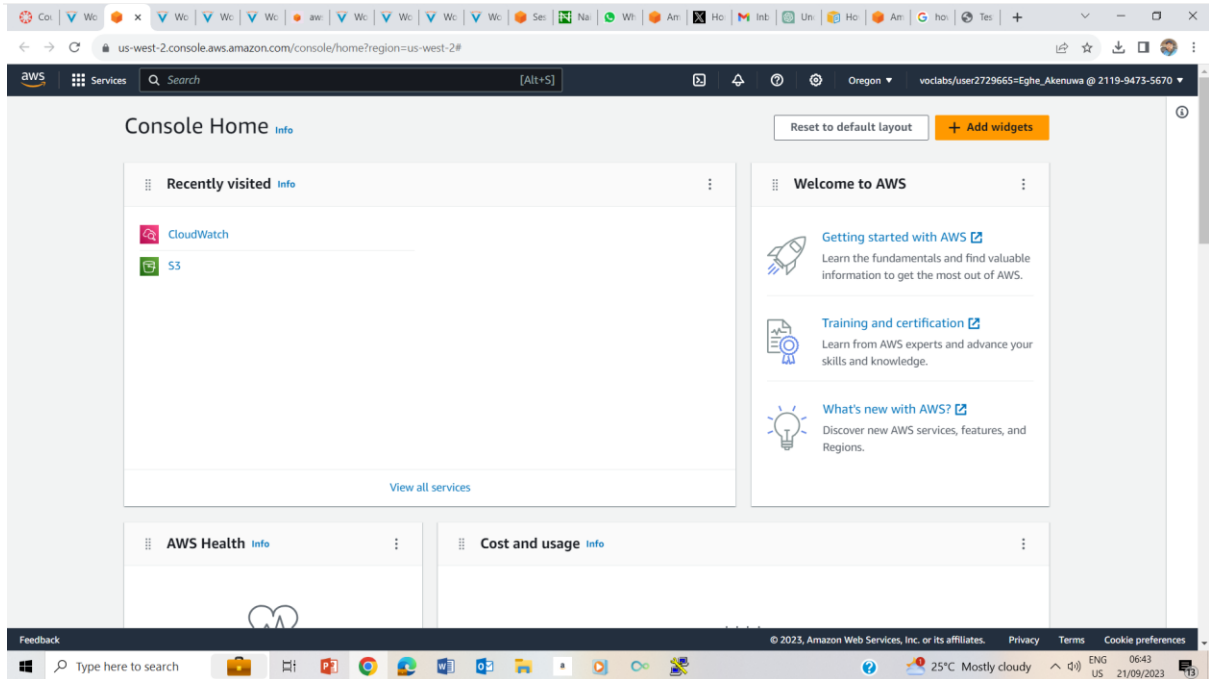


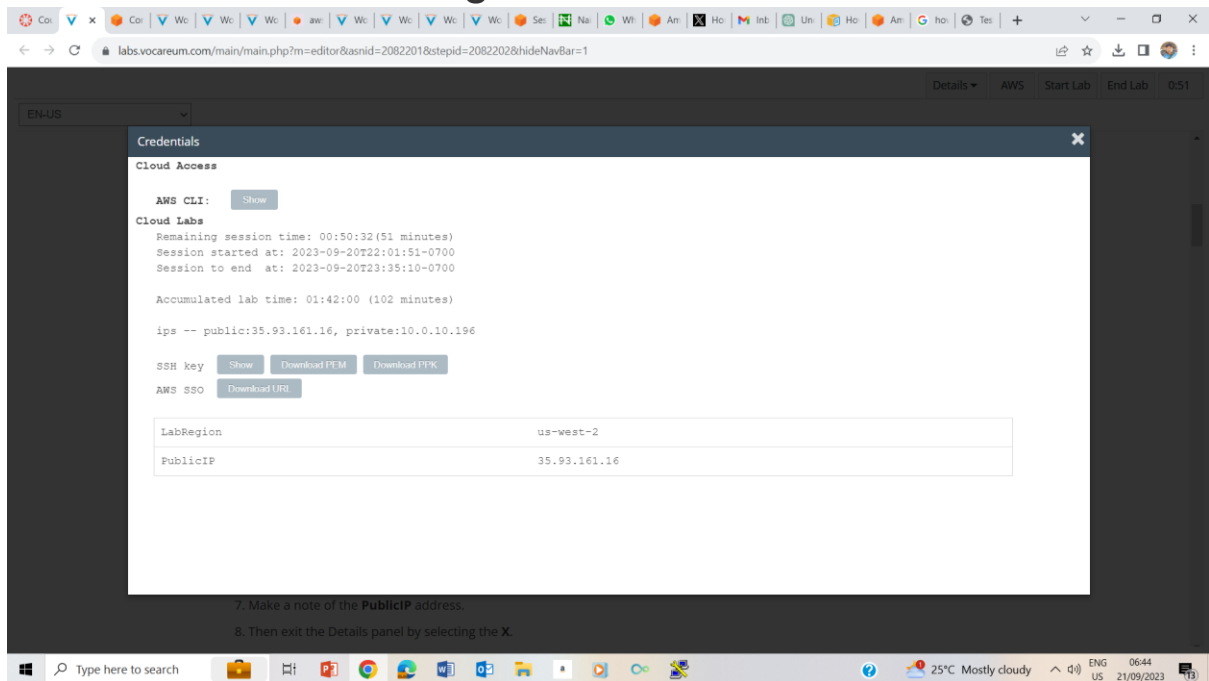
# The Bash Shell

## Accessing the AWS Management Console



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

# Windows Users: Using SSH to Connect

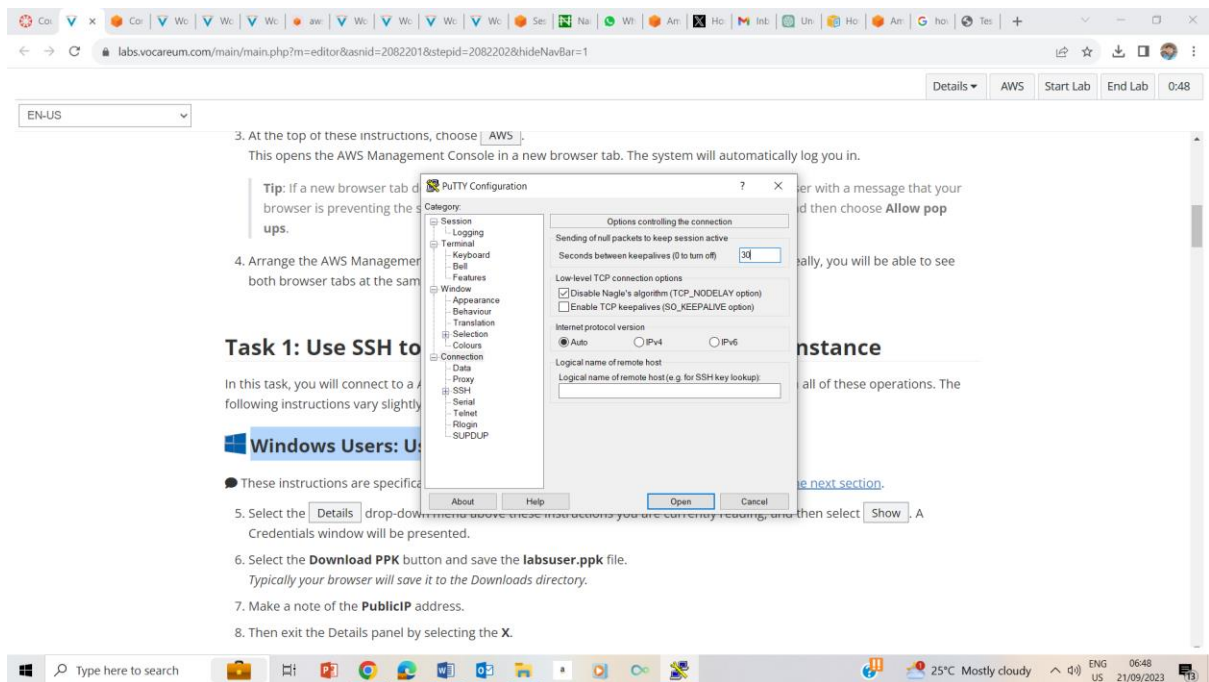


The screenshot shows the AWS Cloud Labs interface. A 'Credentials' window is open, displaying the following information:

- Cloud Access**
- AWS CLI:** [Show]
- Cloud Labs**
- Remaining session time: 00:50:32 (51 minutes)
- Session started at: 2023-09-20T22:01:51-0700
- Session to end at: 2023-09-20T23:35:10-0700
- Accumulated lab time: 01:42:00 (102 minutes)
- ips -- public:35.93.161.16, private:10.0.10.196
- SSH key** [Show] [Download PEM] [Download PPK]
- AWS SSO** [Download URI]
- LabRegion: us-west-2
- PublicIP: 35.93.161.16

Below the window, instructions 7 and 8 are visible:

7. Make a note of the **PublicIP** address.
8. Then exit the Details panel by selecting the **X**.



The screenshot shows the AWS Cloud Labs interface with the 'Task 1: Use SSH to Connect' section. The task instructions are as follows:

3. 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 doesn't open, your browser is preventing this. Click the **Allow** button in the pop-up.
4. Arrange the AWS Management Console and the browser tabs at the same time.

