CMPE 281 Cloud Technologies
Lab 1 Assignment Report

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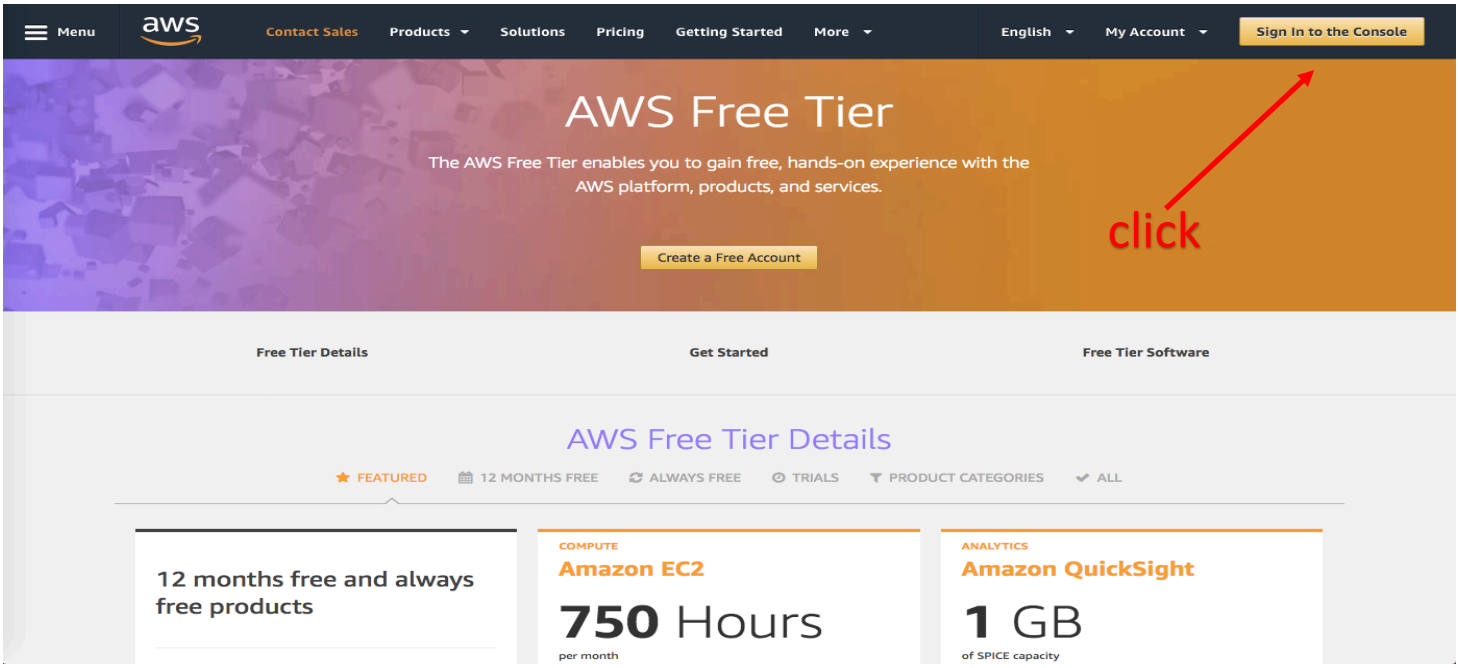
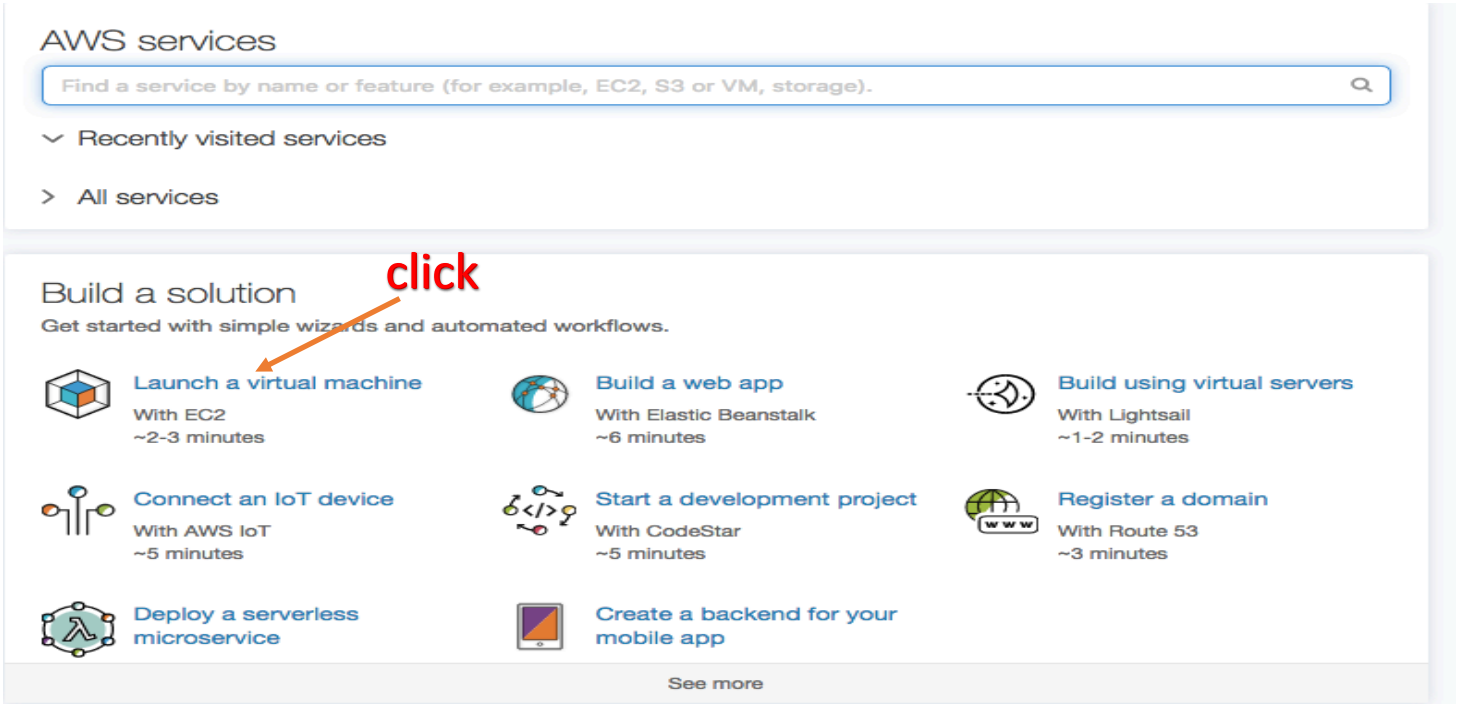
Step1: Create a AWS free account.



