AWS Educate Setup Instructions

ROB535 Self Driving Cars - Perception and Control

November 18, 2018

Please follow the steps below to avail $100 compute credit on AWS and to setup a Deep Learning Linux instance on AWS EC2 (Elastic Compute Cloud).

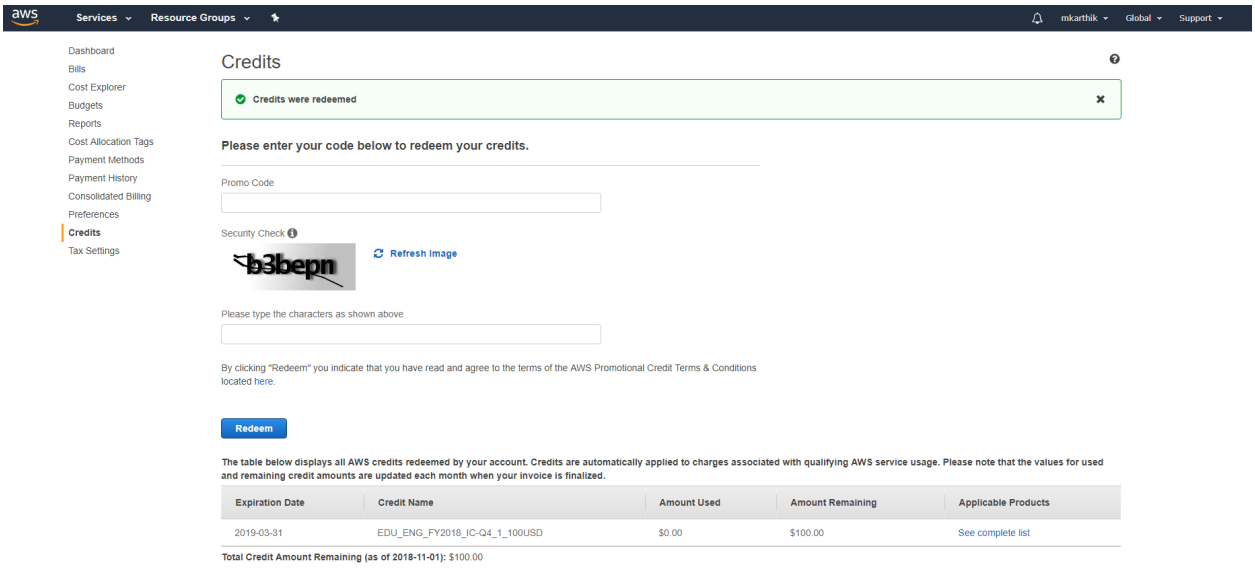
1 Setup an AWS account

Make sure you setup for the free tier account. While you will be asked for your card details, you will not be charged. Once you create your account, please take note of your AWS account ID.

2 Sign up for AWS Educate

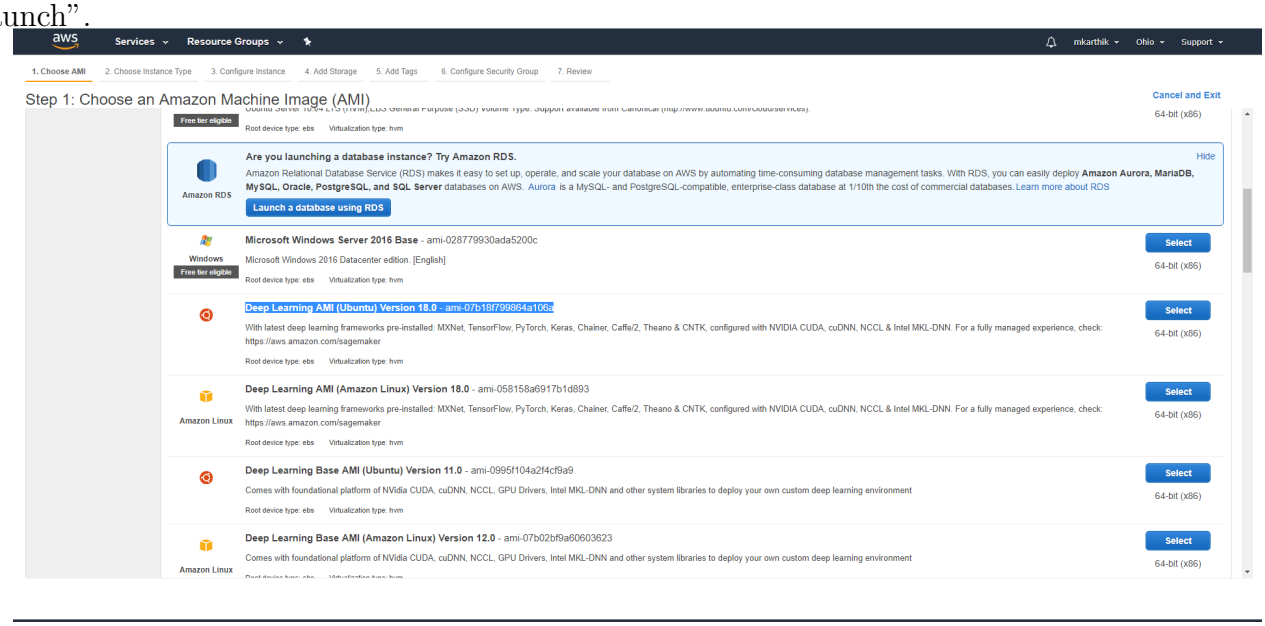
Register for an AWS Educate account here using your umich email. In step 3 of the registration make sure you enter you AWS Account ID. This is to ensure that the $100 credits are reflected in your AWS account. After verifying your email and submitting your application you should see an acknowledgement on the site followed by an email with a $100 coupon code shortly.