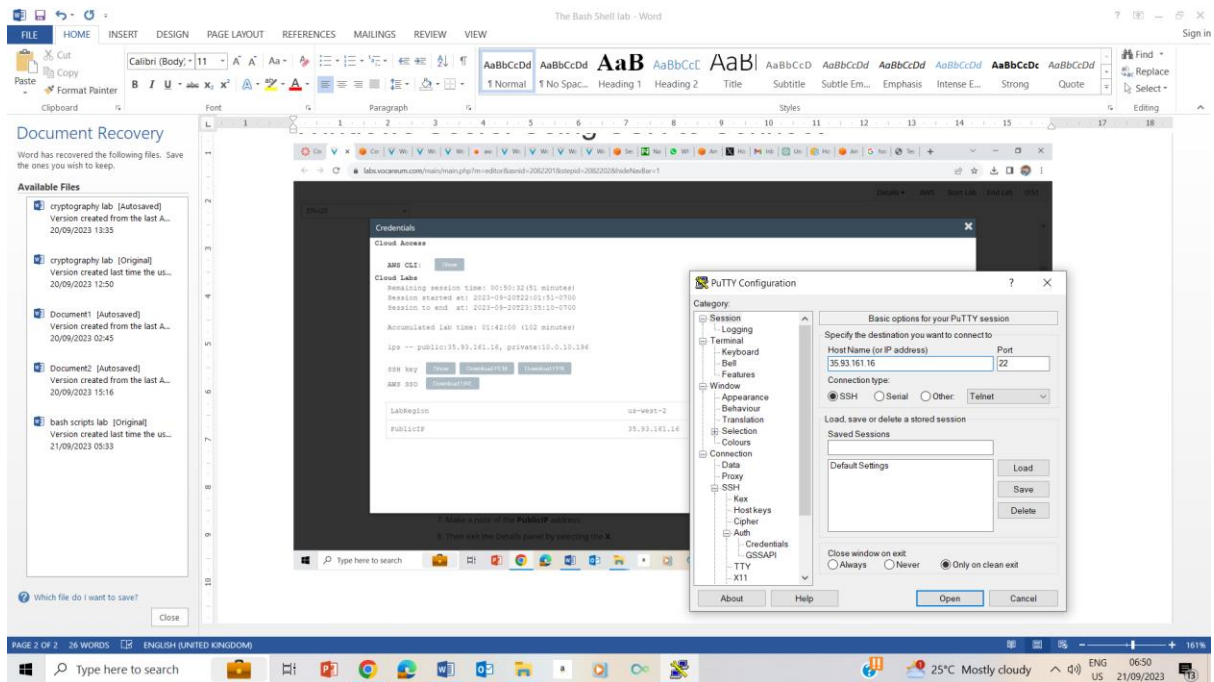
**Task 1: Use SSH to Connect**

In this task, you will connect to a Windows instance. The following instructions vary slightly from the previous task.

**Windows Users: Using SSH to Connect**

These instructions are specific to Windows users.

5. Select the **Details** drop-down menu. This opens the Details panel. Then select **Show**. A Credentials window will be presented.
6. Select the **Download PPK** button and save the **labsuser.ppk** file. Typically your browser will save it to the Downloads directory.
7. Make a note of the **PublicIP** address.
8. Then exit the Details panel by selecting the **X**.



EN-US

3. 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**.

4. 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.

