AMAZON WEB SERVICE (AWS)

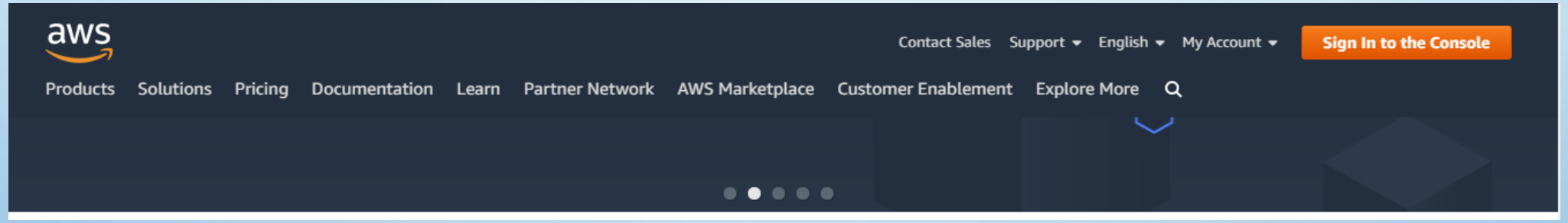
BY MUNTABIR CHOUDHURY

ACCOUNT SET UP

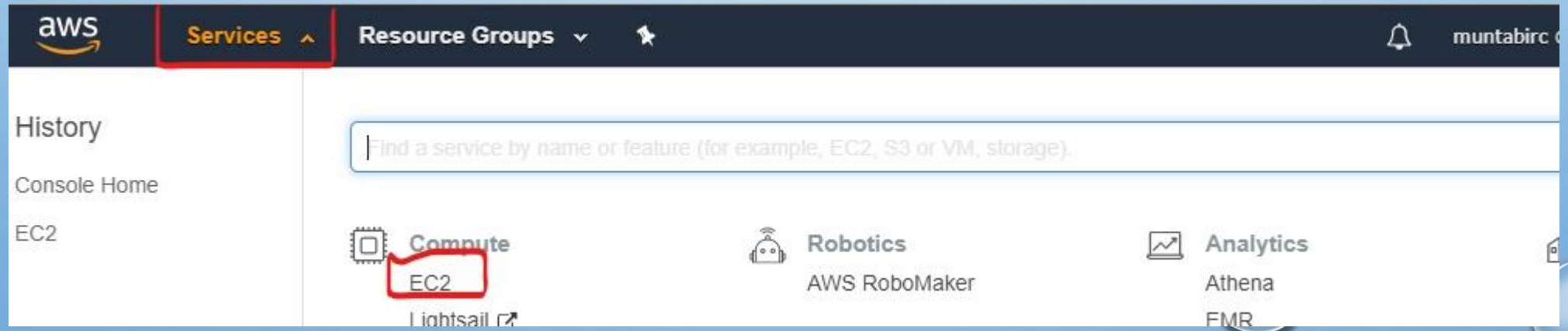
- OPEN A BROWSER AND GO TO AWS
- OPEN A FREE TIER ACCOUNT FOR 12 MONTHS
- AWS WILL ASK YOU TO PUT YOUR CREDIT CARD INFORMATION BUT DO NOT WORRY SINCE IT IS A FREE TIER ACCOUNT
- BEFORE 12 MONTHS YOU CAN CANCEL YOUR SUBSCRIPTION

