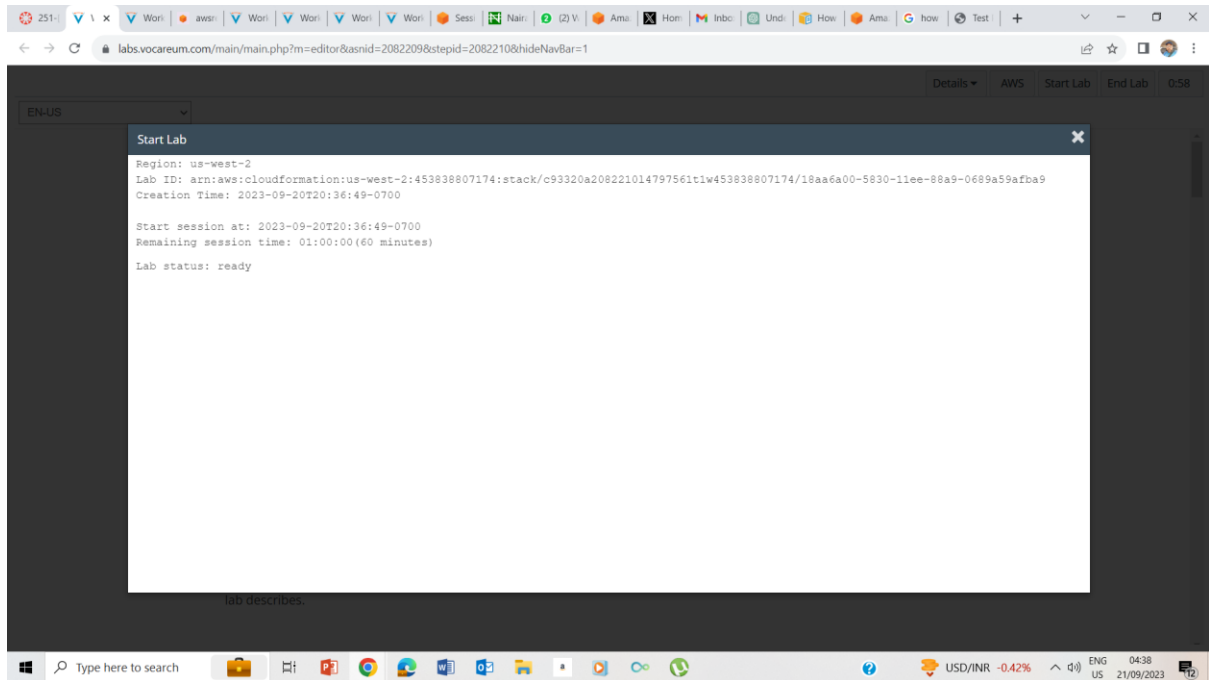


Bash Shell Scripts

Accessing the AWS Management Console



1-4. Pressed Start, waited for it to tell me it is ready, and pressed the AWS button.

Task 1: Use SSH to connect to an Amazon Linux EC2 instance

The screenshot shows the Vocareum lab interface. At the top, there's a navigation bar with 'Details', 'AWS', 'Start Lab', 'End Lab', and a timer '0:54'. Below this, a dropdown menu is set to 'EN-US'. The main content area contains a list of instructions:

- Wait until you see the message *Lab status: ready*, then close the **Start Lab** panel by choosing the X.
- At the top of these instructions, choose **AWS**. This opens the AWS Management Console in a new browser tab. The system will automatically log you in.
- Tip:** If a new browser tab does not open, a banner or icon is usually at the top of your browser with a message that your browser is preventing the site from opening pop-up windows. Choose the banner or icon and then choose **Allow pop ups**.
- Arrange the AWS Management Console tab so that it displays along side these instructions. Ideally, you will be able to see both browser tabs at the same time so that you can follow the lab steps more easily.

Below the instructions, the title 'Task 1: Use SSH to connect to an Amazon Linux EC2 instance' is displayed. The text explains that the user will connect to an Amazon Linux EC2 instance using an SSH utility. It then provides a section for 'Windows Users: Using SSH to Connect' with the following steps:

- These instructions are specifically for Windows users. If you are using macOS or Linux, [skip to the next section](#).
- Select the **Details** drop-down menu above these instructions you are currently reading, and then select **Show**. A Credentials window will be presented.
- Select the **Download PPK** button and save the **labsuser.ppk** file. Typically your browser will save it to the Downloads directory.