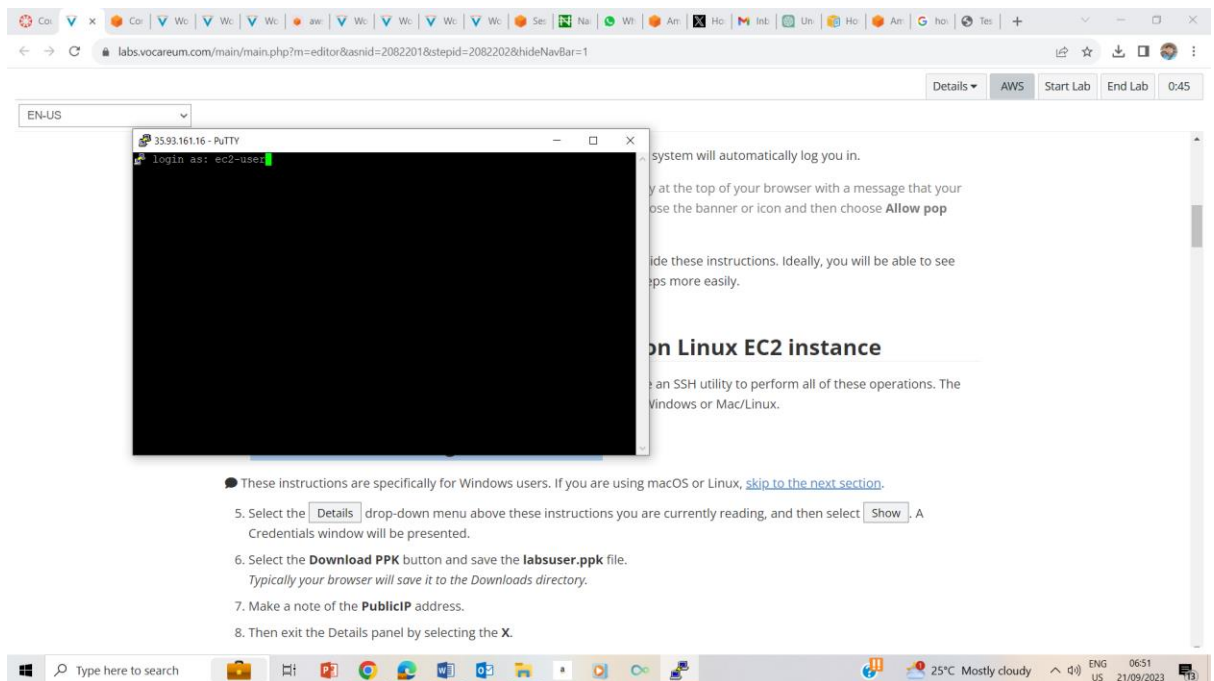
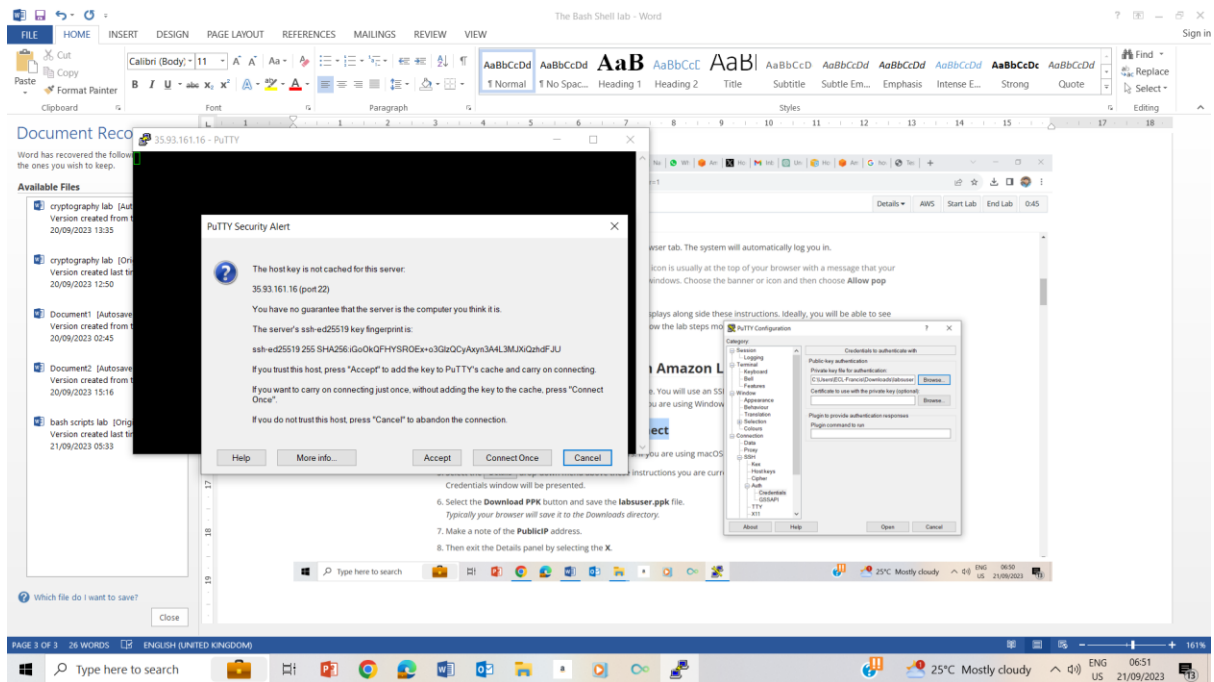
## Task 1: Use SSH to connect to an Amazon Linux Instance

