

ECS 489: Winter 2026

Using AWS Academy Learner Lab

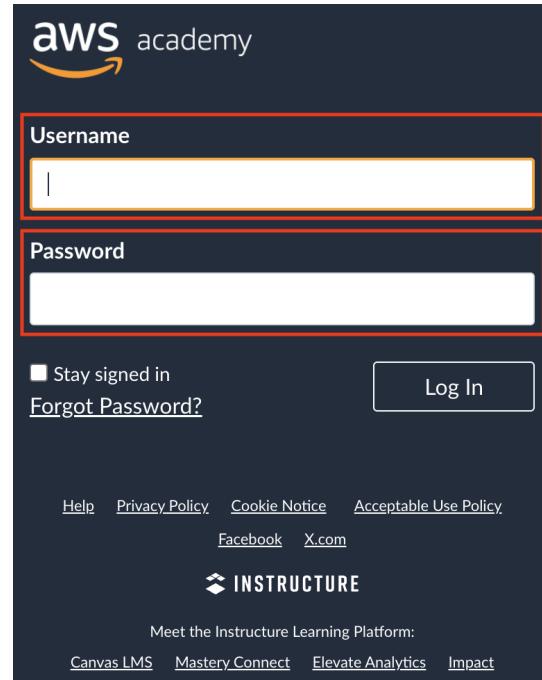
Wonbin Jin, Madison Heyer, Arnav Shah, Lance Ying (Student Instructors)
Muhammad Shahbaz (Instructor)

1. Introduction

This guide explains how to use **AWS Academy Learner Lab (AWS Lab)** to complete the lab assignments in this course. You will primarily use AWS Lab to access various Amazon Web Services (AWS) as part of different assignments.

2. Using AWS Academy Learner Lab

Step 1: You should have received an email invitation with instructions for setting up your AWS Lab account. After setup, go to https://www.awsacademy.com/vforcesite/LMS_Login, choose Student Login, and enter your email and password to sign in.



Step 2: After logging in, you will see the AWS Lab dashboard. Click on **AWS Academy Learner Lab [151633]** from the available courses.

Course ▾	Nickname ▾	Course Code ▾
AWS Academy Learner Lab [151633]	EECS489-WN26	ALLv2EN-US-LTI13-151633

Step 3: This takes you to the course homepage. Click on **Modules**.

The screenshot shows the AWS Academy Learner Lab course homepage. On the left, there's a sidebar with icons for Account, Dashboard, and Courses. The 'Modules' link is highlighted with a red box. The main content area has a title 'AWS Academy Learner Lab [151633]' and a 'Getting Started' section with a link to the course page (<https://gitlab.com/umich-eecs489/winter-2026/public>). To the right, there are buttons for 'View Course Stream', 'View Course Calendar', and 'View Course Notifications'. A 'To Do' section is also visible.

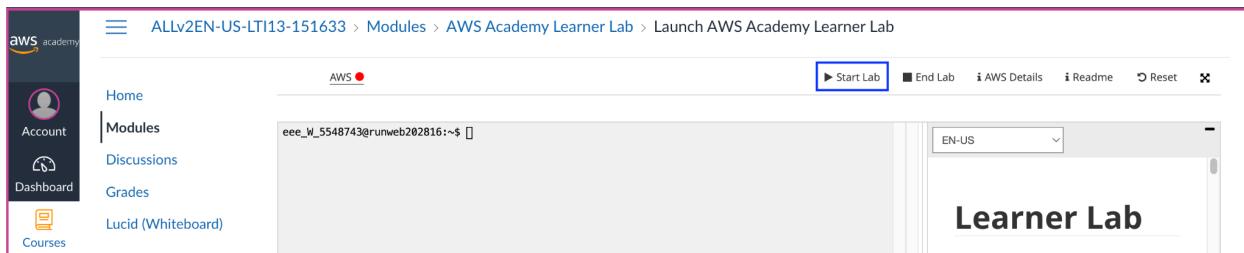
Step 4: Select **Launch AWS Academy Learner Lab**.

The screenshot shows the 'Launch AWS Academy Learner Lab' interface. The sidebar remains the same, but the main content area now features a 'Module Knowledge Check' card with a score of 70.0 and a 'Launch AWS Academy Learner Lab' button, which is highlighted with a red box.