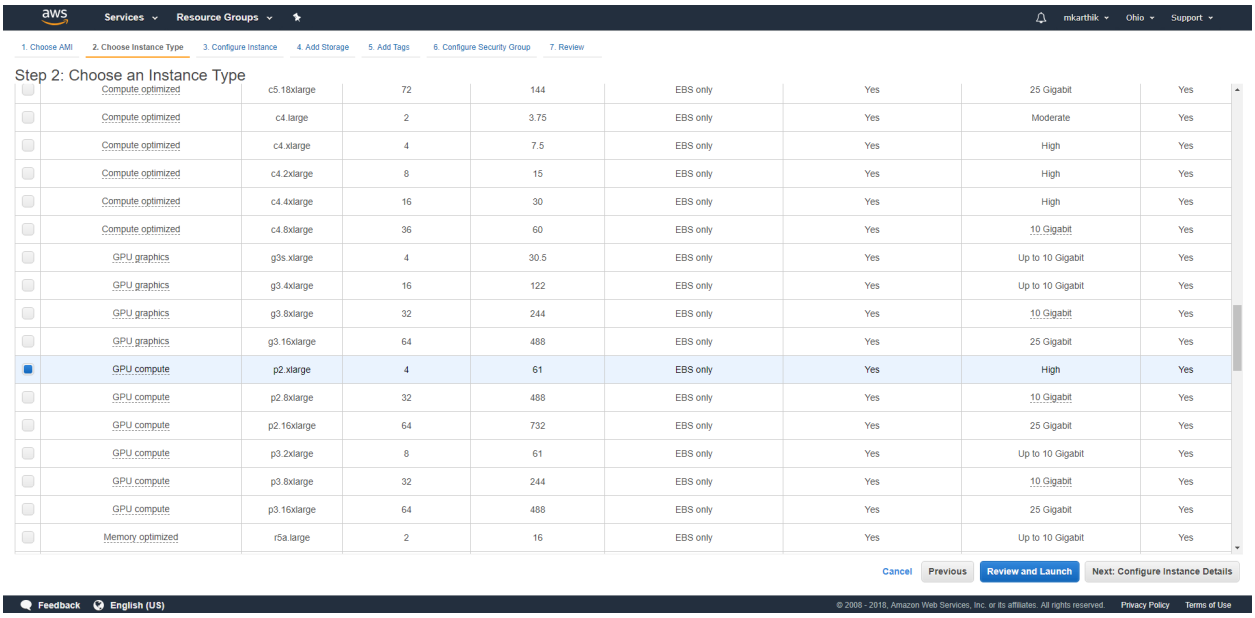
Once you recieve the coupon, login to your AWS Account and go to Services → Billing → Credits and enter the coupon code. Make sure the $100 is reflected in your credits as shown below. Do not proceed else your card will be charged.