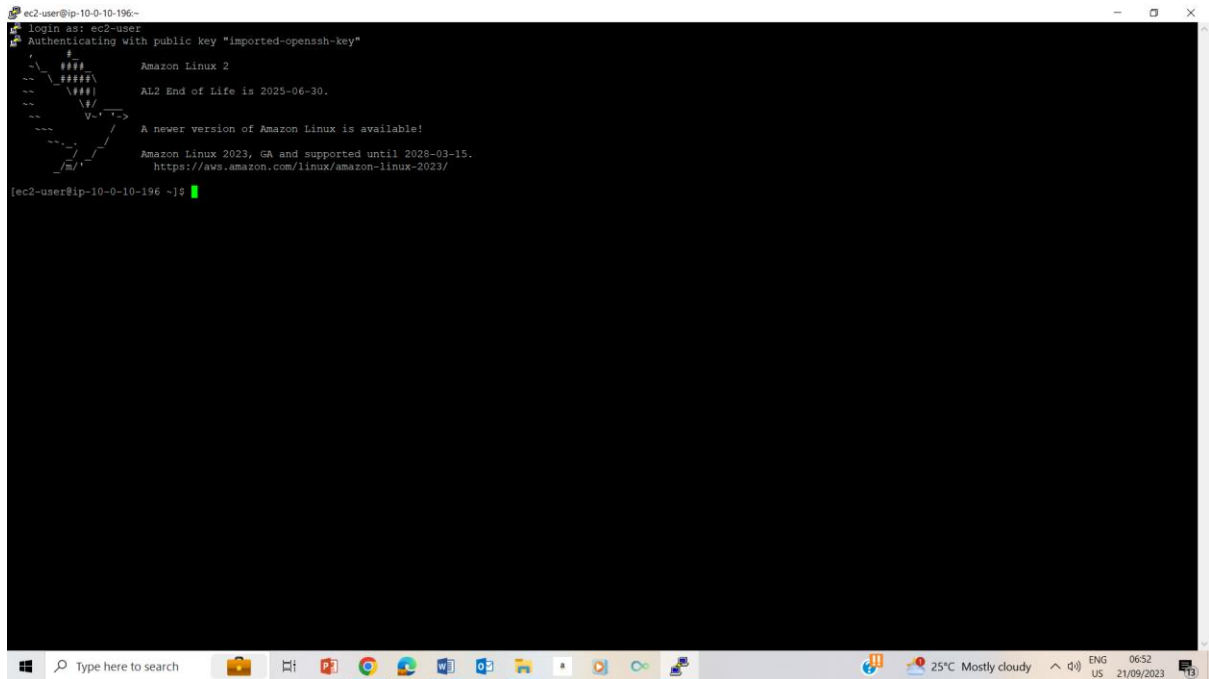
In this task, you will connect to a Amazon Linux EC2 Instance. You will use an SSH key pair to connect. The following instructions vary slightly depending on whether you are using Windows or macOS.

### Windows Users: Using SSH to Connect

These instructions are specifically for Windows users. If you are using macOS or Linux, the instructions will be different.

- Select the **Details** drop-down menu above these instructions you are currently viewing. The **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.*
- Make a note of the **PublicIP** address.
- Then exit the Details panel by selecting the **X**.



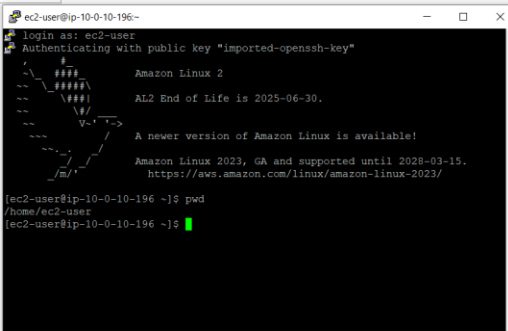


## Task 2: Create an alias for a backup operation

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Details AWS Start Lab End Lab 0:43

EN-US



```
ec2-user@ip-10-0-10-196~
login as: ec2-user
Authenticating with public key "imported-openssh-key"

Amazon Linux 2
AL2 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-10-0-10-196 ~]$ pwd
/home/ec2-user
[ec2-user@ip-10-0-10-196 ~]$
```

Expected output:

```
[ec2-user@ ~]$ pwd
/home/ec2-user/
```

25. To create an alias called **backup**, enter the following command, and press Enter.

```
alias backup='tar -cvzf '
```

Remember that **tar** is a command that you use to create or extract an archive that contains files and folders.

