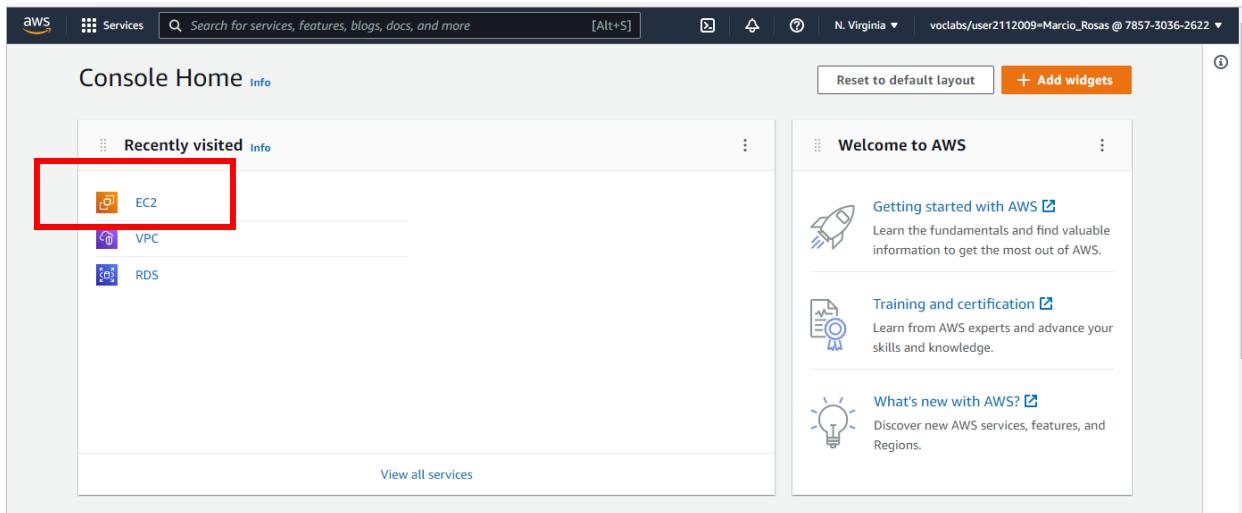


Creating EC2 Instance on AWS: Instructions

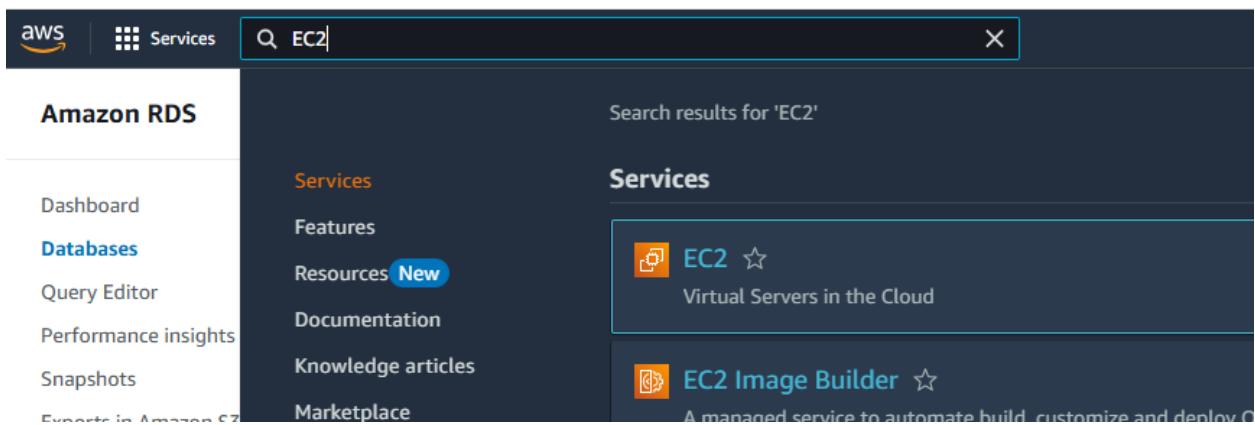
Go to AWS Academy (<https://awsacademy.instructure.com/>), start your lab and go the AWS console Home. Revisit the instruction for RDS setup if you need (they are in Canvas, files/Create DB file)