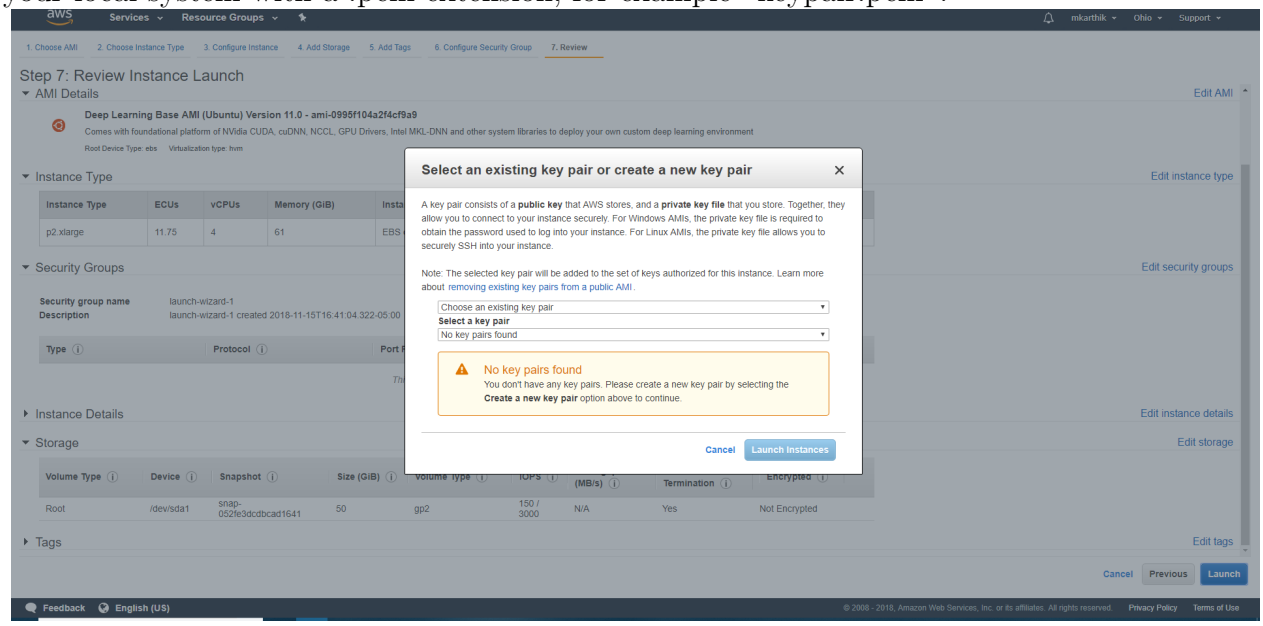
3 Creating an EC2 instance

You can now go to AWS EC2 Console (Serivces → EC2 Console) and click on "Launch Instance". Select the "Deep Learning AMI (Ubuntu) Version 18.0" When asked for the AMI in step 1 and for instance type (step2), choose "p2.xlarge" and click on "Review and Launch".