24. `pwd` to confirm that I am on the `/home/ec2-user` folder







EN-US

Details AWS Start Lab End Lab 0:35

```
[ec2-user@ ~]$ ls
backup_companyA.tar.gz  CompanyA
```

### Task 3: Explore and update the PATH environment variable

In this task, you display the PATH environment variable, place executables.

28. To navigate to the **bin** folder in the home **CompanyA** directory, enter the following command, and press Enter.

```
cd /home/ec2-user/CompanyA/bin
```

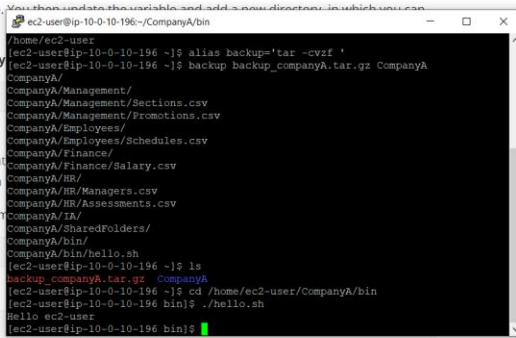
**Note:**  
You can also use the `pwd` command to verify that you are in the home folder, `/home/ec2-user`, and use `cd CompanyA/bin` to enter the `/home/ec2-user/bin` folder.

29. To run the **hello.sh** script, enter the following command, and press Enter.

```
./hello.sh
```

**Expected Output:**

```
[ec2-user@ bin]$ hello.sh
hello ec2-user
```



The terminal screenshot shows the user navigating to the bin directory and listing its contents. The directory contains a hello.sh script and several CSV files. The user then runs the hello.sh script, which outputs 'hello ec2-user'.

Type here to search

25°C Mostly cloudy 07:01 21/09/2023

## 29. running hello.sh script

EN-US

Details AWS Start Lab End Lab 0:34

28. To navigate to the **bin** folder in the home **CompanyA** directory, enter the following command, and press Enter.

```
cd /home/ec2-user/CompanyA/bin
```

**Note:**  
You can also use the `pwd` command to verify that you are in the home folder, `/home/ec2-user`, and use `cd CompanyA/bin` to enter the `/home/ec2-user/bin` folder.

29. To run the **hello.sh** script, enter the following command, and press Enter.

```
./hello.sh
```

**Expected Output:**

```
[ec2-user@ bin]$ hello.sh
hello ec2-user
```

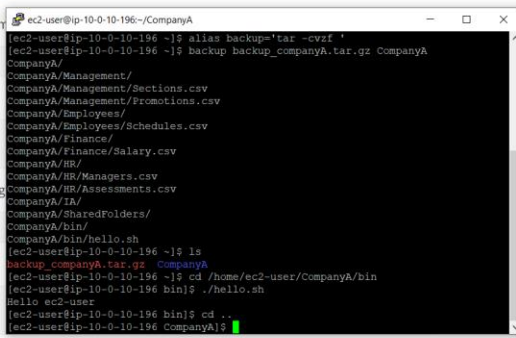
30. To navigate to the parent folder, enter the following command, and press Enter.

```
cd ..
```

**Expected Output:**

```
[ec2-user@ bin]$ cd ..
[ec2-user@ CompanyA]$
```

31. To run the **hello.sh** script again, enter the following command, and press Enter.



The terminal screenshot shows the user navigating to the bin directory, listing its contents, running the hello.sh script, and then navigating to the parent directory (CompanyA) using the cd .. command. The user then runs the hello.sh script again, which outputs 'hello ec2-user'.

Type here to search

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## 30. Navigating to the parent folder using cd..