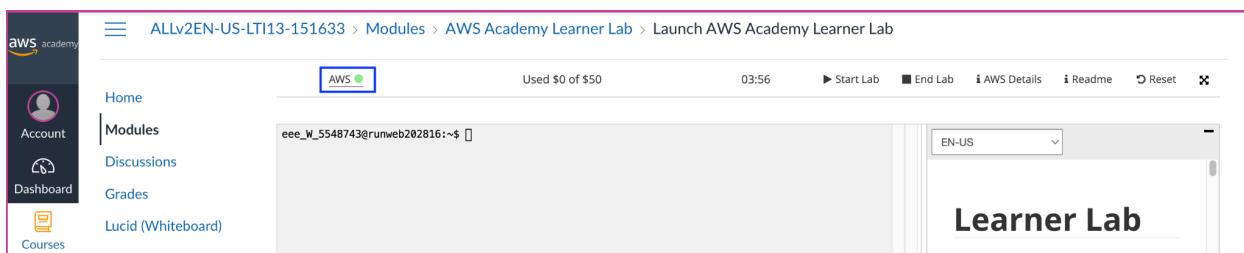
Step 5: This is your lab interface. Key controls are marked with red boxes. The Readme section provides helpful documentation for using the lab. (Don't forget to accept the Terms of Use when accessing the interface for the first time.)

The screenshot shows the AWS Academy Learner Lab interface. The top navigation bar includes 'AWS', 'Start Lab', 'End Lab', 'AWS Details', 'Readme', 'Reset', and a close button. Below the navigation is a terminal window showing the command 'eee_W_5548743@runweb202816:~\$'. To the right of the terminal is a 'Learner Lab' panel with a dropdown menu set to 'EN-US'.

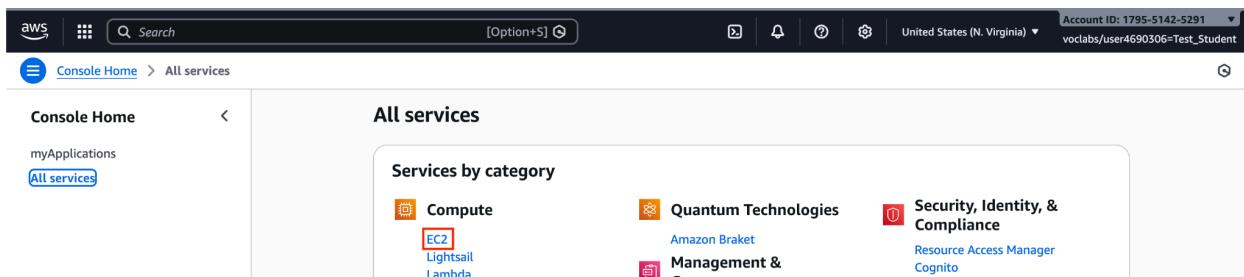
Step 6: Click **Start Lab** to begin.



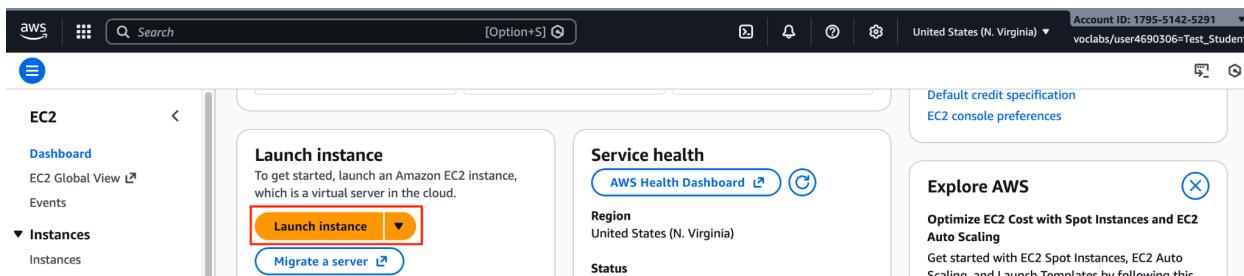
Step 7: Once the circle next to AWS turns **green**, click on AWS. (It may take some time to come up.)



Step 8: A new browser tab will open to the AWS Console Home. Navigate to **All Services** by clicking the Hamburger Menu (**≡**), and select the **EC2** service under **Compute**.