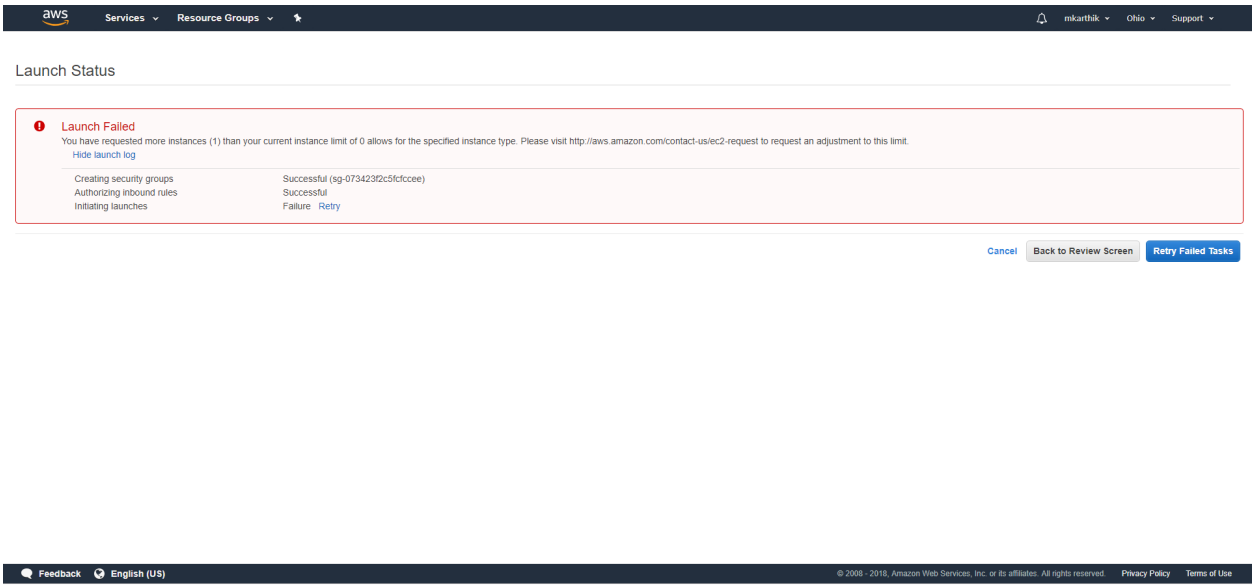




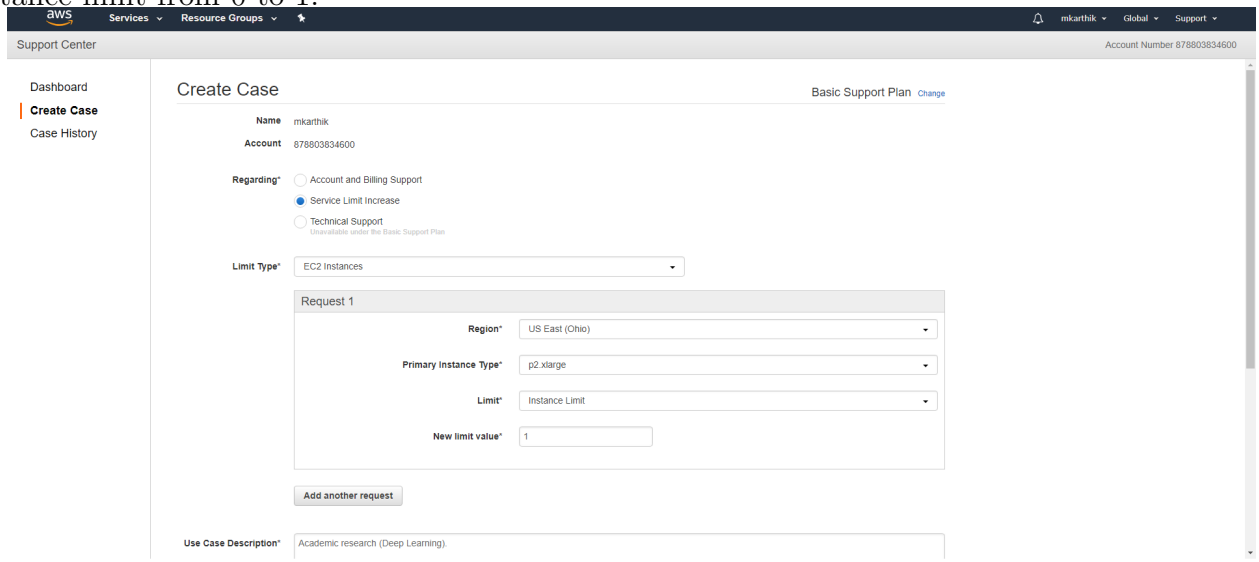
When you proceed to complete the review, you will get a prompt to set a keypair. This is for secure sign in (ssh). Click on “create new key pair” and download the private key file to your local system with a .pem extension, for example “keypair.pem”.



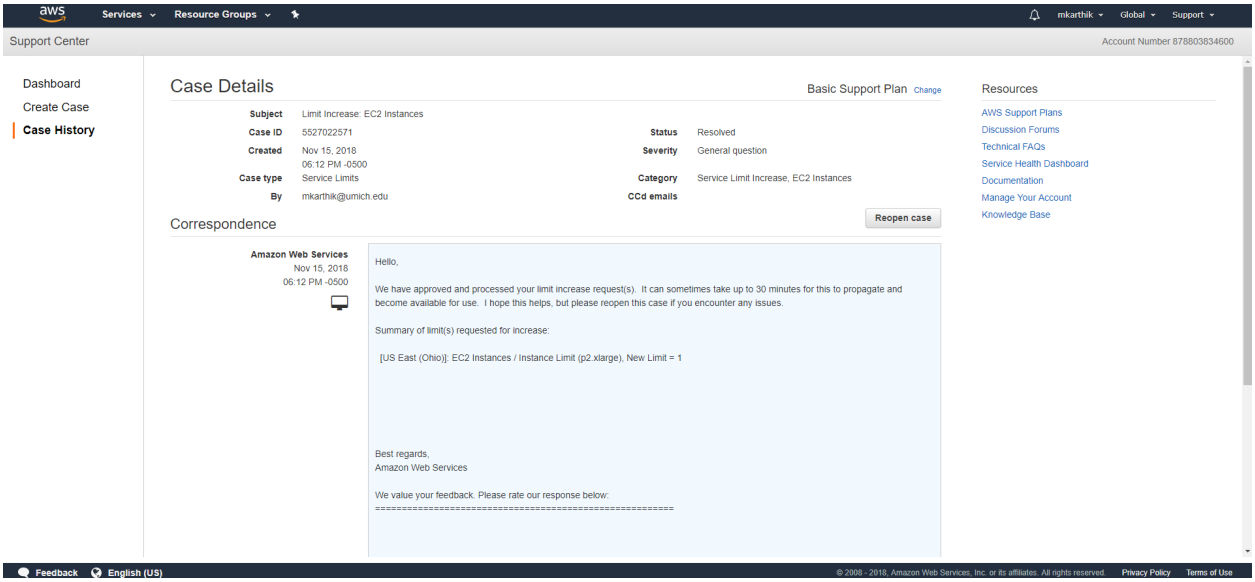
Once you complete the above step and proceed you may see the following error