On the Console Home, click on EC2:



The screenshot shows the AWS Console Home page. In the top left, there's a 'Recently visited' section with three items: EC2 (highlighted with a red box), VPC, and RDS. To the right, there's a 'Welcome to AWS' section with three cards: 'Getting started with AWS', 'Training and certification', and 'What's new with AWS?'. At the bottom left of the main area, there's a 'View all services' link.

Or simply type EC2 on the search bar:



The screenshot shows the AWS search results for 'EC2'. The search bar at the top has 'EC2' typed into it. Below the search bar, there's a sidebar for 'Amazon RDS' with links like Dashboard, Databases, Query Editor, Performance insights, and Snapshots. The main search results area has a heading 'Search results for 'EC2'' and a 'Services' section. It lists two services: 'EC2' (Virtual Servers in the Cloud) and 'EC2 Image Builder' (A managed service to automate build, customize and deploy). The 'EC2' service card is highlighted with a red box.

From the console dashboard, choose Launch Instance

The screenshot shows the AWS EC2 Dashboard. On the left, there's a sidebar with navigation links for EC2 services like Instances, Images, Elastic Block Store, Network & Security, Load Balancing, and Auto Scaling. The main content area has a blue header bar with the text "You can change your default landing page for EC2." Below this, the "Resources" section displays various Amazon EC2 resources in the United States (N. Virginia) Region. A prominent orange button labeled "Launch instance" is highlighted with a red box. To the right, there are sections for "Service health", "Zones", and "Additional information". The "Additional information" section includes links to "Get started walkthroughs", "Getting started guide", "Documentation", "All EC2 resources", "Forums", "Pricing", and "Contact us".

In the next screen, choose:

The screenshot shows the AWS EC2 'Launch an instance' wizard. In the 'Software image (AMI)' section, the 'Amazon Linux 2023 AMI 2023.9.20250929.0 x86_64 HVM kernel-6.1' is selected, highlighted with a red box. In the 'Instance type' section, the 't3.micro' instance type is selected, also highlighted with a red box. Both sections include dropdown menus for 'Architecture' (64-bit (x86)), 'Boot mode' (uefi-preferred), 'AMI ID' (ami-05204a79bf08f0d3), 'Publish Date' (2025-09-25), and 'Username' (ec2-user). The 'Free tier eligible' status is shown in both sections.

Scroll down to the section “Key Pair(login)” and click on “create New Key pair”, as highlighted below:

The screenshot shows the 'Key pair (login)' section of the EC2 wizard. It includes a dropdown menu for 'Key pair name - required' with the option 'Select' and a button 'Create new key pair' highlighted with a red box. Below this, the 'Network settings' section is partially visible, showing network and subnet configurations with buttons for 'Create security group' and 'Select existing security group'.

You will see the screen below. Give a meaningful name to your new key pair and click on the orange button “Create key pair”.

Create key pair



Key pair name

Key pairs allow you to connect to your instance securely.

keypair_miniproject_2025

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

RSA

RSA encrypted private and public key pair

ED25519

ED25519 encrypted private and public key pair

Private key file format

.pem

For use with OpenSSH

.ppk

For use with PuTTY

 When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. [Learn more](#) 

Cancel

Create key pair

This will download a .pem file to your computer. Move this pen file to the ssh folder of your computer (usually, this folder is directly under your user in your file system). **Make sure you remember this folder location and this file name. You will need them later on, to connect to your EC2.**

Scroll down to the network settings section and make sure that your settings are like the highlighted areas below:

Screenshot of the AWS EC2 "Launch an instance" wizard.