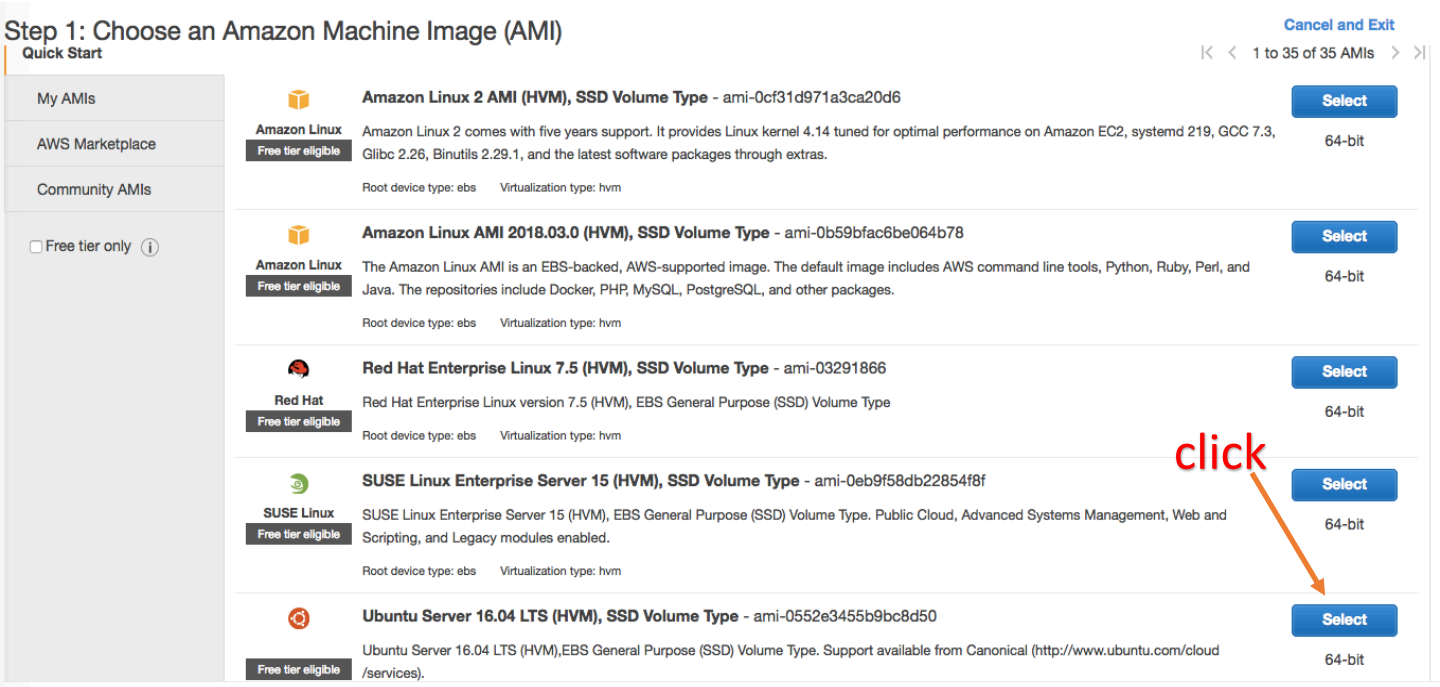
Step2: sign in to AWS console.



Step3: Click on “Launch a Virtual Machine”.