Following the link as show on the error message and raise a request to increase your instance limit from 0 to 1.



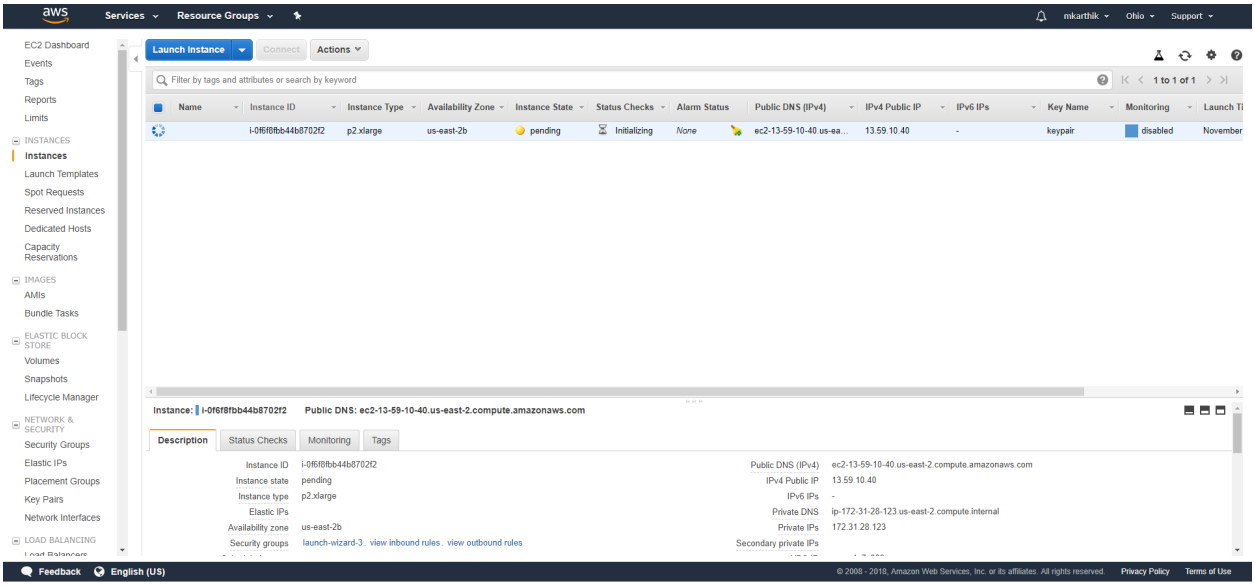
You should be seeing a reply from them soon and once you get the acknowledgement, wait for upto 30 minutes before proceeding.