Key pair (login) (Info)
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name - required
keypair_miniproject_2025

Network settings (Info) [Edit]
Network (Info): vpc-0923180304e2d33c2
Subnet (Info): No preference (Default subnet in any availability zone)
Auto-assign public IP (Info):
Enable
Firewall (security group) (Info): A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
 Create security group Select existing security group
We'll create a new security group called **launch-wizard-1** with the following rules:
 Allow SSH traffic from Anywhere (0.0.0.0/0)
 Allow HTTPS traffic from the internet To set up an endpoint, for example when creating a web server
 Allow HTTP traffic from the internet To set up an endpoint, for example when creating a web server

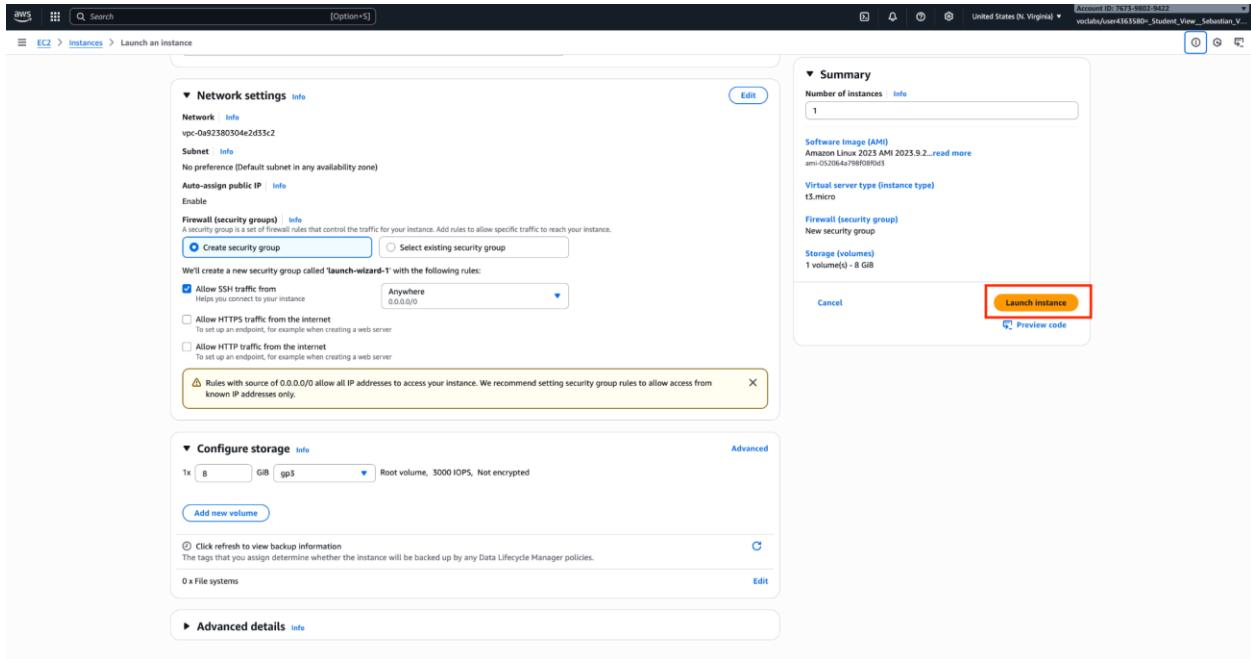
⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Configure storage (Info) [Advanced]
1x 8 GiB gp3 Root volume, 3000 IOPS, Not encrypted
[Add new volume](#)
[Click refresh to view backup information](#)