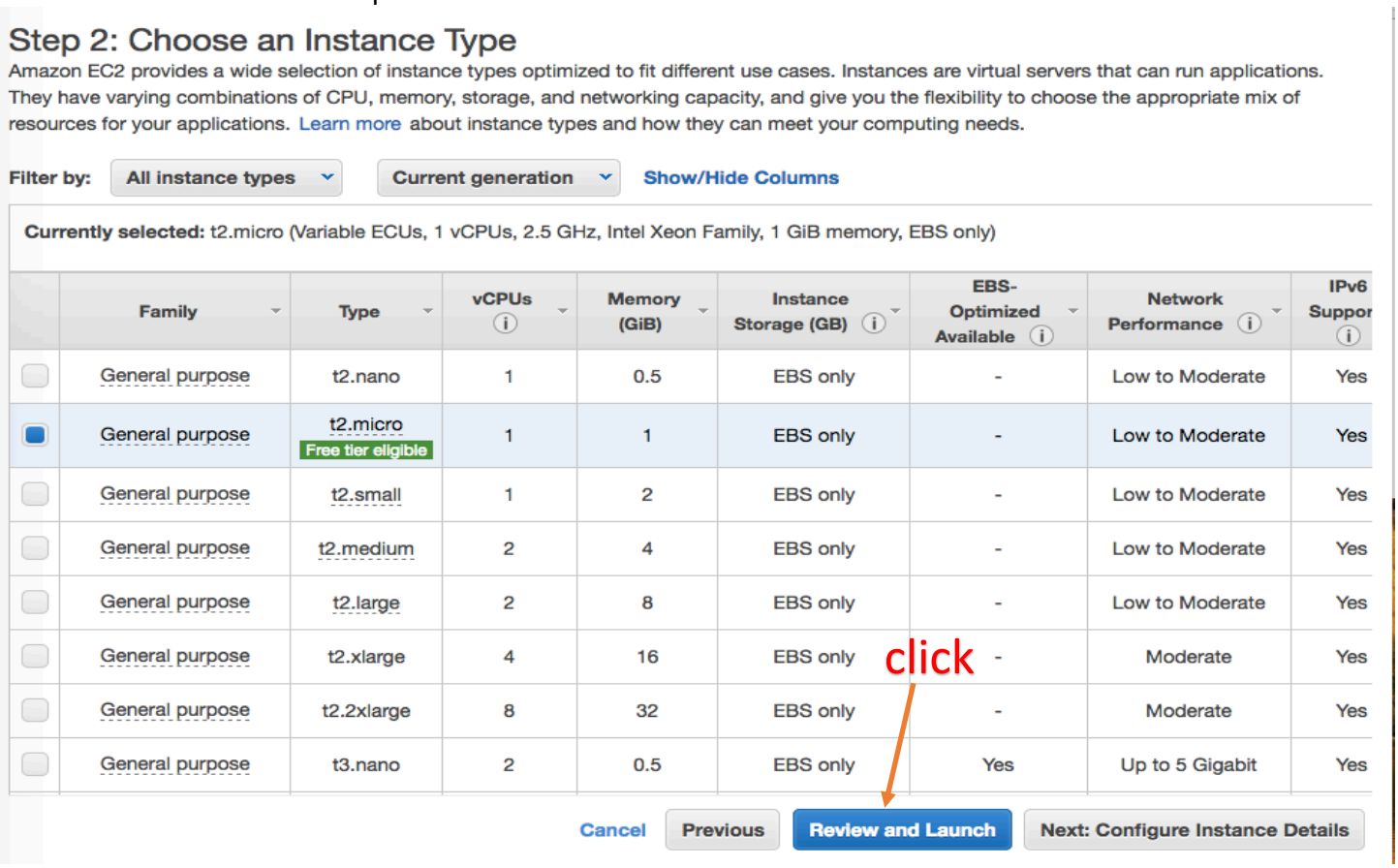
Step4: Choose a VM image.

➔ Select Ubuntu Server 16.04 LTS.



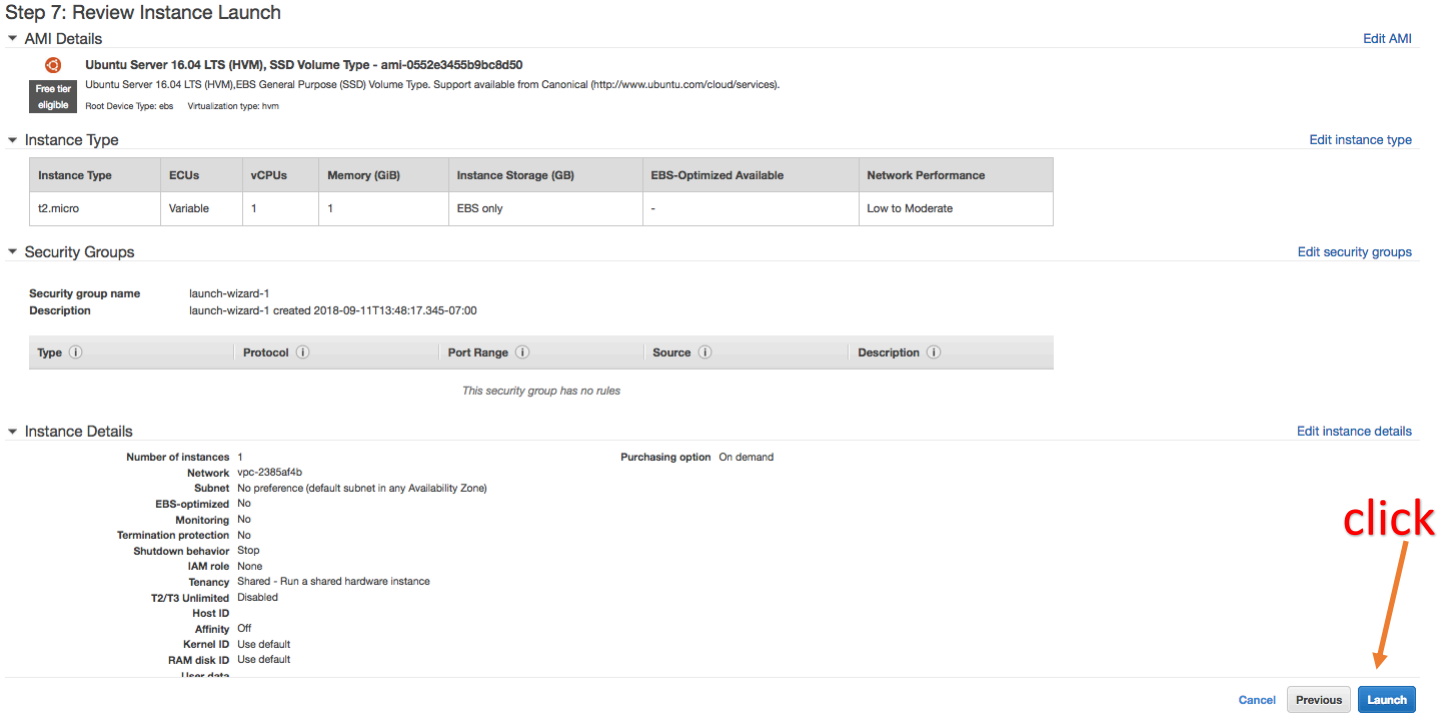
Step5: Choose an Instance type.