The screenshot shows the Vocareum lab interface with the 'Credentials' window open. The window has a title bar 'Credentials' and a close button. It contains the following information:

Cloud Access

AWS CLI: **Show**

Cloud Labs

Remaining session time: 00:53:18 (54 minutes)
Session started at: 2023-09-20T20:36:49-0700
Session to end at: 2023-09-20T21:36:49-0700

Accumulated lab time: 00:06:00 (6 minutes)

ips -- public:35.161.118.154, private:10.0.10.210

SSH key **Show** **Download PEM** **Download PPK**

AWS SSO **Download URL**

LabRegion	us-west-2
PublicIP	35.161.118.154

Below the table, the instructions from the previous screenshot are repeated: '6. Select the **Download PPK** button and save the **labsuser.ppk** file. Typically your browser will save it to the Downloads directory.'

5-7. Clicked on the Details dropdown box, and clicked show button. I also downloaded the PPK file as well as noting the Public IP address as 35.161.118.154

EN-US

Windows Users: Using SSH to Connect

These instructions are specifically for Windows users.

- Select the **Details** drop-down menu above these instructions. The Credentials window will be presented.
- Select the **Download PPK** button and save the file. Typically your browser will save it to the Downloads directory.
- Make a note of the **Public IP** address.
- Then exit the Details panel by selecting the **X**.
- Download **Putty** to SSH into the Amazon EC2 instance [here](#).
- Open **putty.exe**.
- Configure Putty timeout to keep the Putty session open:
 - Select **Connection**
 - Set **Seconds between keepalives** to 30
- Configure your Putty session:
 - Select **Session**
 - Host Name (or IP address)**: Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier. Alternatively, return to the EC2 Console and select **Instances**. Check the box next to the instance you want to connect to and in the **Description** tab copy the **IPv4 Public IP** value.
 - Back in Putty, in the **Connection** list, expand **SSH**
 - Select **Auth** (don't expand it)
 - Select **Browse**

then select **Show**, A

your computer, [download it](#)

251 x Con Wor aws Wor Wor Wor Sess Nali (3) V Am: X Hor Inb: Unc: Hor Am: G hov Test +

labs.vocareum.com/main/main.php?m=editor&asnid=2082209&stepid=2082210&hideNavBar=1

Details AWS Start Lab End Lab 0:53

Type here to search

32°C Rain showers ENG 04:45 21/09/2023

EN-US

Windows Users: Using SSH to Connect

These instructions are specifically for Windows users.

- Select the **Details** drop-down menu above these instructions. The Credentials window will be presented.
- Select the **Download PPK** button and save the file. Typically your browser will save it to the Downloads directory.
- Make a note of the **Public IP** address.
- Then exit the Details panel by selecting the **X**.
- Download **Putty** to SSH into the Amazon EC2 instance [here](#).
- Open **putty.exe**.
- Configure Putty timeout to keep the Putty session open:
 - Select **Connection**
 - Set **Seconds between keepalives** to 30
- Configure your Putty session:
 - Select **Session**
 - Host Name (or IP address)**: Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier. Alternatively, return to the EC2 Console and select **Instances**. Check the box next to the instance you want to connect to and in the **Description** tab copy the **IPv4 Public IP** value.
 - Back in Putty, in the **Connection** list, expand **SSH**
 - Select **Auth** (don't expand it)
 - Select **Browse**

then select **Show**, A

your computer, [download it](#)

251 x Con Wor aws Wor Wor Wor Sess Nali (3) V Am: X Hor Inb: Unc: Hor Am: G hov Test +

labs.vocareum.com/main/main.php?m=editor&asnid=2082209&stepid=2082210&hideNavBar=1

Details AWS Start Lab End Lab 0:52

Type here to search

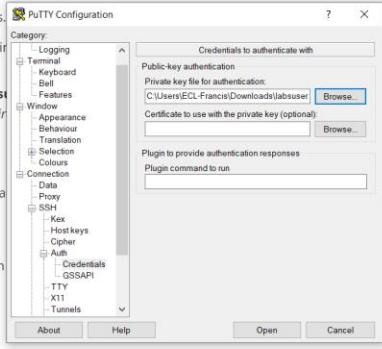
32°C Rain showers ENG 04:46 21/09/2023

EN-US

Windows Users: Using SSH to Connect

These instructions are specifically for Windows users.