EC2 INSTANCE

- SIGN INTO AWS MANAGEMENT CONSOLE

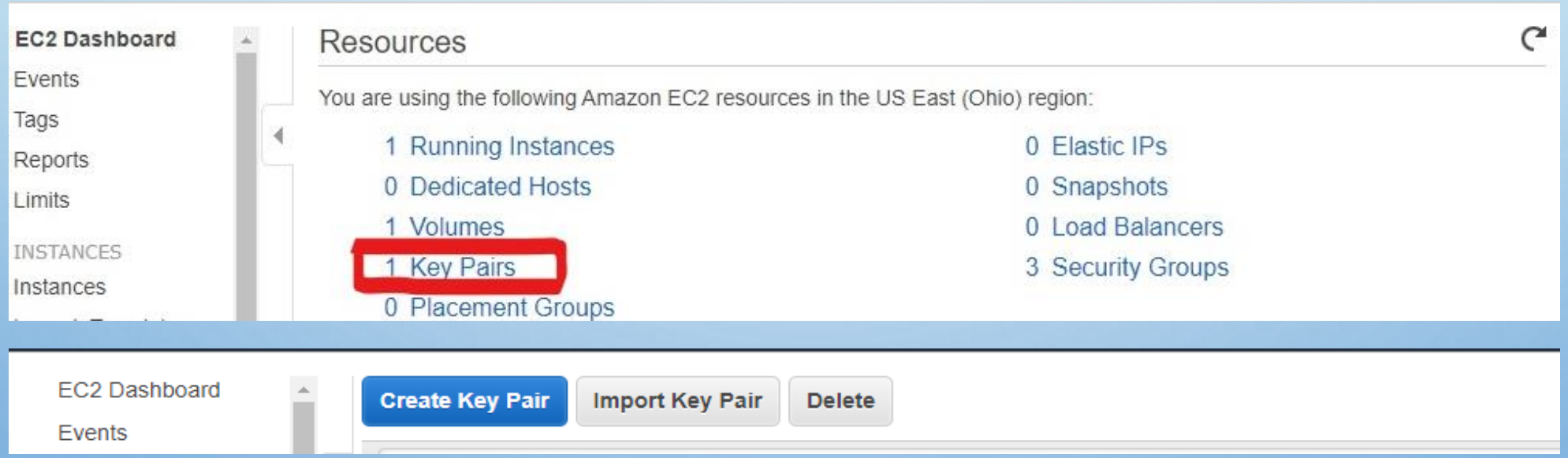


- CLICK ON SERVICES AND SELECT ‘EC2’



EC2 INSTANCE DASHBOARD

- CLICK ON KEY PAIRS AND CREATE A NEW KEY PAIR. IT WILL SAVED BE AS <YOUR_SELECTED_NAME>.PEM FILE IN YOUR COMPUTER

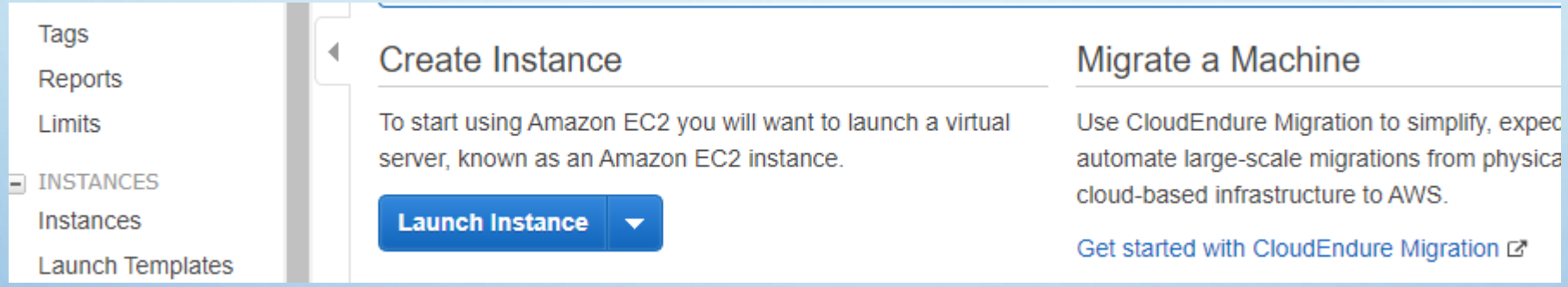


KEY PAIRS CONVERSION

- IF YOU ARE A MAC USER, YOU WILL NOT NEED TO CONVERT THE .PEM FILE (KEY PAIRS)
- IF YOU ARE A WINDOWS USER, YOU WILL NEED TO CONVERT THE .PEM FILE TO .PPK FILE USING 'PUTTY GEN'
- CLICK ON THE HYPERLINK FOR A COMPLETE GUIDE ON HOW TO CONVERT THE .PEM FILE TO .PPK FILE AND PERFORM SSH