➔ Select General Purpose. Allocates 1 CPU 1 GB RAM



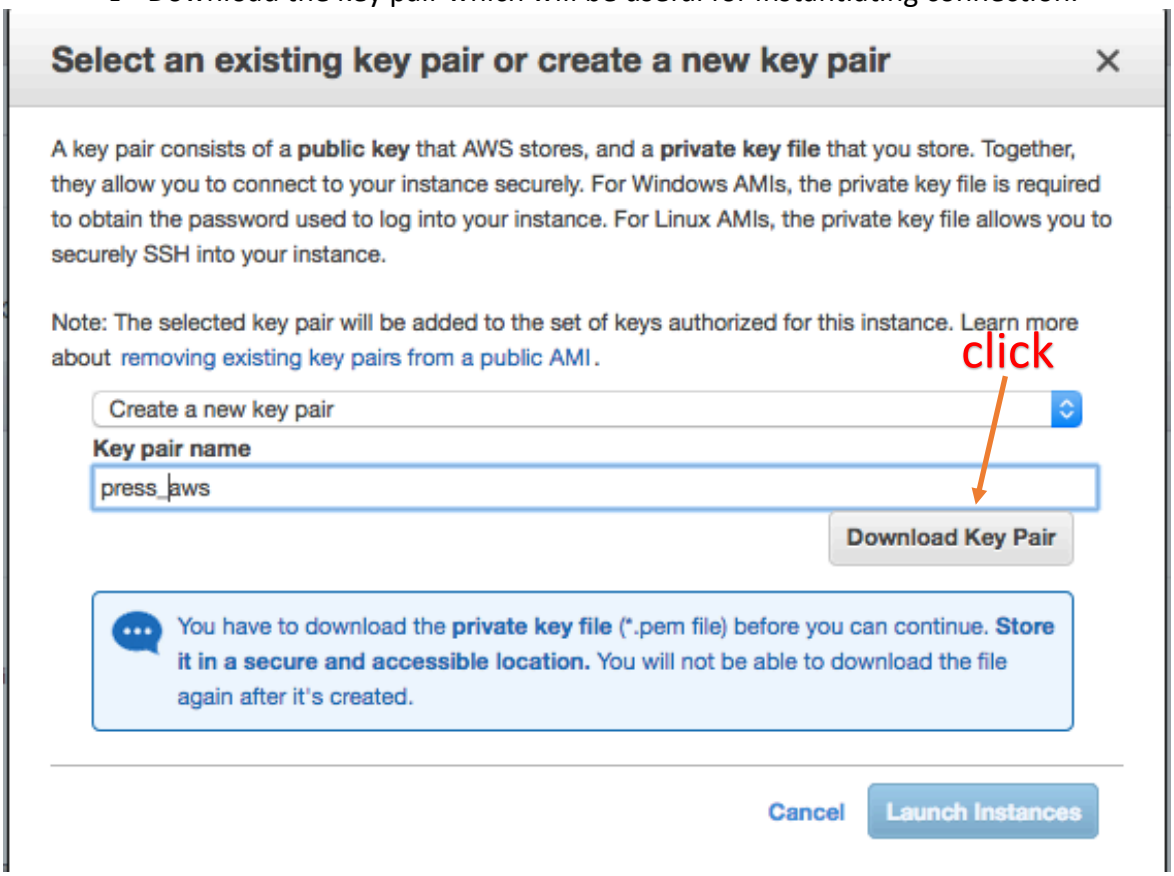
Step6: Click Review for Launch as shown above.

Step 7: Details about the instance will be shown, verify the details and click launch.