Step 9: Press the orange **Launch Instance** button.



Step 10: To start the VM creation process, first select an **Amazon Machine Image (AMI)**. Choose **Ubuntu 22.04 "Free tier eligible."** (Select **Confirm changes** if a pop-up appears.)

The screenshot shows the AWS EC2 Instances Launch wizard. In the 'Application and OS Images (Amazon Machine Image)' section, the 'Ubuntu' AMI is selected and highlighted with a red box. The 'Free tier eligible' status is also highlighted. On the right side, the 'Summary' section shows 1 instance selected. The 'Launch instance' button is visible at the bottom right.

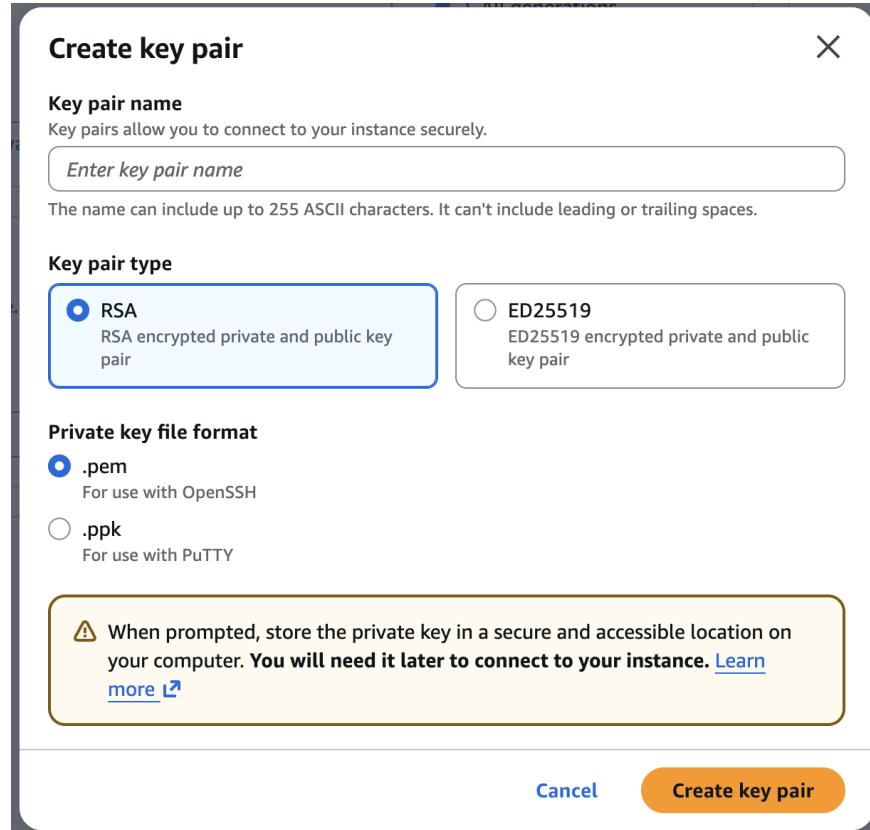
Step 11: Choose the instance type. Select **t3.medium**.

The screenshot shows the 'Instance type' selection step. The 't3.medium' instance type is selected and highlighted with a red box. The 'Additional costs apply for AMIs with pre-installed software' note is visible below the instance type list. On the right, there are buttons for 'All generations' and 'Compare instance types'.