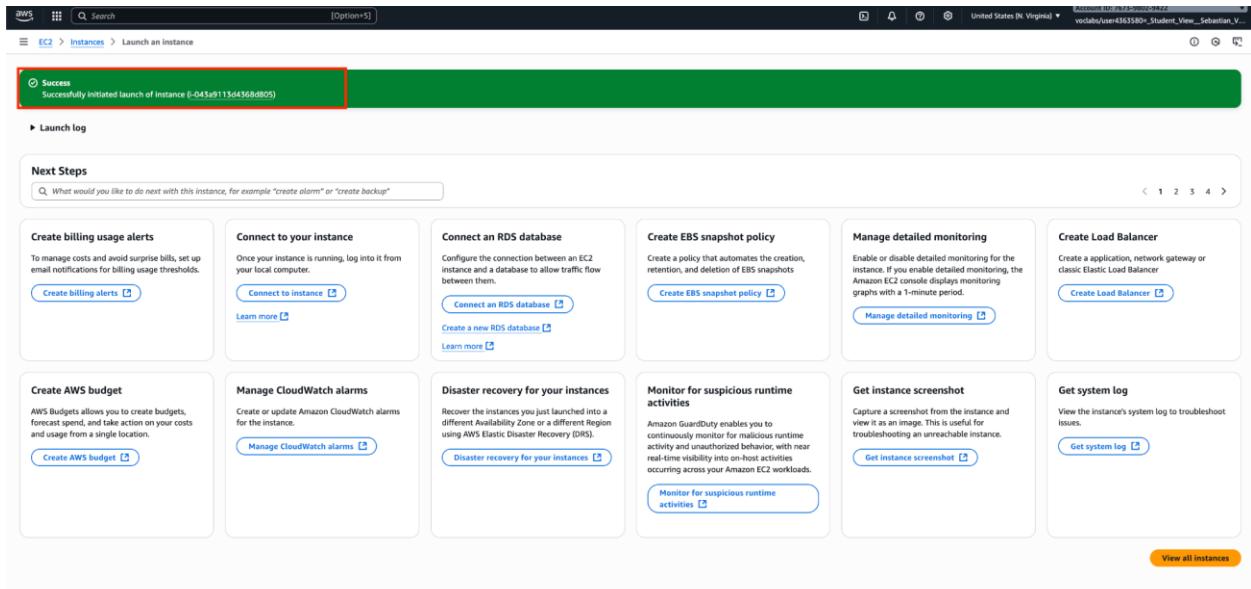
Summary
Number of instances: 1
Software Image (AMI): Amazon Linux 2023.9.2... (read more)
Virtual server type (instance type): t3.micro
Firewall (security group): New security group
Storage (volumes): 1 volume(s) - 8 GiB

[Launch Instance](#) [Preview code](#)

After that, click “launch instance” using the orange button on the right section of the screen:



You will see this screen below, confirming your EC2 instance has been correctly launched. Click on the highlighted area to navigate to your EC2 dashboard.



On the Ec2 dashboard, you'll see the screen below. Click on the highlighted area to open your ec2 details.

The screenshot shows the AWS EC2 Instances dashboard. On the left, there's a navigation sidebar with sections like Dashboard, EC2 Global View, Events, Instances (which is expanded), Images, Elastic Block Store, Network & Security, and Auto Scaling. The main area displays a table titled 'Instances (1) info' with one row. The row contains columns for Name, Instance ID (i-043a9113d4368bd805), Instance state (Running), Instance type (t3.micro), Status check (Initializing), Alarm status, Availability Zone (us-east-1d), Public IPv4 DNS (ec2-54-167-122-213.compute-1.amazonaws.com), Public IPv4 IP (54.167.122.213), Elastic IP, IPv6 IPs, and Monitoring (disabled). A red box highlights the first column of the table.

You'll see the screen below with all the details of your EC2. Copy the public IPv4 DNS (yours will be different from the one in the screen below). You'll need to paste it on your terminal (Power Shell or Terminal) to connect with your EC2 from your computer.

