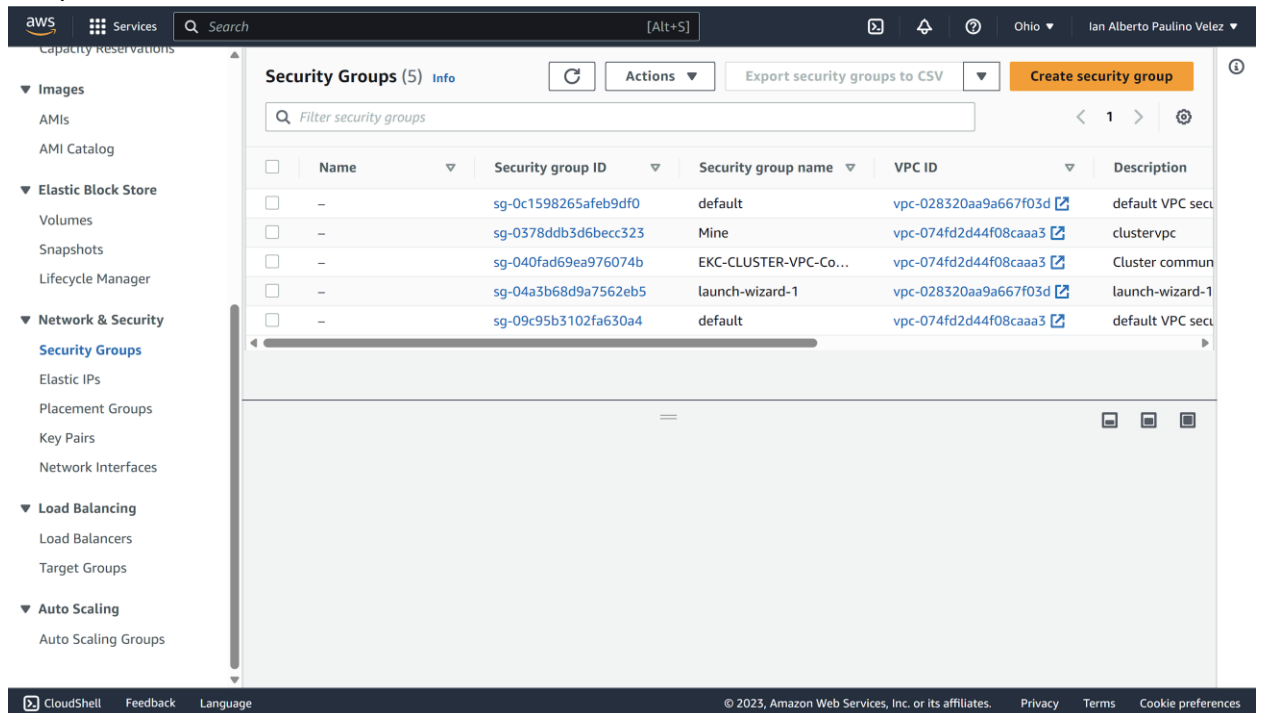
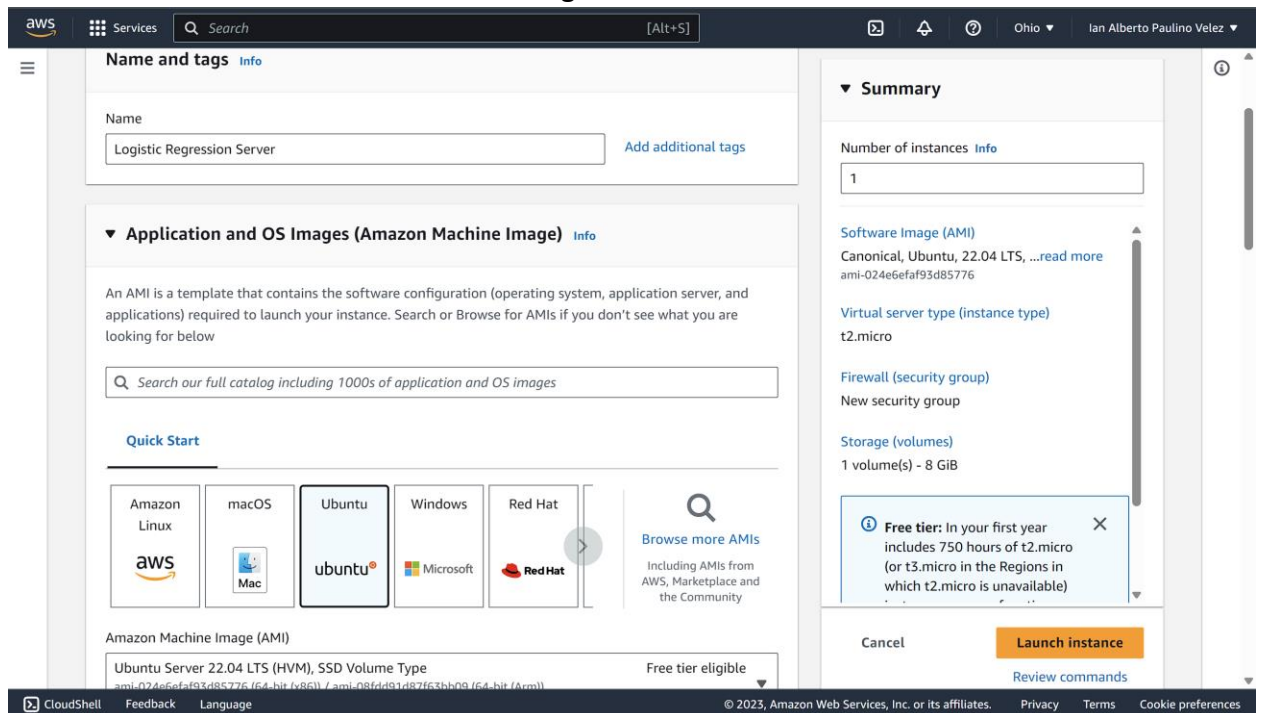