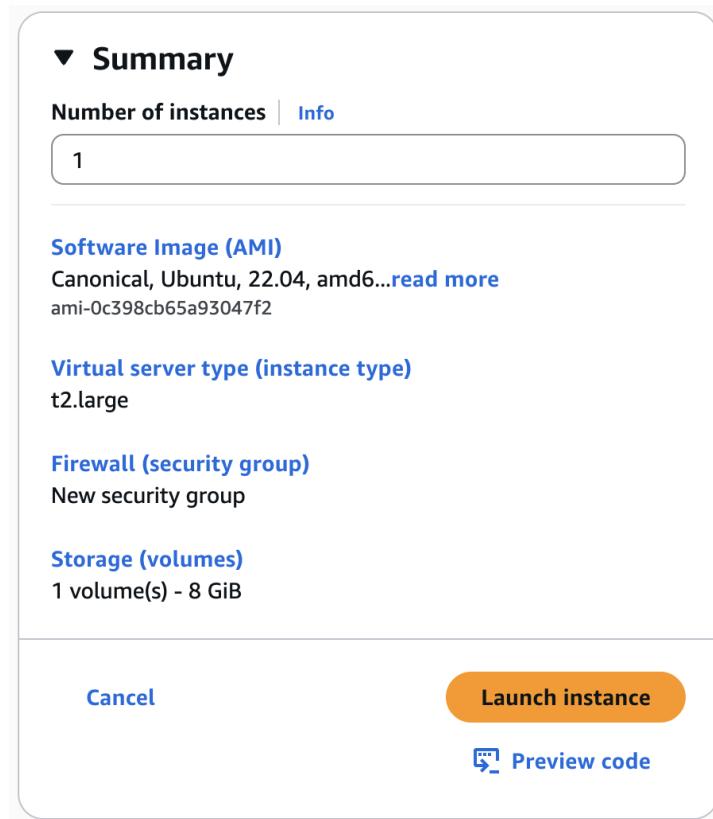
Step 12: In the Key pair (login) section, click **Create a key pair** if you don't already have one.

The screenshot shows the 'Key pair (login)' section. A note says you can use a key pair to securely connect to your instance. The 'Key pair name - required' dropdown is set to 'Select'. The 'Create new key pair' button is highlighted with a red box.

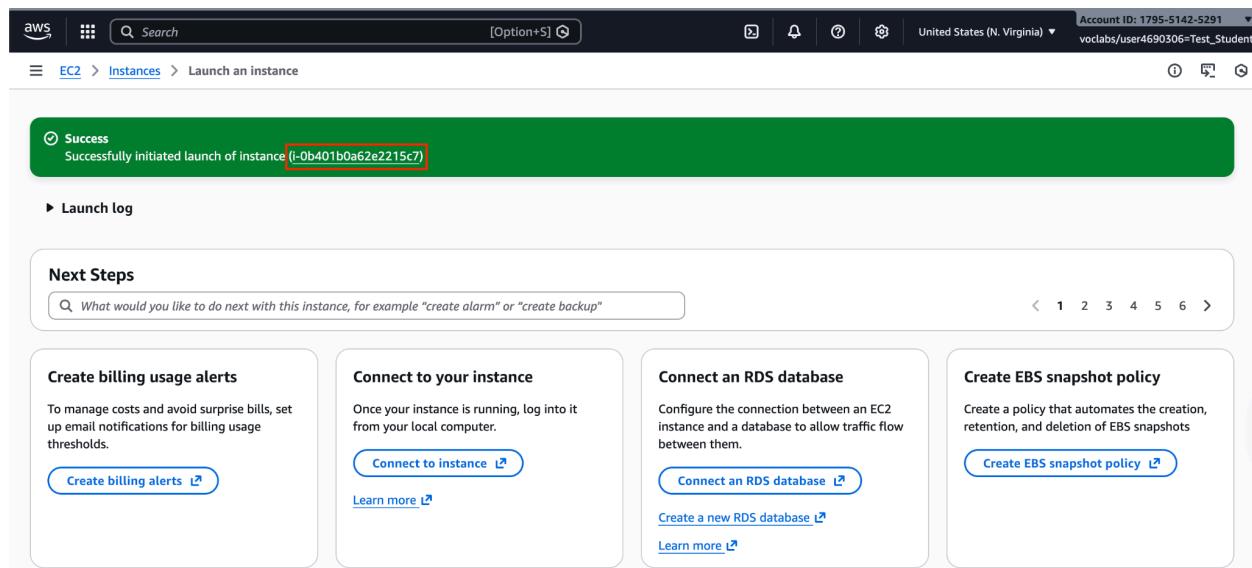
Step 13: In the pop-up, enter a name for your key pair and click **Create key pair**. This downloads the .pem key file (e.g., [Key pair name].pem) to your computer. **Important:** Do not lose or damage this file. Without it, you cannot connect to your virtual machine, and it cannot be downloaded again.