EN-US

29. To run the **hello.sh** script, enter the following command, and press Enter.

```
./hello.sh
```

**Expected Output:**

```
[ec2-user@ bin]$ hello.sh
hello ec2-user
```

30. To navigate to the parent folder, enter the following command:

```
cd ..
```

**Expected Output:**

```
[ec2-user@ bin]$ cd ..
[ec2-user@ CompanyA]$
```

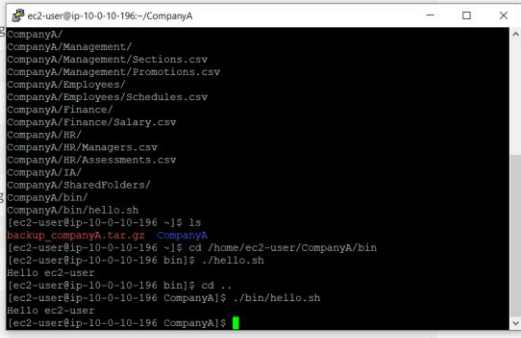
31. To run the **hello.sh** script again, enter the following command:

```
./bin/hello.sh
```

**Expected Output:**

```
[ec2-user@ CompanyA]$ ./bin/hello.sh
hello ec2-user
```

32. To run the **hello.sh** script, enter the following command, and press Enter.



### 31. running the hello.sh script again

EN-US

```
[ec2-user@ bin]$ cd ..
[ec2-user@ CompanyA]$
```

31. To run the **hello.sh** script again, enter the following command, and press Enter.

```
./bin/hello.sh
```

**Expected Output:**

```
[ec2-user@ CompanyA]$ ./bin/hello.sh
hello ec2-user
```

32. To run the **hello.sh** script, enter the following command:

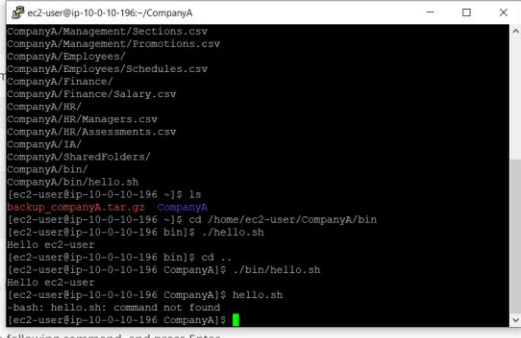
```
hello.sh
```

**Expected Output:**

```
[ec2-user@ CompanyA]$ hello.sh
bash: hello.sh: command not found
```

**Note:**  
Analyze the three different ways you tried to run the script and how to solve this issue.

33. To display the value of the **PATH** variable, enter the following command, and press Enter.



### 32. running hello.sh, showing command not found

EN-US

hello ec2-user

32. To run the **hello.sh** script, enter the following command, and press Enter.

hello.sh

**Expected Output:**

```
[ec2-user@ CompanyA]$ hello.sh
bash: hello.sh: command not found
```

**Note:**  
Analyze the three different ways you tried to run the hello.sh script. In the next step, you are going to figure out why the third run failed and how to solve this issue.

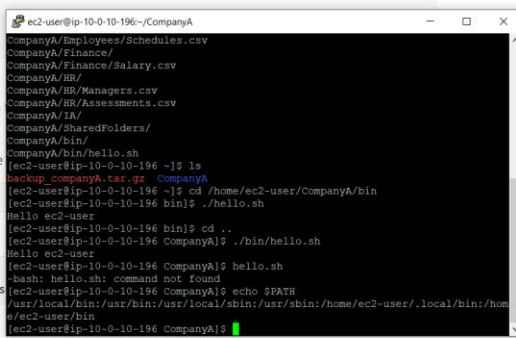
33. To display the value of the **PATH** variable, enter the following command, and press Enter.

echo \$PATH

**Expected Output:**

```
[ec2-user@ CompanyA]$ echo $PATH
/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/home/ec2-user/.local/bin:/home/ec2-user/bin
```

**Note:**  
Remember that the PATH variable is a list of folders where the system looks for executables and libraries. If you enter a



The terminal window shows the directory structure of /home/ec2-user/CompanyA, including files like Employees/Schedules.csv, Finance/Salary.csv, HR/Managers.csv, HR/Assessments.csv, IA/, SharedFolders/, bin/, and bin/hello.sh. It also shows the execution of 'ls', 'cd', and 'echo \$PATH' commands.

### 33. echo \$PATH

EN-US

Analyze the three different ways you tried to run the hello.sh script. In the next step, you are going to figure out why the third run failed and how to solve this issue.