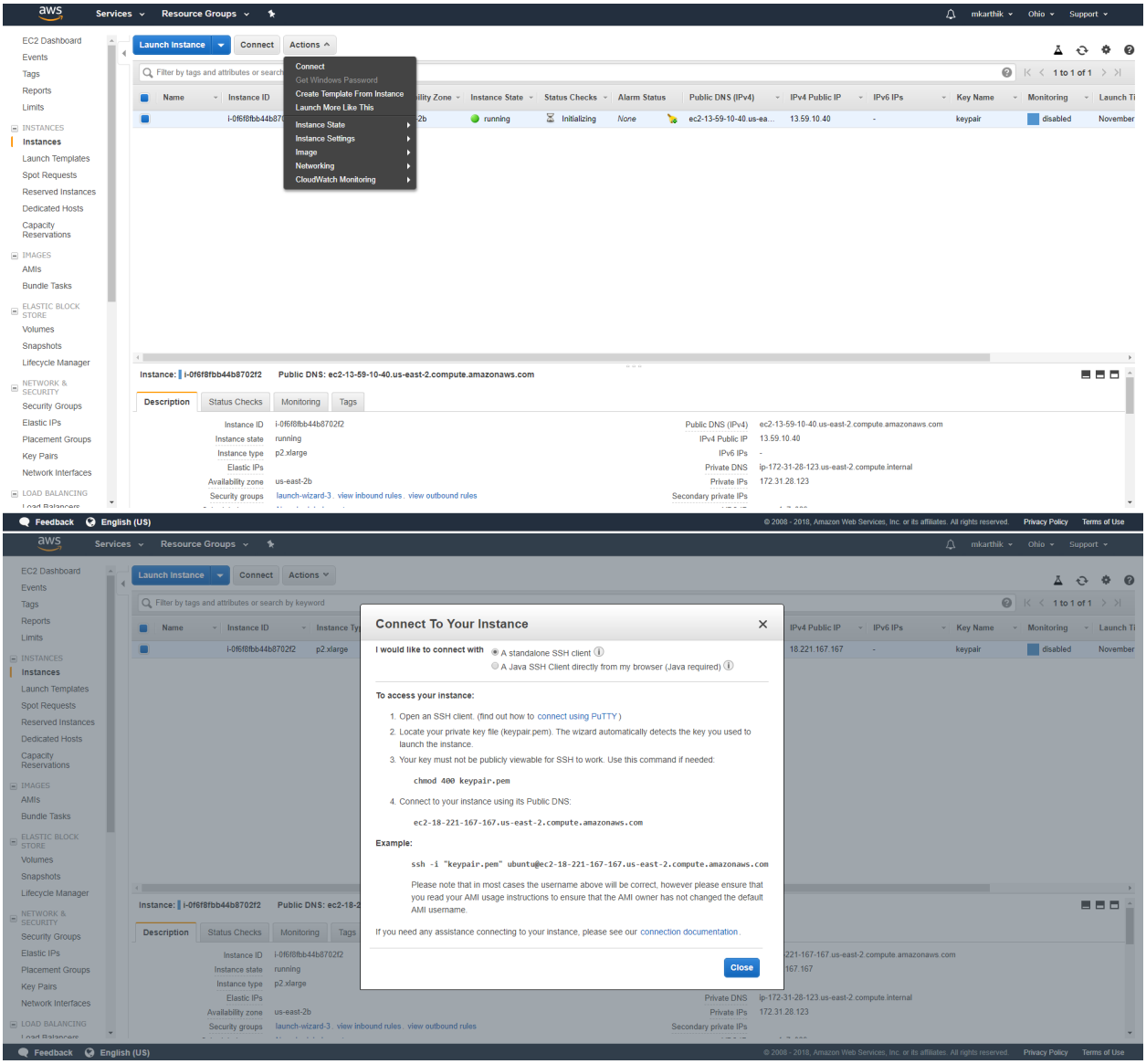
Once the request is approved you can re-try to launch the instance and it will show up on your EC2 console.

4 Connecting to the EC2 instance

Once you have managed to launch the instance, it should appear on your EC2 Console. The instance is in stopped state by default, click on actions → instance state → Start to boot up the instance.