## Logistic Regression Model to predict Diabetes deployment on AWS

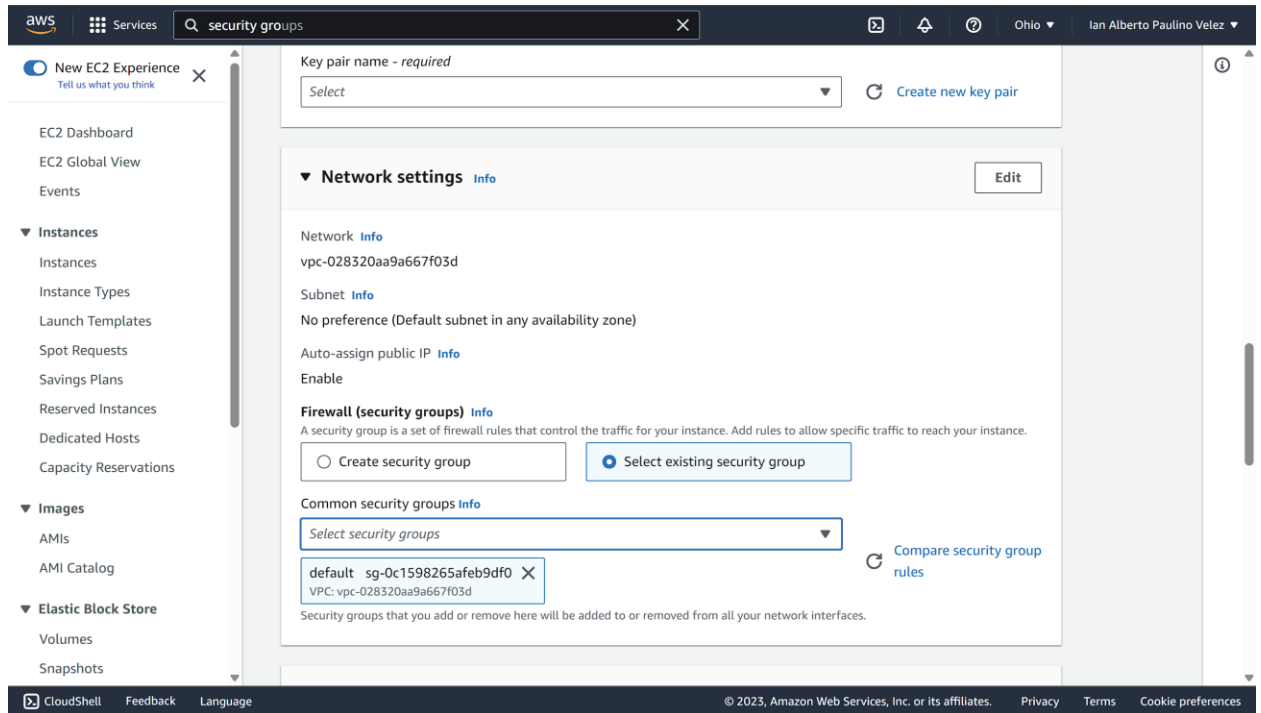
1. To deploy our model on Amazon Web Service cloud, I checked to see if a firewall rule for the port I will use had been created.