5. Select the **Details** drop-down menu above these instructions. The Credentials window will be presented.
6. Select the **Download PPK** button and save the **labs** file. Typically your browser will save it to the Downloads directory.
7. Make a note of the **Public IP** address.
8. Then exit the Details panel by selecting the **X**.
9. Download **PuTTY** to SSH into the Amazon EC2 instance [here](#).
10. Open **putty.exe**
11. Configure PuTTY timeout to keep the PuTTY session open for a longer period of time:
 - Select **Connection**
 - Set **Seconds between keepalives** to 30
12. Configure your PuTTY session:
 - Select **Session**
 - **Host Name (or IP address)**: Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier. Alternatively, return to the EC2 Console and select **Instances**. Check the box next to the instance you want to connect to and in the **Description** tab copy the **IPv4 Public IP** value.
 - Back in PuTTY, in the **Connection** list, expand **SSH**
 - Select **Auth** (don't expand it)
 - Select **Browse**



35.161.118.154 - PuTTY

EN-US

Connect

you are using macOS or Linux, [skip to the next section](#).

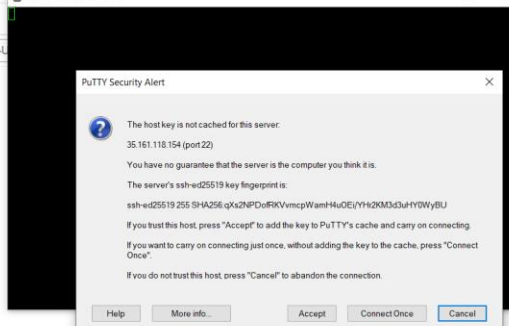
Instructions you are currently reading, and then select **Show**. A

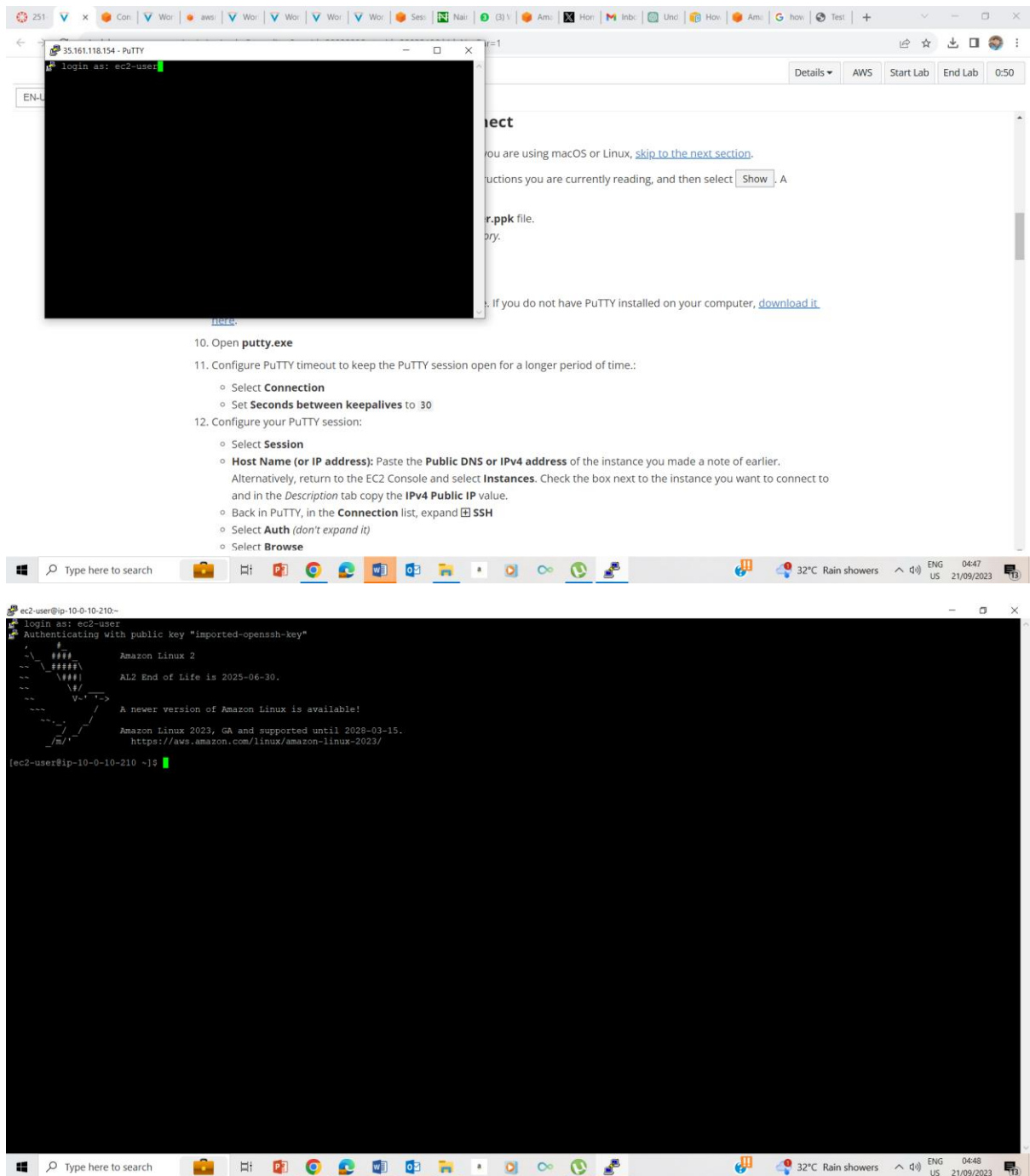
er.ppk file.