The screenshot shows the 'Instance summary for i-043a9113d4368bd805' page. The left sidebar is identical to the previous dashboard. The main content area has tabs for Details, Status and alarms, Monitoring, Security, Networking, Storage, and Tags. Under the Details tab, there are several sections: Instance ID (i-043a9113d4368bd805), Instance state (Running), Instance type (t3.micro), VPC ID (vpc-092380304e2d33c2), Subnet ID (subnet-04800d6623769f58), and Instance ARN (arn:aws:ec2:us-east-1:76739802942:instance/i-043a9113d4368bd805). A large red box highlights the 'Public DNS' section, which shows the value 'ec2-54-167-122-213.compute-1.amazonaws.com'. Other sections include Private IPv4 address (54.167.122.213), Public IPv4 address (172.31.19.234), and Platform details (Linux/UNIX).

Now, open your Mac OS Terminal or Windows Power shell and type:

- keep in mind that, regarding **ssh/your_keypair_name.pem** and **your_public_IPv4**:

- **ssh** is the folder where you put the key pair you created. If you put it into a different folder, you need to use the correct path to the file here. (it may be .ssh in your computer)
- **your_keypair_name.pem** refers to the name you gave to your key pair. Yours should be different than this.
- **your_public_IPv4** is the one you copied from AWS

Command: ssh -i "path_to_your_file"/your_keypair_name.pem ec2-user@your_public_IPv4

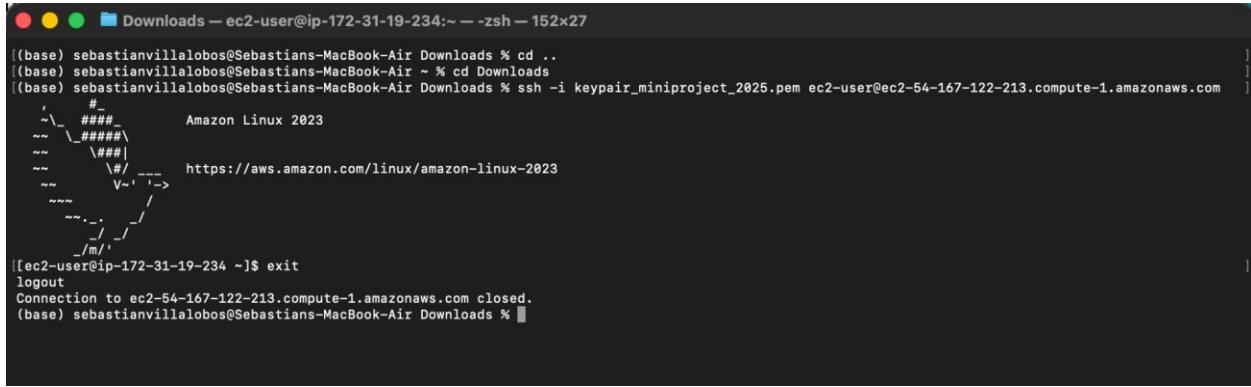
MAC

- My .pem file is located in the Downloads folder



```
[[base] sebastianvillalobos@Sebastians-MacBook-Air Downloads % cd ..
[[base] sebastianvillalobos@Sebastians-MacBook-Air ~ % cd Downloads
[[base] sebastianvillalobos@Sebastians-MacBook-Air Downloads % ssh -i keypair_miniproject_2025.pem ec2-user@ec2-54-167-122-213.compute-1.amazonaws.com
'#
~\### Amazon Linux 2023
~~\#####
~~\###
~~\#/
~~\# V--> https://aws.amazon.com/linux/amazon-linux-2023
~~\#/
~~\#/
~~\#/
~/m/
[ec2-user@ip-172-31-19-234 ~]$
```