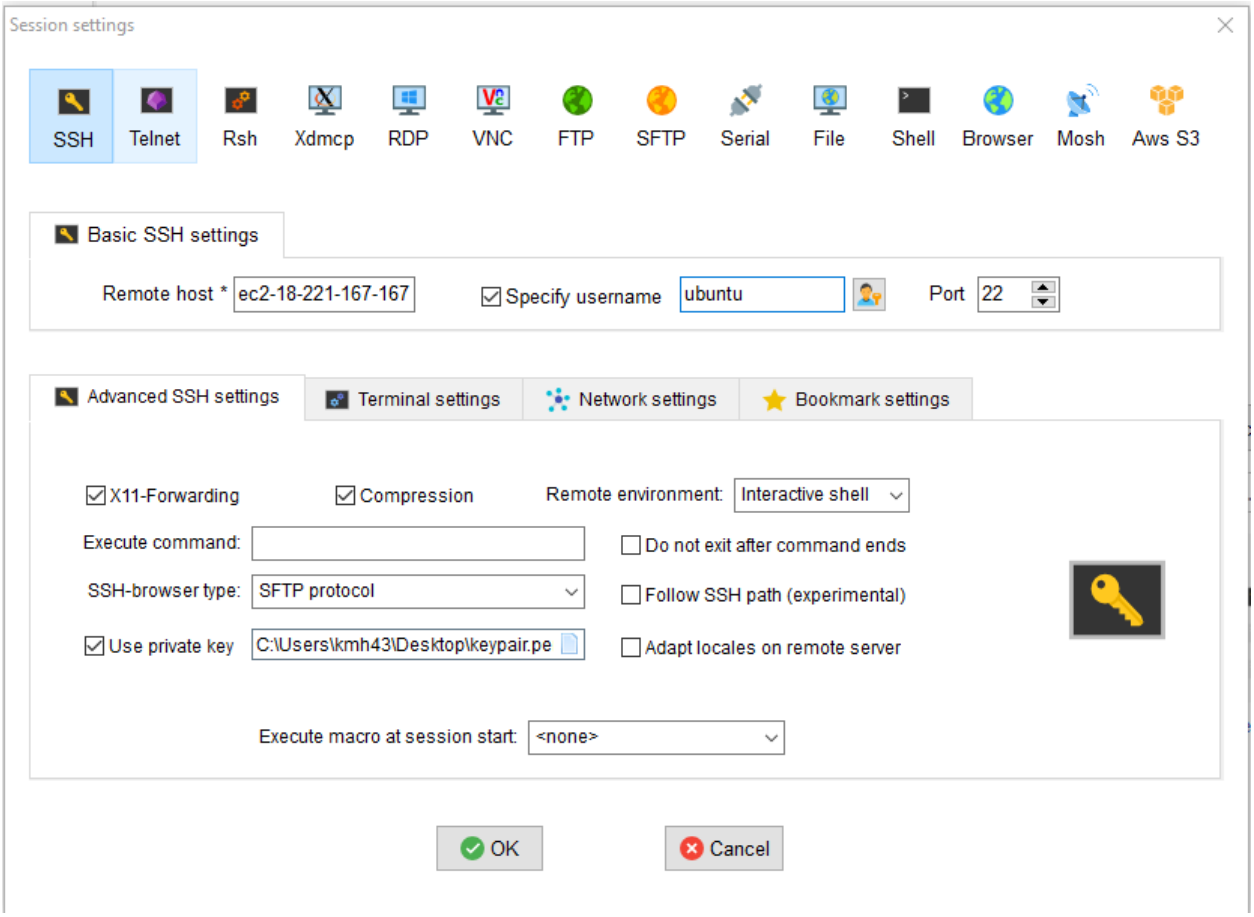
Once your instance is up, click on actions → connect and you should see a popup as shown below.



You can then SSH into the instance by following the instructions on screen. If you are using a Linux/Mac machine, simply enter this command in your terminal

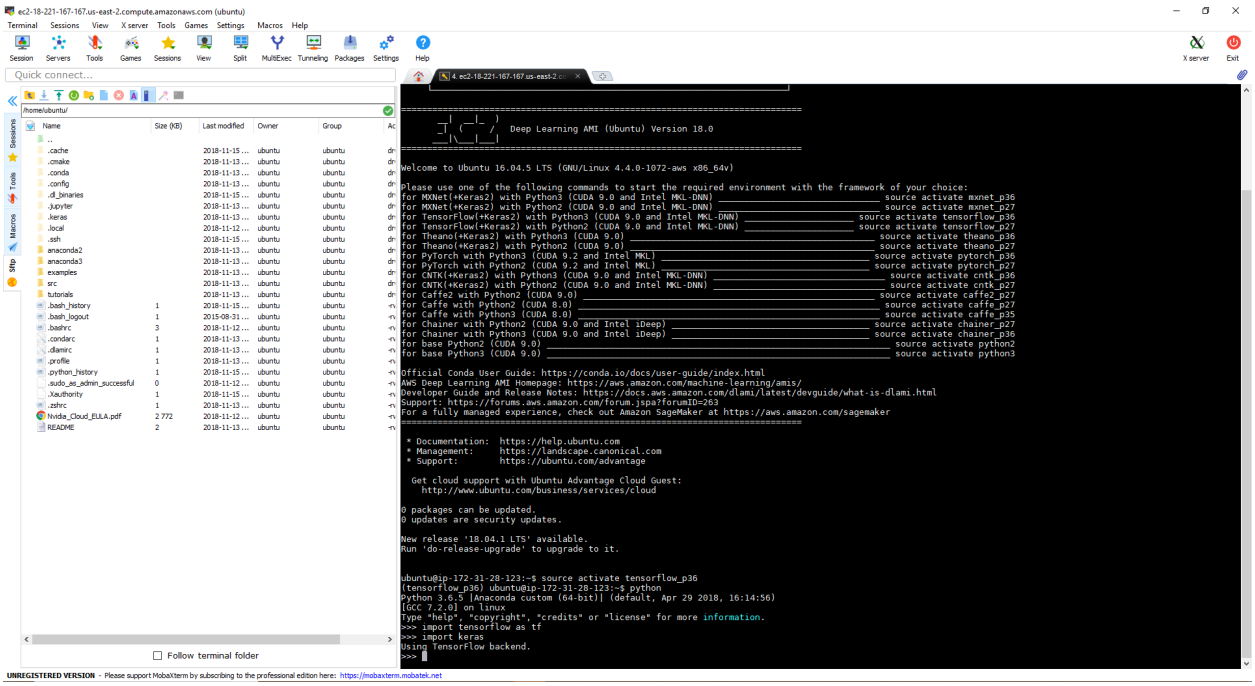
```
ssh -i "path\to\the\keypair.pem" ubuntu@<ip_address_of_your_instance>
```