ory.

s. If you do not have PuTTY installed on your computer, [download it](#).

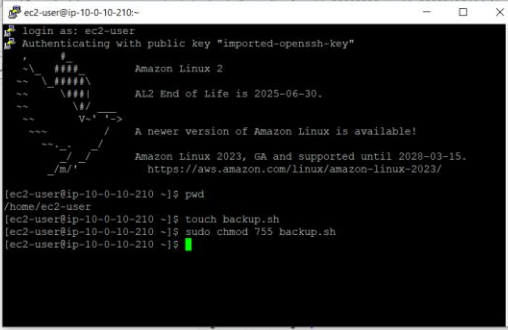
10. Open **putty.exe**
11. Configure PuTTY timeout to keep the PuTTY session open for a longer period of time:
 - Select **Connection**
 - Set **Seconds between keepalives** to 30
12. Configure your PuTTY session:
 - Select **Session**
 - **Host Name (or IP address)**: Paste the **Public DNS or IPv4 address** of the instance you made a note of earlier. Alternatively, return to the EC2 Console and select **Instances**. Check the box next to the instance you want to connect to and in the **Description** tab copy the **IPv4 Public IP** value.
 - Back in PuTTY, in the **Connection** list, expand **SSH**
 - Select **Auth** (don't expand it)
 - Select **Browse**





10-15. Configuring the putty

[illegible]



login as: ec2-user
Authenticating with public key "imported-openssh-key"

Amazon Linux 2
Alt2 End of Life is 2025-06-30.
A newer version of Amazon Linux is available!
Amazon Linux 2023, GA and supported until 2028-03-15.
<https://aws.amazon.com/linux/amazon-linux-2023/>

```
[ec2-user@ip-10-0-10-210 ~]$ pwd
/home/ec2-user
[ec2-user@ip-10-0-10-210 ~]$ touch backup.sh
[ec2-user@ip-10-0-10-210 ~]$ sudo chmod 755 backup.sh
[ec2-user@ip-10-0-10-210 ~]$
```

25. To create a generic shell script called **backup.sh**, enter the following command, and press Enter.

```
touch backup.sh
```


26. To change the file privileges to make **backup.sh** be executable, enter the following command, and press Enter.

```
sudo chmod 755 backup.sh
```

27. Use your preferred text editor to open the **backup.sh** file for editing. To do so, enter the following command, and press Enter.

```
vi backup.sh
```

26. Changed privileges to backup.sh



executable, enter the following command, and press Enter.

file for editing. To do so, enter the following command, and press

hebang line, and press Enter to go to the next line.