2. I created an EC2 Instance with the following name and OS.



3. I selected the security group that will allow traffic to my instance and selected 'launch instance'.



4. We will connect to the instance and upload all the files for our model.

The screenshot displays the AWS Management Console interface. At the top, the 'Services' search bar contains 'security groups'. The main heading is 'Connect to instance' with a subtext 'Connect to your instance i-058620fb62ed481b4 using any of these options'. Below this, there are four tabs: 'EC2 Instance Connect', 'Session Manager', 'SSH client', and 'EC2 serial console'. The 'EC2 Instance Connect' tab is active, showing the 'Instance ID' as 'i-058620fb62ed481b4'. Under 'Connection Type', the 'Connect using EC2 Instance Connect' option is selected, with a description: 'Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.' The 'Public IP address' is listed as '18.117.235.232'. The 'User name' field is set to 'ec2-user'. A note states: 'Note: In most cases, the default user name, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.' At the bottom of the dialog are 'Cancel' and 'Connect' buttons.

Below the dialog, the CloudShell terminal is open, showing the following output:

```
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-24-192:~$ git clone "https://github.com/ianpv04/Week-4.git"
Cloning into 'Week-4'...
remote: Enumerating objects: 19, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (15/15), done.
remote: Total 19 (delta 1), reused 15 (delta 0), pack-reused 0
Receiving objects: 100% (19/19), 1.04 MiB | 13.85 MiB/s, done.
Resolving deltas: 100% (1/1), done.
ubuntu@ip-172-31-24-192:~$ ls
Week-4
ubuntu@ip-172-31-24-192:~$ cd Week-4
ubuntu@ip-172-31-24-192:~/Week-4$
```

At the bottom of the CloudShell window, a summary box shows the instance ID 'i-087bb99b91e1a454e (web server)' and its IP addresses: 'PublicIPs: 52.14.245.195 PrivateIPs: 172.31.24.192'.

5. Next, we will install the required packages and run our program.

```
ubuntu@ip-172-31-24-192:~/Week-4$ python3 app.py
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:347: InconsistentVersionWarning: Trying to unpickle estimator LogisticRegression from version 1.2.1 when using version 1.3.0. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to:
https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
warnings.warn(
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:347: InconsistentVersionWarning: Trying to unpickle estimator LogisticRegression from version 1.2.1 when using version 1.3.0. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to:
https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
warnings.warn(
* Debugger is active!
* Debugger PIN: 695-445-550
```


i-087bb99b91e1a454e (web server)






PublicIPs: 52.14.245.195 PrivateIPs: 172.31.24.192

6. Leave it running and check the external IPv4 Address

**Instance summary for i-087bb99b91e1a454e (web server)** [Info](#)

Updated less than a minute ago

 [Connect](#) [Instance state ▼](#) [Actions ▼](#)

Instance ID  i-087bb99b91e1a454e (web server)	Public IPv4 address  52.14.245.195   <a href="#">open address</a>	Private IPv4 addresses  172.31.24.192
IPv6 address -	Instance state  <b>Running</b>	Public IPv4 DNS  ec2-52-14-245-195.us-east-2.compute.amazonaws.com   <a href="#">open address</a>


7. Access the page using this external IP and the port number defined on the Flask.run command on our API file.

```
28 if __name__ == "__main__":
29     app.run("0.0.0.0", port=5000, debug=True)
```

← ↻ ⚠ Not secure | 52.14.245.195:5000

## Predict Diabetes

Number of Pregnancies
Glucose concentration over 2 hours in an oral tolerance test
Diastolic blood pressure (mm Hg)
Triceps skinfold thickness (mm)
2-Hour serum insulin (mu U/ml)
Body mass index (weight in kg / height in m <sup>2</sup> )
Age in years
<a href="#">Predict</a>

 **Data Glacier**

Your Deep Learning Partner