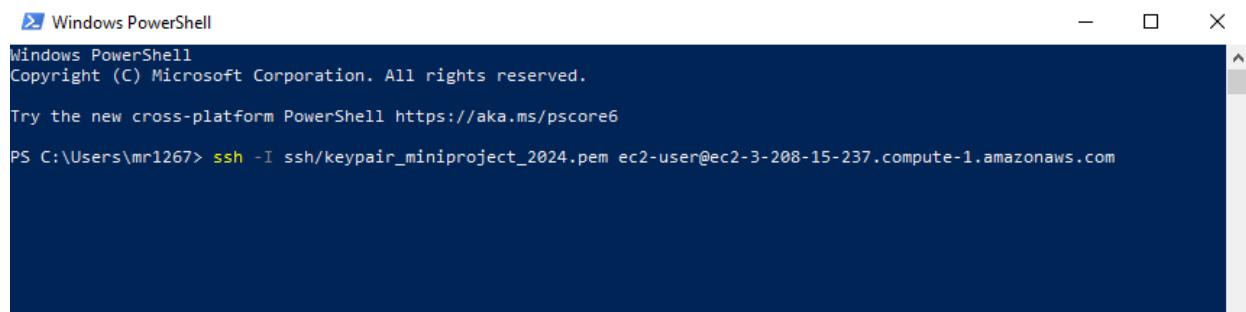
- You may need to change the permissions of the .pem folder, to do this you just need to run the following command - chmod 400 "path_to_your_file"/your_keypair_name.pem



```
[[base] sebastianvillalobos@Sebastians-MacBook-Air Downloads % cd ..
[[base] sebastianvillalobos@Sebastians-MacBook-Air ~ % cd Downloads
[[base] sebastianvillalobos@Sebastians-MacBook-Air Downloads % ssh -i keypair_miniproject_2025.pem ec2-user@ec2-54-167-122-213.compute-1.amazonaws.com
'#
~\### Amazon Linux 2023
~~\#####
~~\###
~~\#/
~~\# V--> https://aws.amazon.com/linux/amazon-linux-2023
~~\#/
~~\#/
~~\#/
~/m/
[ec2-user@ip-172-31-19-234 ~]$ exit
logout
Connection to ec2-54-167-122-213.compute-1.amazonaws.com closed.
(base) sebastianvillalobos@Sebastians-MacBook-Air Downloads %
```

WINDOWS

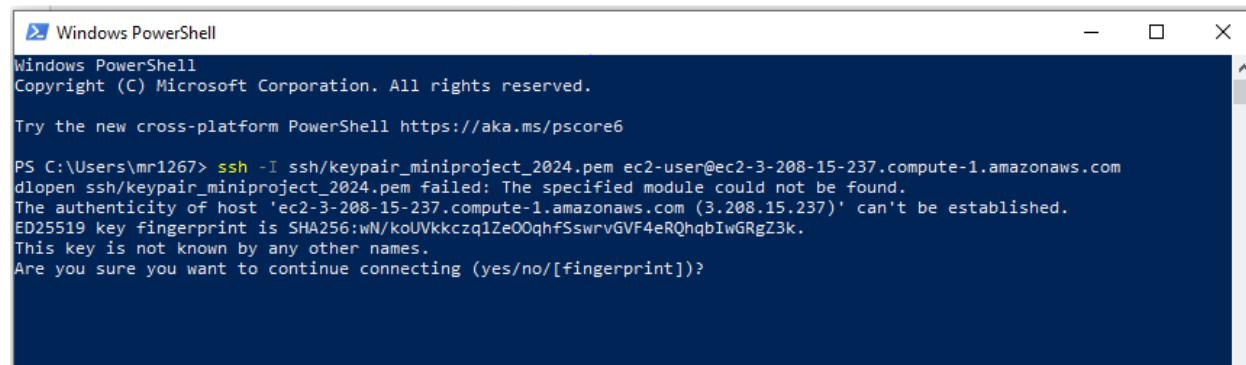
Your terminal screen should look like this:



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\mr1267> ssh -I ssh/keypair_miniproject_2024.pem ec2-user@ec2-3-208-15-237.compute-1.amazonaws.com
```

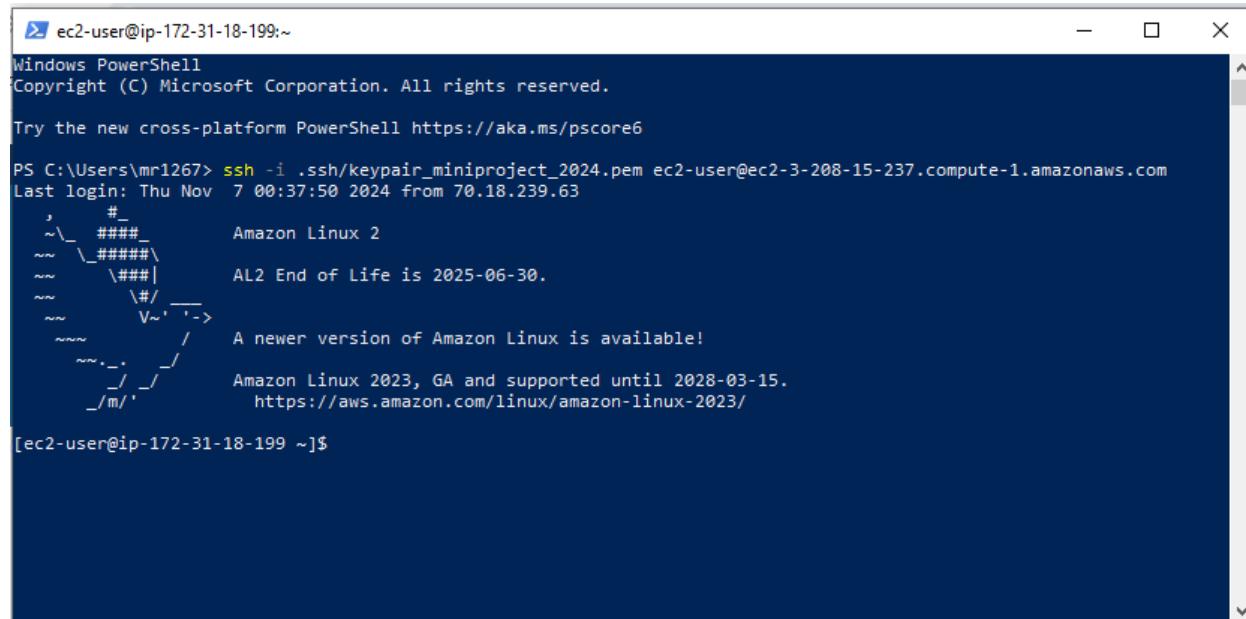


```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\mr1267> ssh -I ssh/keypair_miniproject_2024.pem ec2-user@ec2-3-208-15-237.compute-1.amazonaws.com
dlopen ssh/keypair_miniproject_2024.pem failed: The specified module could not be found.
The authenticity of host 'ec2-3-208-15-237.compute-1.amazonaws.com (3.208.15.237)' can't be established.
ED25519 key fingerprint is SHA256:wN/koUVkkczq1Ze00qhfSswrvGVF4eRQhbIwGRgZ3k.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])?
```

After you hit enter, you should see the following, confirming that you have successfully connected to your EC2.



```
ec2-user@ip-172-31-18-199:~>
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\mr1267> ssh -i .ssh/keypair_miniproject_2024.pem ec2-user@ec2-3-208-15-237.compute-1.amazonaws.com
Last login: Thu Nov  7 00:37:50 2024 from 70.18.239.63
 , _#
 ~\_ #####_      Amazon Linux 2
 ~~ \#####\_
 ~~ \|##|      AL2 End of Life is 2025-06-30.
 ~~ \|#/      V~' '-->
 ~~ /          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/
 _/m/          https://aws.amazon.com/linux/amazon-linux-2023/