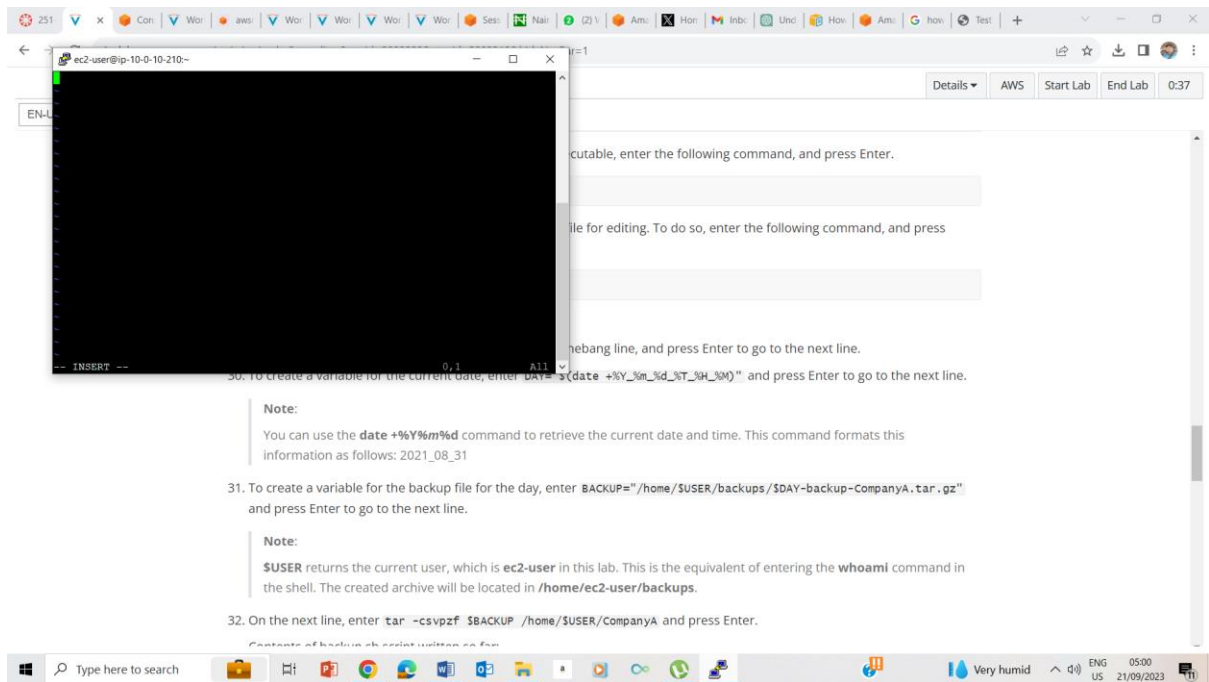
30. To create a variable for the current date, enter **date +%Y_%m_%d_%T_%H_%M** and press Enter to go to the next line.

Note:
You can use the **date +%Y%m%d** command to retrieve the current date and time. This command formats this information as follows: 2021_08_31