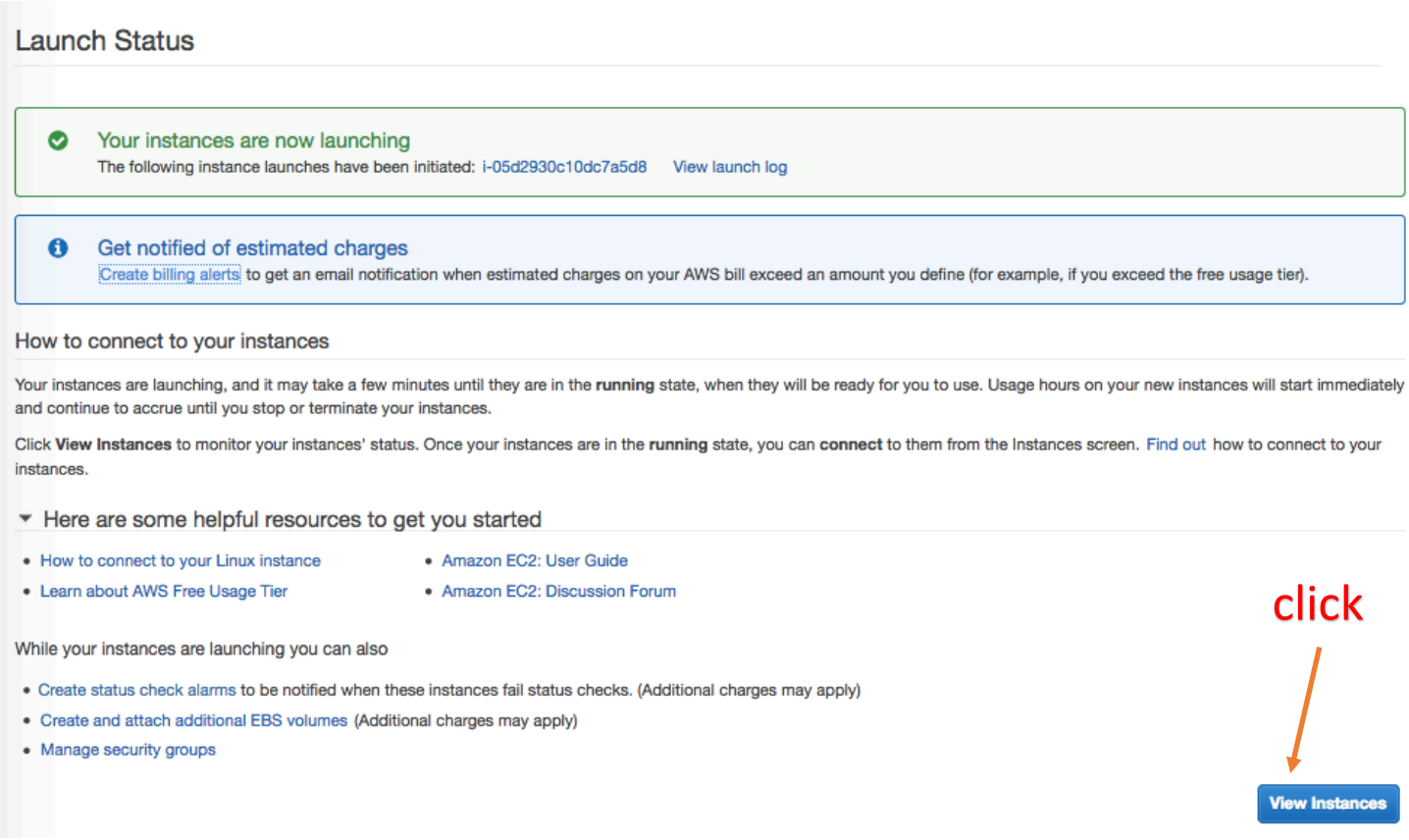


Step8: Select a key pair to approve for remote SSH connection.

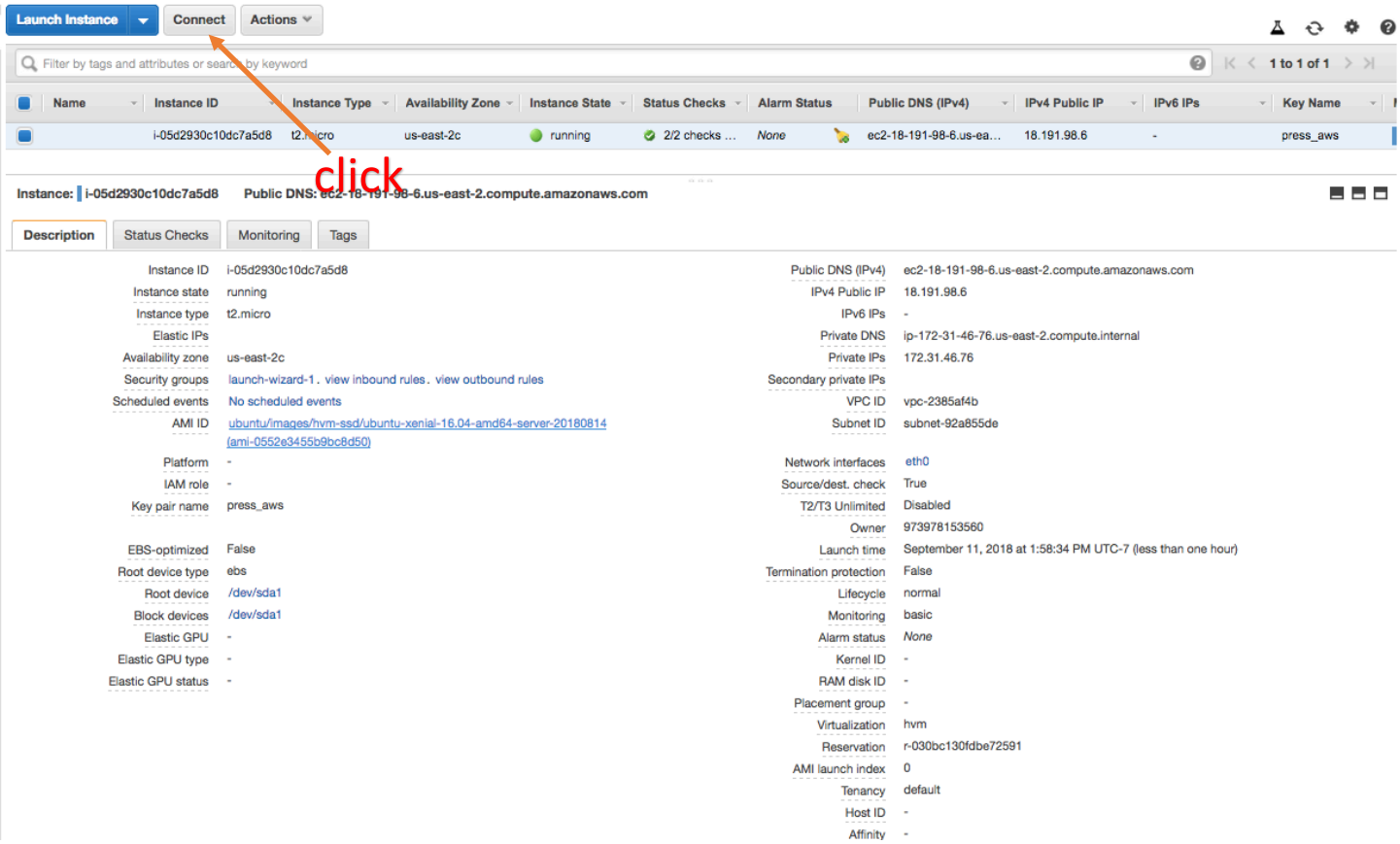
- ➔ Create a new key pair and give a name to it.
- ➔ Download the key pair which will be useful for instantiating connection.