[ec2-user@ip-172-31-18-199 ~]$
```

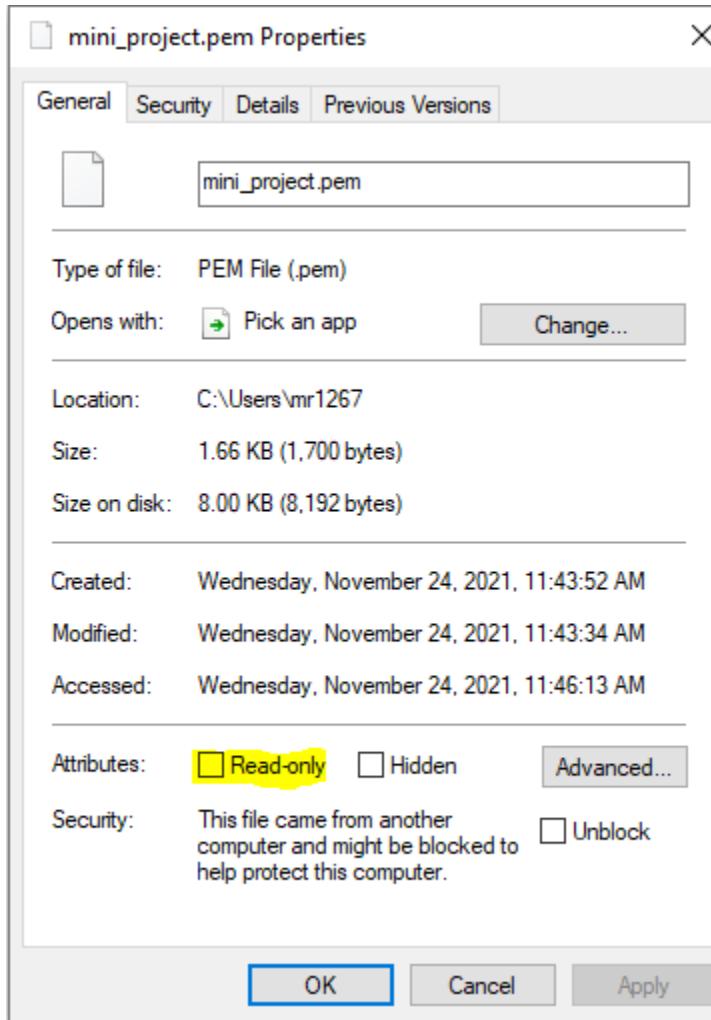
Once you see this screen, logout from the EC2 by typing “exit” with go back from the Ec2 to your computer (terminal or Power Shell) and then return to the to the Mini-project Instructions.

```
ec2-user@ip-172-31-18-199:~  
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Try the new cross-platform PowerShell https://aka.ms/pscore6  
  
PS C:\Users\mr1267> ssh -i .ssh/keypair_miniproject_2024.pem ec2-user@ec2-3-208-15-237.compute-1.amazonaws.com  
Last login: Thu Nov  7 00:37:50 2024 from 70.18.239.63  
 ,   #  
 ~\_\ ####_      Amazon Linux 2  
 ~~ \####\`  
 ~~  \|##|      AL2 End of Life is 2025-06-30.  
 ~~  \|#/        
 ~~    V~, _>  
 ~~     /      A newer version of Amazon Linux is available!  
 ~~,_/_ /  
 _/ _/      Amazon Linux 2023, GA and supported until 2028-03-15.  
 _/m'      https://aws.amazon.com/linux/amazon-linux-2023/  
  
[ec2-user@ip-172-31-18-199 ~]$ exit
```

Troubleshooting:

Windows users:

You may need to change the permissions of your_keypair.pem file to ready only. You can do that manually via Windows by right clicking on it and making the change in the screen below::



Mac users:

Permissions to your_keypair.pem file must be set to read-only by owner. For that, use the command chmod 400 your_key_file.pem on your terminal.

NOTE: if more than one person uses your computer, the .pem file have have inherited permissions for more then one user and this will result in your connection with the ec2 to be rejected.

If that happens to you, make sure to remove the inherited permissions to the .pem file and that only your current user has read only access to it.