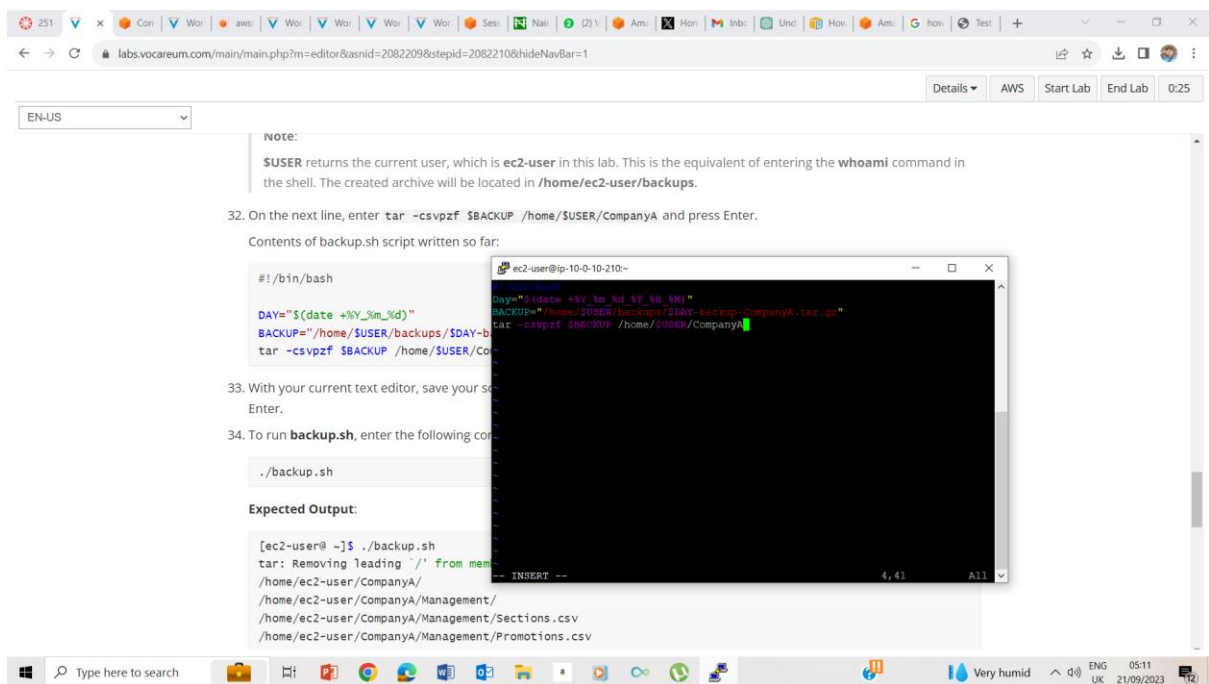
31. To create a variable for the backup file for the day, enter **BACKUP="/home/\$USER/backups/\$DAY-backup-CompanyA.tar.gz"** and press Enter to go to the next line.

Note:
\$USER returns the current user, which is **ec2-user** in this lab. This is the equivalent of entering the **whoami** command in the shell. The created archive will be located in **/home/ec2-user/backups**.

32. On the next line, enter **tar -cvsf \$BACKUP /home/\$USER/CompanyA** and press Enter.



27-28. I used `vi backup.sh` and entered the insert mode by typing `'i` and pressing enter.



27-31. Entering the scripts.

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labs.vocareum.com/main.php?m=editor&asnid=2082209&stepid=2082210&hideNavBar=1

Details AWS Start Lab End Lab 0:21

EN-US

33. With your current text editor, save your script and exit from the editor. To do so, press the Esc key, enter `:wq` and press Enter.

34. To run **backup.sh**, enter the following command, and press Enter.

```
./backup.sh
```

Expected Output:

```
[ec2-user@ ~]$ ./backup.sh
tar: Removing leading '/' from member names
/home/ec2-user/CompanyA/
/home/ec2-user/CompanyA/Management/
/home/ec2-user/CompanyA/Management/Sections.csv
/home/ec2-user/CompanyA/Management/Promotions.csv
/home/ec2-user/CompanyA/Employees/
/home/ec2-user/CompanyA/Employees/Schedules.csv
/home/ec2-user/CompanyA/Finance/
/home/ec2-user/CompanyA/Finance/Salary.csv
/home/ec2-user/CompanyA/Finance/Hourly.csv
/home/ec2-user/CompanyA/HR/
/home/ec2-user/CompanyA/HR/Managers.csv
/home/ec2-user/CompanyA/HR/Assessments.csv
/home/ec2-user/CompanyA/IA/
/home/ec2-user/CompanyA/SharedFolders/
```

35. To verify that the archive is created in the **backups** folder, enter the following command, and press Enter.

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labs.vocareum.com/main.php?m=editor&asnid=2082209&stepid=2082210&hideNavBar=1

Details AWS Start Lab End Lab 0:20

EN-US

```
/home/ec2-user/CompanyA/Employees/Schedules.csv
/home/ec2-user/CompanyA/Finance/
/home/ec2-user/CompanyA/Finance/Salary.csv
/home/ec2-user/CompanyA/HR/
/home/ec2-user/CompanyA/HR/Managers.csv
/home/ec2-user/CompanyA/HR/Assessments.csv
/home/ec2-user/CompanyA/IA/
/home/ec2-user/CompanyA/SharedFolders/
```

35. To verify that the archive is created in the **backups** folder, enter the following command, and press Enter.

```
ls backups/
```

Expected Output:

```
[ec2-user@ ~]$ ls backups/
2022_05_18_05:55:28_05_55-backup-CompanyA.tar.gz
```

You can schedule this type of script via **cron**, but this option is not covered in this lab.