33. To display the value of the **PATH** variable, enter the following command, and press Enter.

echo \$PATH

**Expected Output:**

```
[ec2-user@ CompanyA]$ echo $PATH
/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/home/ec2-user/.local/bin:/home/ec2-user/bin
```

**Note:**  
Remember that the PATH variable is a list of folders where the system looks for executables and libraries. If you enter a command such as **hello.sh**, Linux will look for the command in the folders listed in the PATH variable. You can see that **/home/ec2-user/bin** is not in the PATH variable.

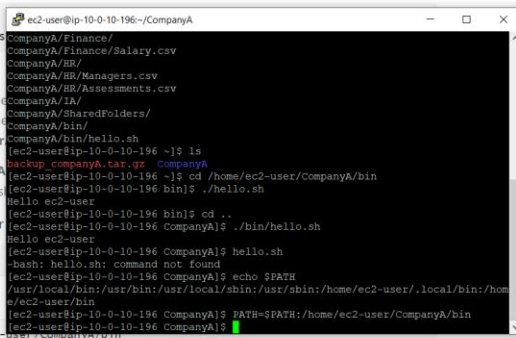
- Navigate to the **/home/ec2-user/CompanyA/bin** folder.
- Enter **/home/ec2-user/CompanyA/bin/hello.sh**.

34. To add the **/home/ec2-user/CompanyA/bin** folder to the PATH variable, enter the following command, and press Enter.

PATH=\$PATH:/home/ec2-user/CompanyA/bin

**Expected Output:**

```
[ec2-user@ CompanyA]$ PATH=$PATH:/home/ec2-user/CompanyA/bin
```



The terminal window shows the directory structure of /home/ec2-user/CompanyA, including files like Finance/, Finance/Salary.csv, HR/, HR/Managers.csv, HR/Assessments.csv, IA/, SharedFolders/, bin/, and bin/hello.sh. It also shows the execution of 'ls', 'cd', and 'echo \$PATH' commands.

### 34. adding /home/ec2-user/companyA/bin folder to the PATH variable.

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EN-US

command such as **hello.sh**, Linux will look for the script in the current folder and then in all the folders contained in the PATH variable. You can see that **/home/ec2-user/bin** is not listed. There are currently only two ways to run the script:

- Navigate to the **/home/ec2-user/CompanyA/bin** folder, and enter **hello.sh** to run the script.
- Enter **/home/ec2-user/CompanyA/bin/hello.sh** from any folder.

34. To add the **/home/ec2-user/CompanyA/bin** folder to the PATH variable, enter the following command, and press Enter.

```
PATH=$PATH:/home/ec2-user/CompanyA/bin
```

Expected Output:

```
[ec2-user@ CompanyA]$ PATH=$PATH:/home/ec2-user/CompanyA/bin
```

35. To try to run the **hello.sh** script again, enter **hello.sh**.

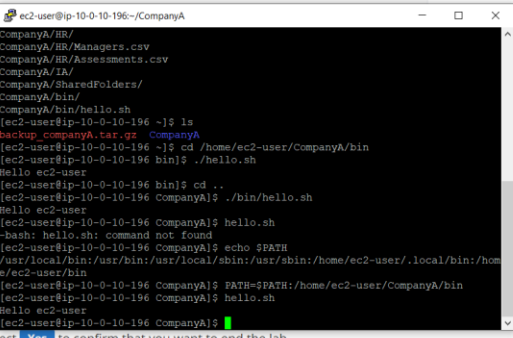
Expected Output:

```
[ec2-user@ CompanyA]$ hello.sh
hello ec2-user
```

**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. running heelo.sh script with the command hello.sh and resulting in hello ec2-user

## Lab Complete

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EN-US

Are you sure you want to end the lab?

**Yes** **No**

34. To add the **/home/ec2-user/CompanyA/bin** folder to the PATH variable, enter the following command, and press Enter.

```
PATH=$PATH:/home/ec2-user/CompanyA/bin
```

Expected Output:

```
[ec2-user@ CompanyA]$ PATH=$PATH:/home/ec2-user/CompanyA/bin
```

35. To try to run the **hello.sh** script again, enter **hello.sh** and press Enter.

Expected Output:

```
[ec2-user@ CompanyA]$ hello.sh
hello ec2-user
```

**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."

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EN-US

Details AWS Start Lab End Lab 00:00:00

End Lab

Region: us-west-2  
Lab ID: arn:aws:cloudformation:us-west-2:211994735670:stack/c93320a208220214785078t1w211994735670/f9b0eaa0-583b-11ee-b8ac-026b30946341  
Creation Time: 2023-09-20T22:01:51-0700  
You may close this message box now. Lab resources are terminating ...

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."

Type here to search

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US 21/09/2023