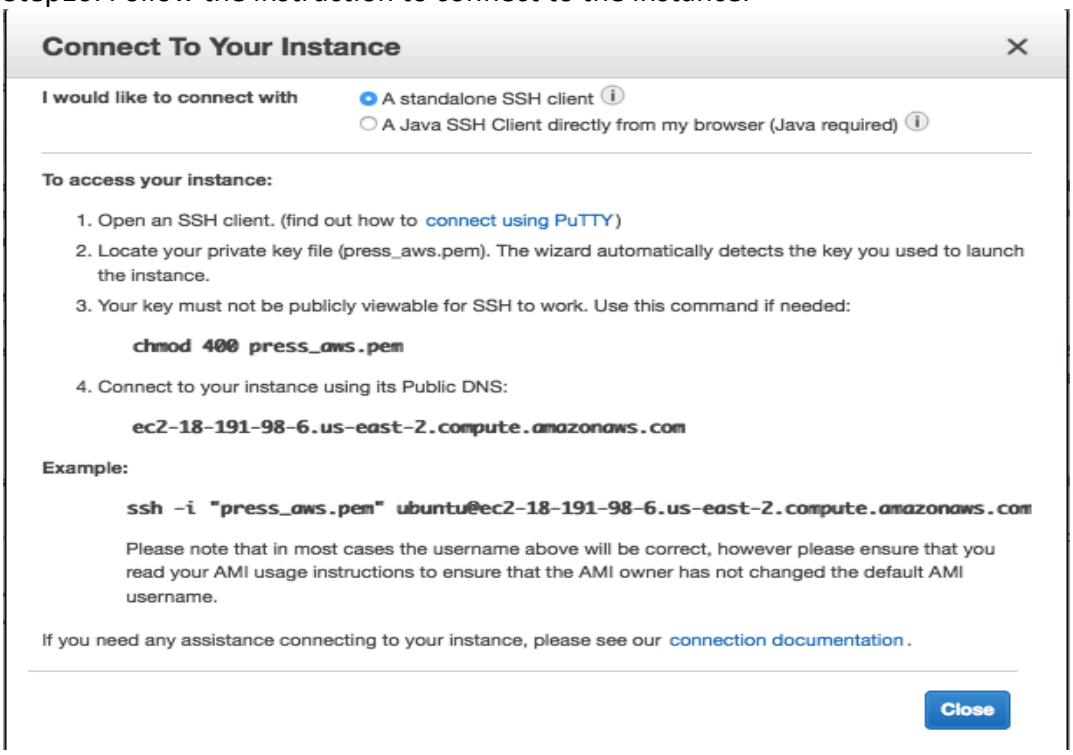
Step 9: we will be redirected to a page which shows some status information.
Click on View Instances.



Step10: Instance and its details will be listed on the below page once view instance is clicked.
Click on connect to make a remote connection to the created instance.



Step10: Follow the instruction to connect to the instance.