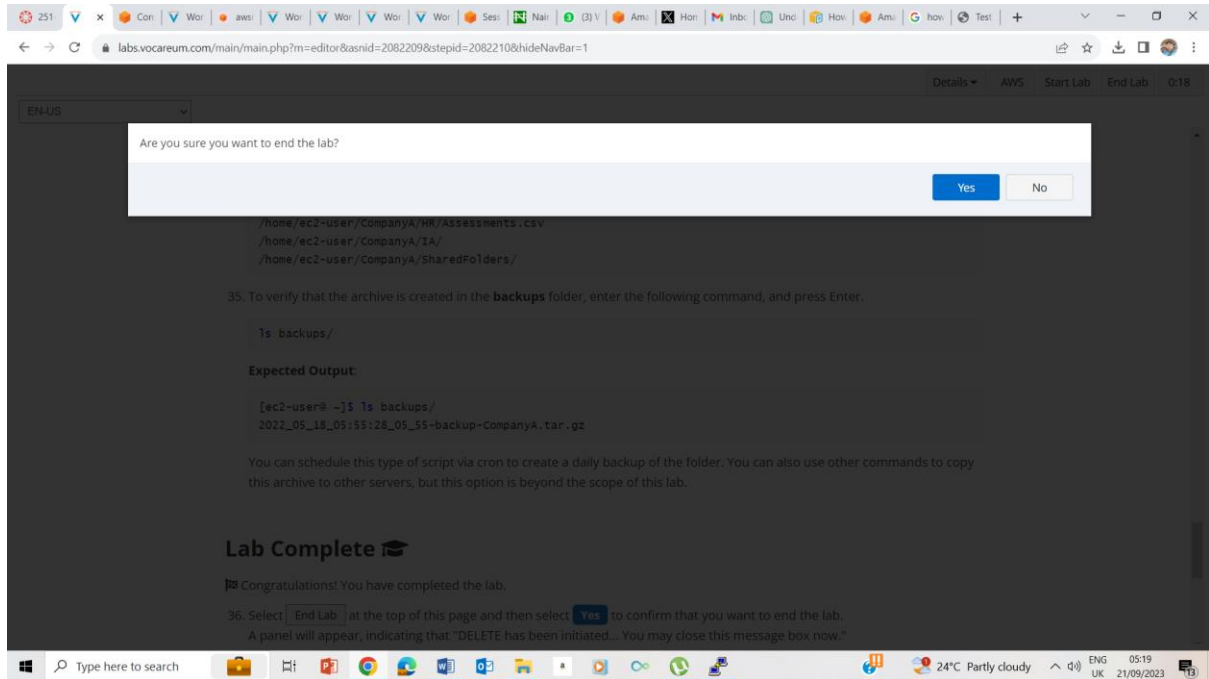
Lab Complete

🎉 Congratulations! You have completed the lab.

36. Select **End Lab** at the top of this page and then select **Yes** to confirm that you want to end the lab. A panel will appear, indicating that "DELETE has been initiated... You may close this message box now."