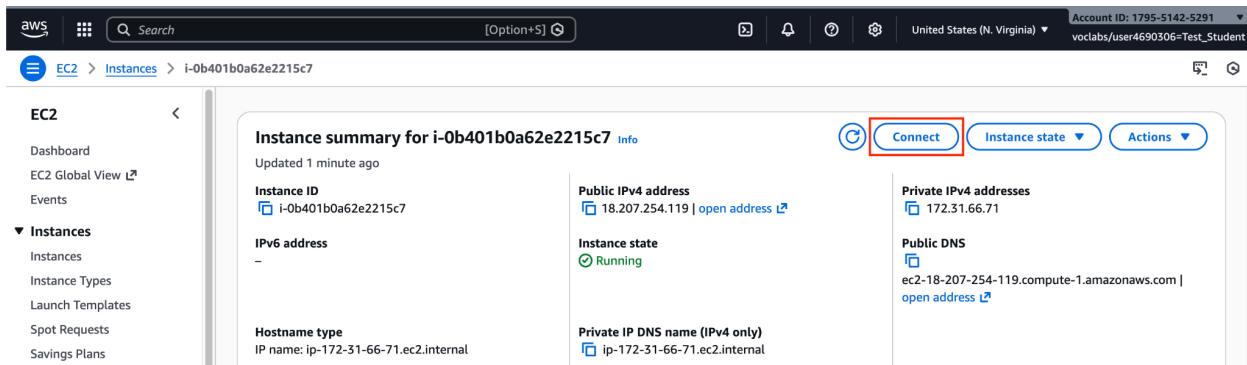
Step 14: Under the Summary section, click **Launch Instance** to create your virtual machine.



Step 15: On the **Launch Status** page, click the instance identifier.

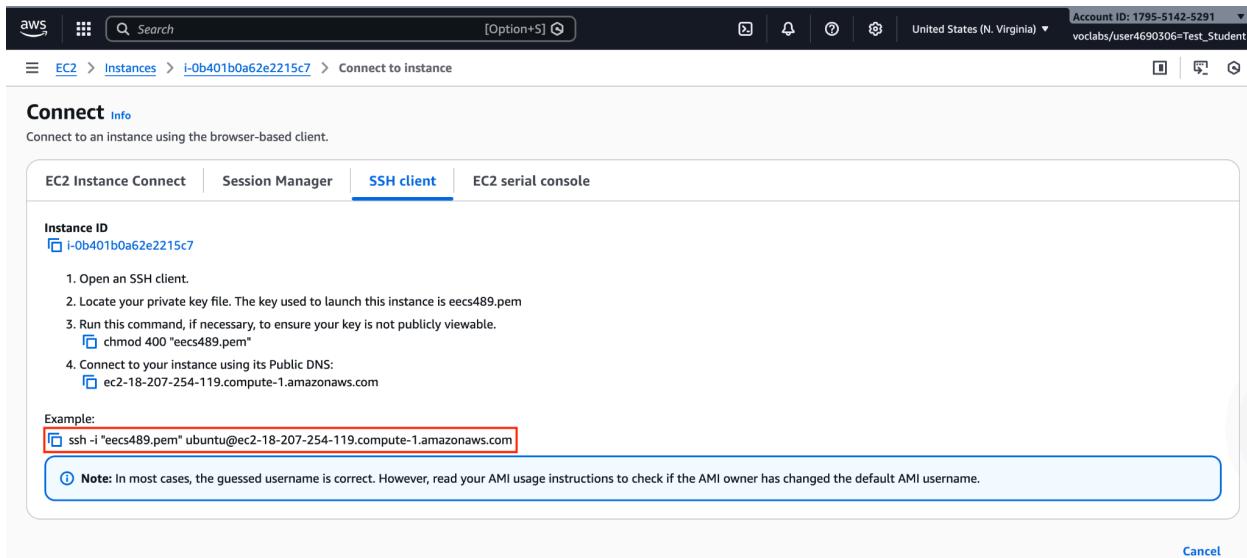


Step 16: You'll now see key information about your EC2 instance, such as instance ID, public IPv4 address, and DNS. Click **Connect**.