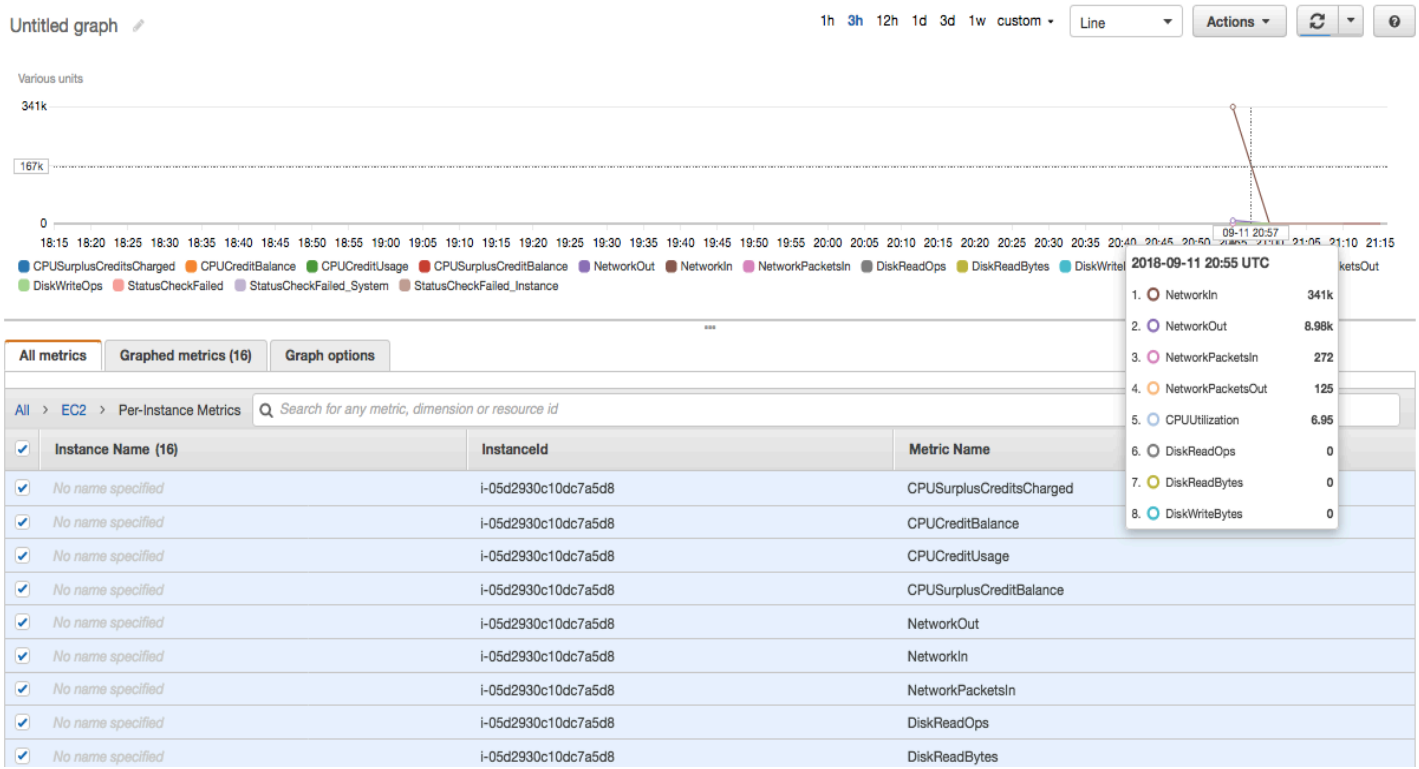


Step11: successful connection from my mac to aws instance.

```
Prashanths-MacBook-Air:Desktop prashanth$ chmod 400 press_aws.pem
Prashanths-MacBook-Air:Desktop prashanth$ ssh -i "press_aws.pem" ubuntu@ec2-18-191-98-6.us-east-2.compute.amazonaws.com
The authenticity of host 'ec2-18-191-98-6.us-east-2.compute.amazonaws.com (18.191.98.6)' can't be established.
ECDSA key fingerprint is SHA256:86JJffL/Nd1rSzYqqbeVsZIXd8uRv75JrAVszlEeKBg.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-18-191-98-6.us-east-2.compute.amazonaws.com,18.191.98.6' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 16.04.5 LTS (GNU/Linux 4.4.0-1065-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  Get cloud support with Ubuntu Advantage Cloud Guest:
    http://www.ubuntu.com/business/services/cloud

0 packages can be updated.
0 updates are security updates.


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-172-31-46-76:~$
```

We are inside aws instance.

Step12: AWS CLoudWatch report on instance creation.



Step13: Planning to run a simple python application.

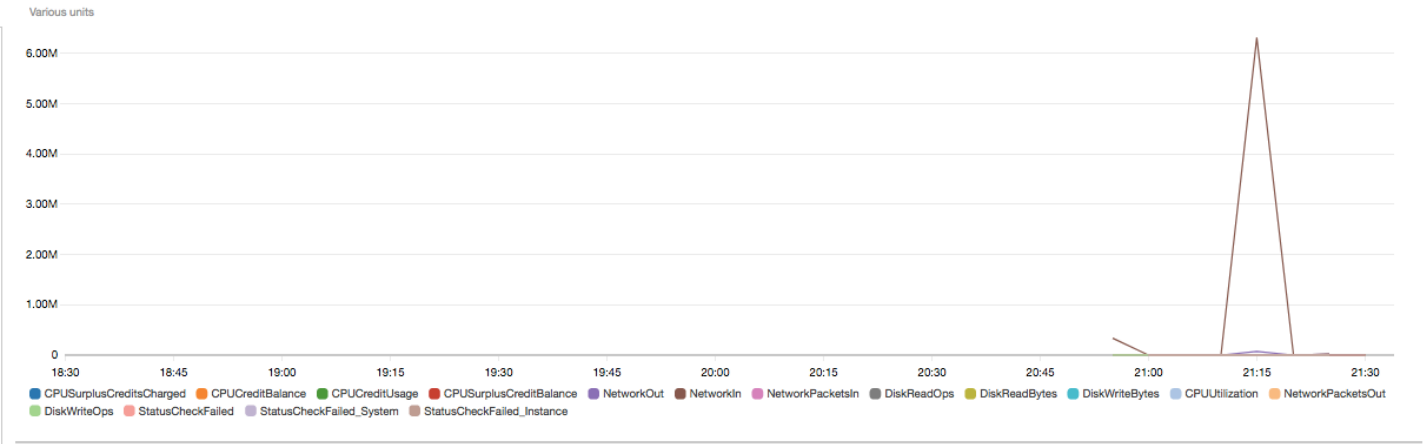
13.a : Install python 3.6 on ubuntu.

```
ubuntu@ip-172-31-46-76:~$ sudo add-apt-repository ppa:jonathonf/python-3.6

ubuntu@ip-172-31-46-76:~$ sudo apt-get install python3.6

ubuntu@ip-172-31-46-76:~$ python3.6 --version
Python 3.6.5
```

13.b : Write a simple python application and launched it.

```
ubuntu@ip-172-31-46-76:~$ sudo vim AWS_python_application.py
ubuntu@ip-172-31-46-76:~$ python3 AWS_python_application.py
Prashanth Rajasekar
011822460
prashanth.rajasekar@sjsu.edu
4086446432
------------------------------

Succesfully launched the application....
ubuntu@ip-172-31-46-76:~$
```

Step14: Cloudwatch metrics after launching the application.