35. Verifying the archive by ls backups/

Lab Complete



The screenshot shows a web browser window with the URL `labs.vocareum.com/main/main.php?m=editor&asnid=2082209&stepid=2082210&hideNavBar=1`. The interface is in English (EN-US) and shows a lab titled "Lab Complete". A modal dialog box is displayed with the text "Are you sure you want to end the lab?" and two buttons: "Yes" and "No". Below the dialog, the lab content is visible, showing a terminal output for a command to create a backup. The terminal output is as follows:

```
/home/ec2-user/CompanyA/HR/Assessments.csv
/home/ec2-user/CompanyA/IA/
/home/ec2-user/CompanyA/SharedFolders/

35. To verify that the archive is created in the backups folder, enter the following command, and press Enter.

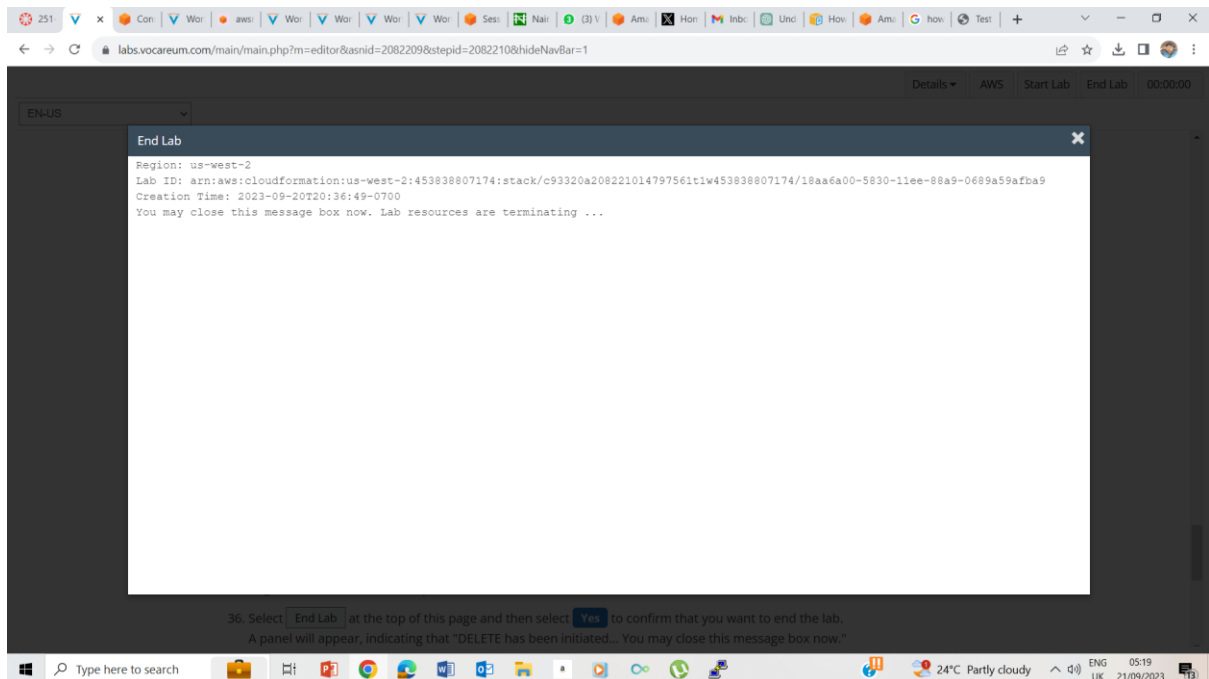
1s backups/

Expected Output:

[ec2-user@ ~]$ 1s backups/
2022_05_18_05:55:28_05-55-backup-CompanyA.tar.gz

You can schedule this type of script via cron to create a daily backup of the folder. You can also use other commands to copy
this archive to other servers, but this option is beyond the scope of this lab.
```

Below the terminal output, the "Lab Complete" section is visible, with a congratulatory message and instructions to end the lab. The instructions state: "36. Select 'End Lab' at the top of this page and then select 'Yes' to confirm that you want to end the lab. A panel will appear, indicating that 'DELETE has been initiated... You may close this message box now.'"



The screenshot shows the same web browser window as the previous one, but with the "End Lab" dialog box open. The dialog box contains the following information:

```
Region: us-west-2
Lab ID: arn:aws:cloudformation:us-west-2:453838807174:stack/c93320a208221014797561c1w453838807174/18aa6a00-5830-11ee-88a9-0689a59afb9
Creation Time: 2023-09-20T20:36:49-0700
You may close this message box now. Lab resources are terminating ...
```

Below the dialog box, the lab content is visible, showing the same instructions as the previous screenshot. The instructions state: "36. Select 'End Lab' at the top of this page and then select 'Yes' to confirm that you want to end the lab. A panel will appear, indicating that 'DELETE has been initiated... You may close this message box now.'"