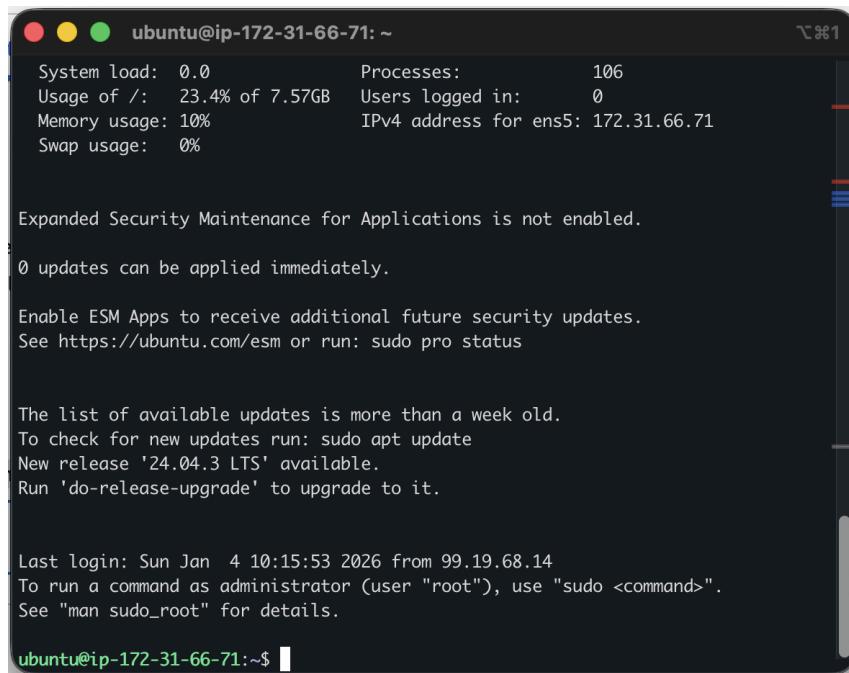
The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with options like Dashboard, EC2 Global View, Events, Instances (which is expanded), Instances, Instance Types, Launch Templates, Spot Requests, and Savings Plans. The main area displays the instance summary for 'i-0b401b0a62e2215c7'. It includes fields for Instance ID (i-0b401b0a62e2215c7), Public IPv4 address (18.207.254.119), Instance state (Running), and Private IP DNS name (ip-172-31-66-71.ec2.internal). At the top right, there are buttons for 'Connect' (highlighted with a red box), 'Instance state', and 'Actions'.

Step 17: Under the **SSH client** tab, follow the listed steps to connect to your instance. Copy the provided **ssh** command and paste it into your terminal. (Remember to set the security permissions of your **.pem** file by running “**chmod 600 <key>.pem**”.)



The screenshot shows the 'Connect' page for the instance 'i-0b401b0a62e2215c7'. The 'SSH client' tab is selected. It provides instructions for connecting using an SSH client, mentioning a private key file 'eec489.pem'. Below are four numbered steps: 1. Open an SSH client, 2. Locate your private key file, 3. Run the command 'chmod 400 eec489.pem', and 4. Connect to the instance using its Public DNS. An example command is shown: 'ssh -i "eec489.pem" ubuntu@ec2-18-207-254-119.compute-1.amazonaws.com'. A note at the bottom states: 'Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.' A 'Cancel' button is at the bottom right.

Step 18: 🎉 You're now connected to your remote virtual machine and ready to use it (responsibly)!



A screenshot of a terminal window titled "ubuntu@ip-172-31-66-71: ~". The window displays various system statistics and update information. At the top, it shows:

System load: 0.0	Processes: 106
Usage of /: 23.4% of 7.57GB	Users logged in: 0
Memory usage: 10%	IPv4 address for ens5: 172.31.66.71
Swap usage: 0%	

Below this, it says "Expanded Security Maintenance for Applications is not enabled." and "0 updates can be applied immediately." It then provides instructions to enable ESM Apps:

Enable ESM Apps to receive additional future security updates.
See <https://ubuntu.com/esm> or run: sudo pro status

Further down, it notes that the list of available updates is more than a week old and provides instructions to check for new updates:

The list of available updates is more than a week old.
To check for new updates run: sudo apt update
New release '24.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

At the bottom, it shows the last login information and how to run commands as root:

Last login: Sun Jan 4 10:15:53 2026 from 99.19.68.14
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

The prompt at the bottom is "ubuntu@ip-172-31-66-71:~\$".

Step 19: Always remember to end your lab session when you're done. Use the **End Lab** button in the AWS Lab console. This shuts down all AWS services (including VMs) used in the lab. When you restart the lab, AWS will bring the services back up, but your VM might receive new network information (like IPv4 or DNS). Your key pairs will remain the same. To reconnect, just follow Steps 16 and 17 again.