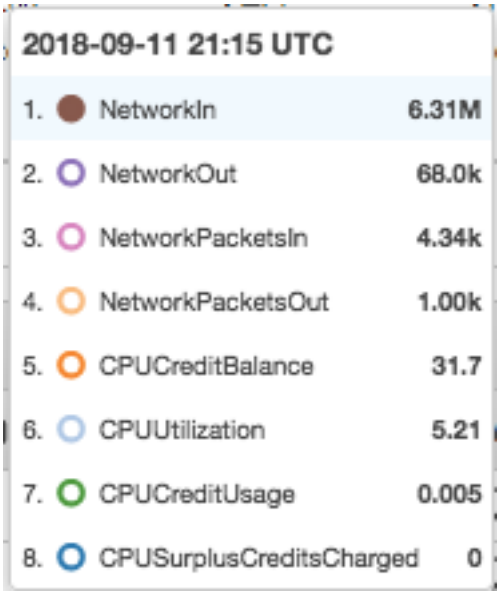


All metrics | Graphed metrics (16) | Graph options

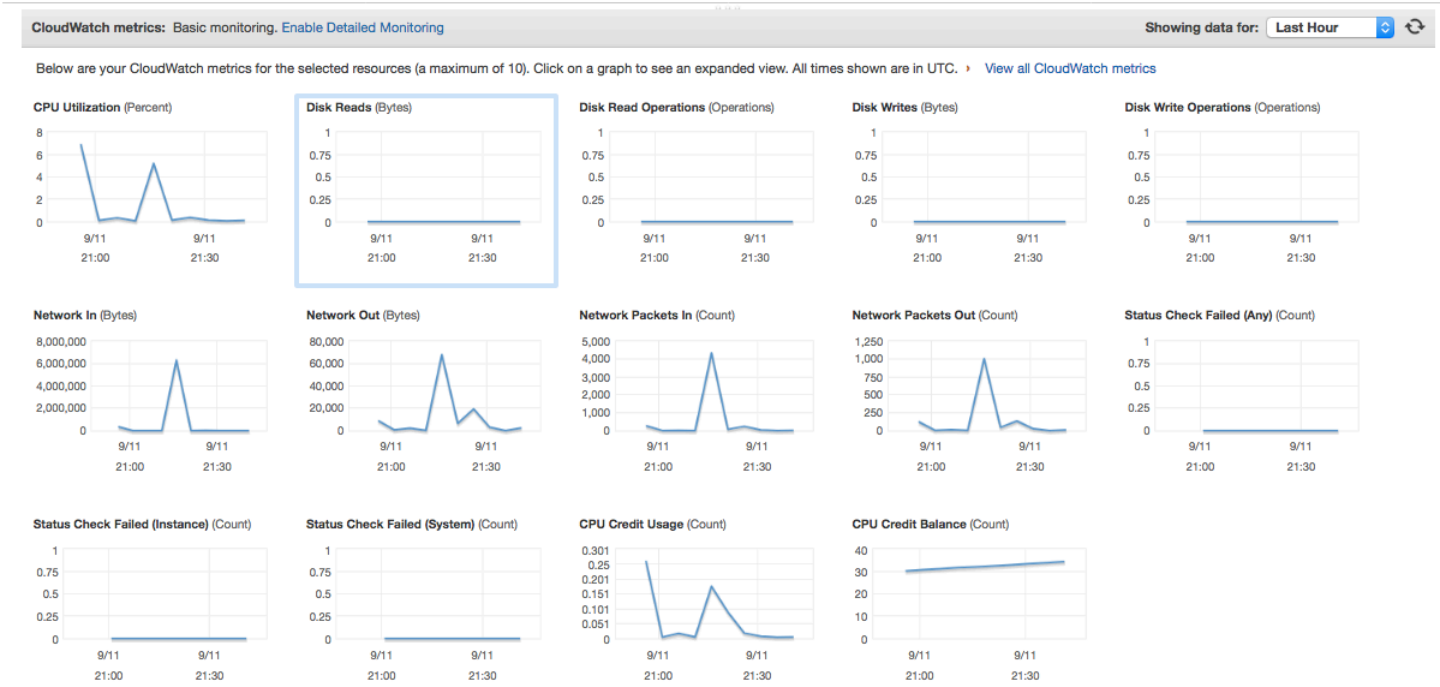
Add a math expression

Label	Details	Statistic	Period	Y Axis	Actions
CPUSurplusCreditsCharged	EC2 • CPUSurplusCreditsCharged • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		
CPUCreditBalance	EC2 • CPUCreditBalance • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		
CPUCreditUsage	EC2 • CPUCreditUsage • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		
CPUSurplusCreditBalance	EC2 • CPUSurplusCreditBalance • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		
NetworkOut	EC2 • NetworkOut • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		
NetworkIn	EC2 • NetworkIn • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		
NetworkPacketsIn	EC2 • NetworkPacketsIn • InstanceId: i-05d2930c10dc7a5d8	Average	5 Minutes		

Step15: Resource Usage.



Step16: Similar cloudwatch metrics.



Thank You.