If you are connecting from a windows machine you can use puTTY or MobaXTerm and follow the same instruction. Make sure you include the "keypair.pem" file when you login using a ssh client like puTTY. A sample is shown below.



Once you login, you will see prompts on screen for required packages. For example for the below instance if you want to use tensorflow, you can enter the following command :

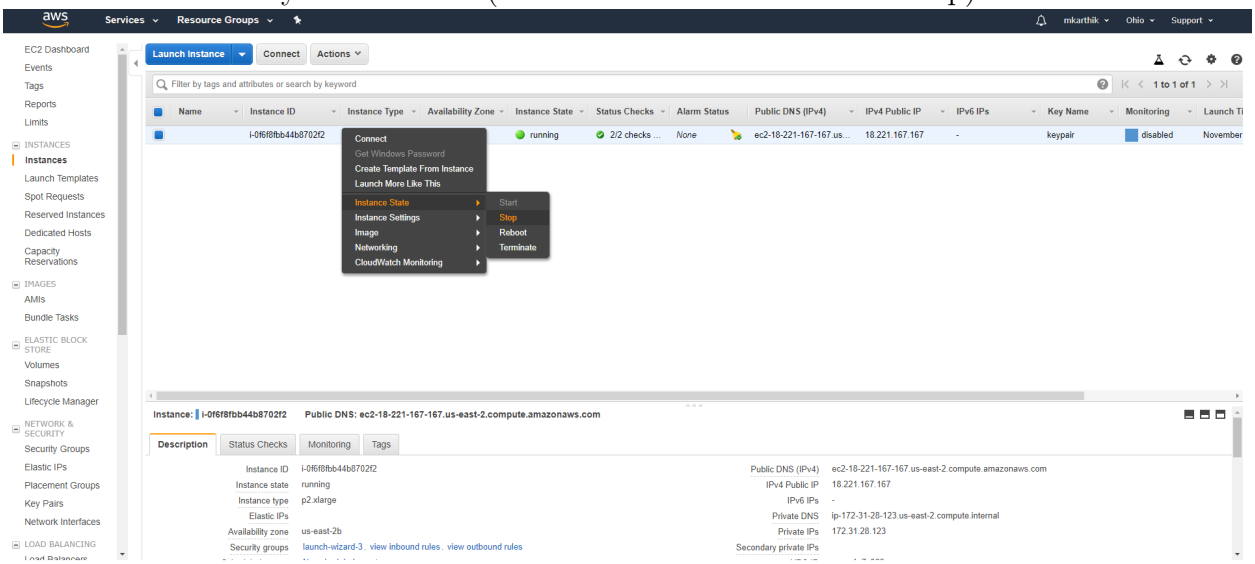
```
source activate tensorflow_p36
```



Now you can proceed with downloading/copying the dataset and executing any code you want.

5 Stopping an instance

IMPORTANT: Please note that once you are done with executing your code, remember to shut down/stop the EC2 instance. AWS will charge you/deduct credit balance as long as your instance is running (regardless of whether your code is running or not). So please remember to shutdown your instances (Actions → Instance State → Stop).



Note: Do not hit "terminate" unless you are completely done with the project. Terminate will delete/wipe the entire instance and shut it down.