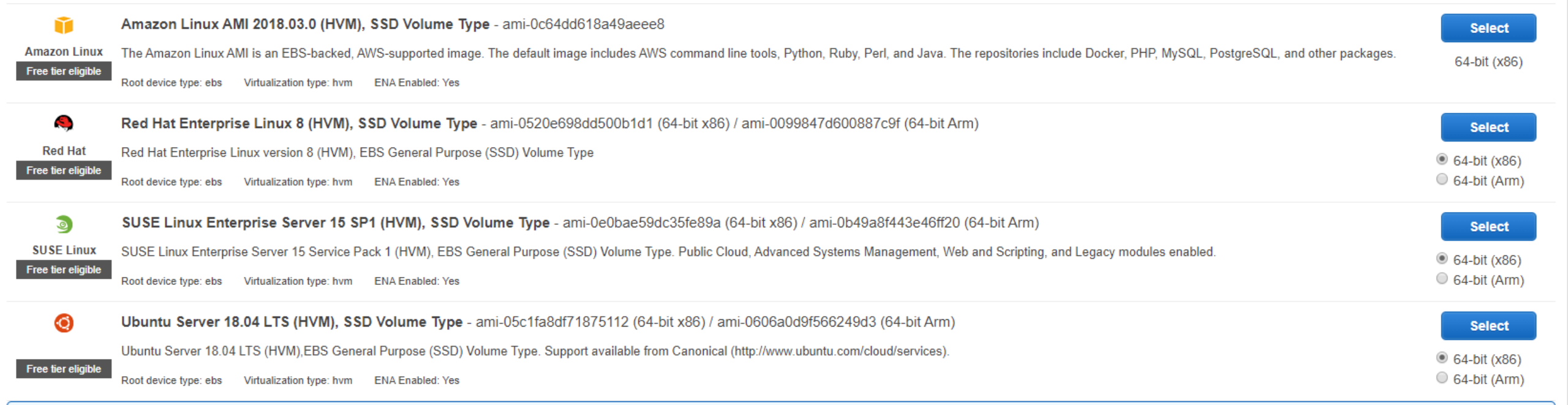
CREATE AN INSTANCE

- CLICK ON LAUNCH INSTANCE AND SELECT THE FREE TIER ON THE LEFT NAVIGATION PANE



LAUNCH INSTANCE

- CHOOSE YOUR FAVORITE MACHINE IMAGE BASED ON THE OS (64 BIT, 32BIT) YOUR MACHINE IS RUNNING.
- PREFERABLY SELECT UBUNTU 18.04 64BIT IMAGE.



LAUNCH INSTANCE CONT..

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

Filter by: All instance types | Current generation | Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

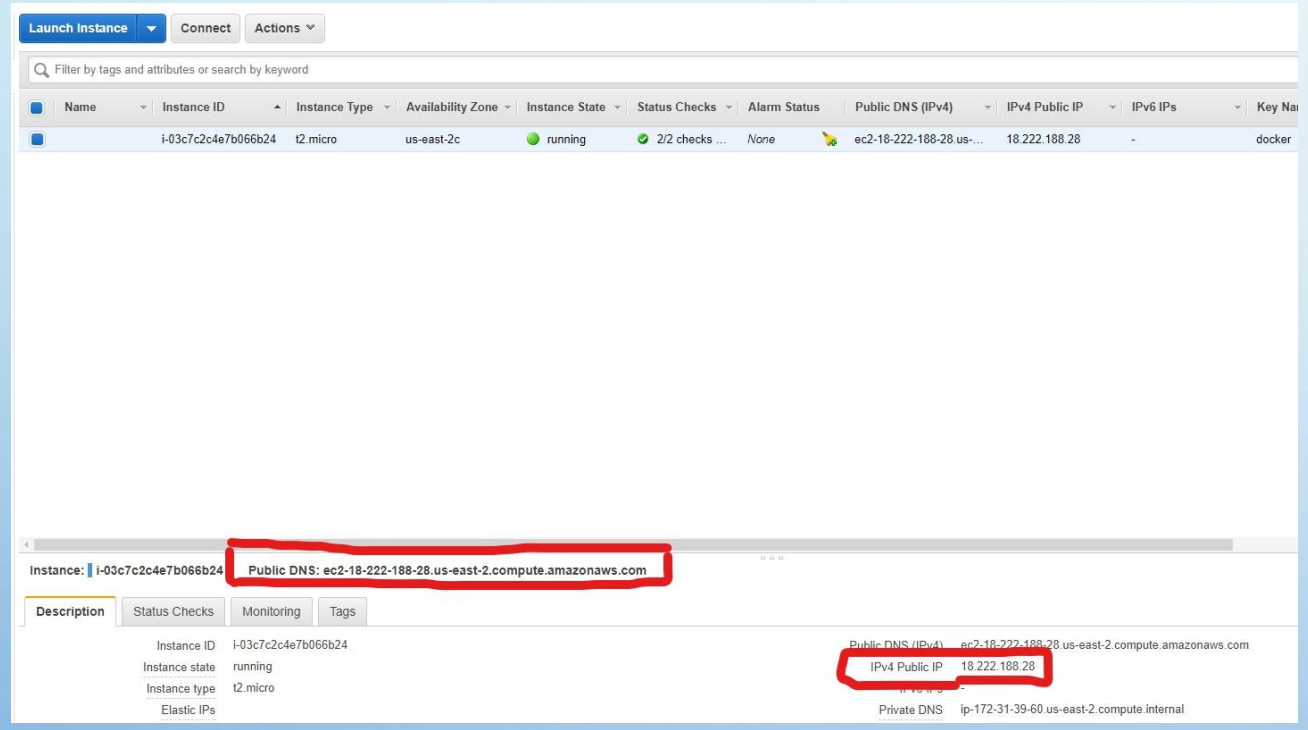
	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
☐	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
☑	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
☐	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
☐	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
☐	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
☐	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes
☐	General purpose	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
☐	General purpose	t3a.nano	2	0.5	EBS only	Yes	Up to 5 Gigabit	Yes
☐	General purpose	t3a.micro	2	1	EBS only	Yes	Up to 5 Gigabit	Yes
☐	General purpose	t3a.small	2	2	EBS only	Yes	Up to 5 Gigabit	Yes
☐	General purpose	t3a.medium	2	4	EBS only	Yes	Up to 5 Gigabit	Yes

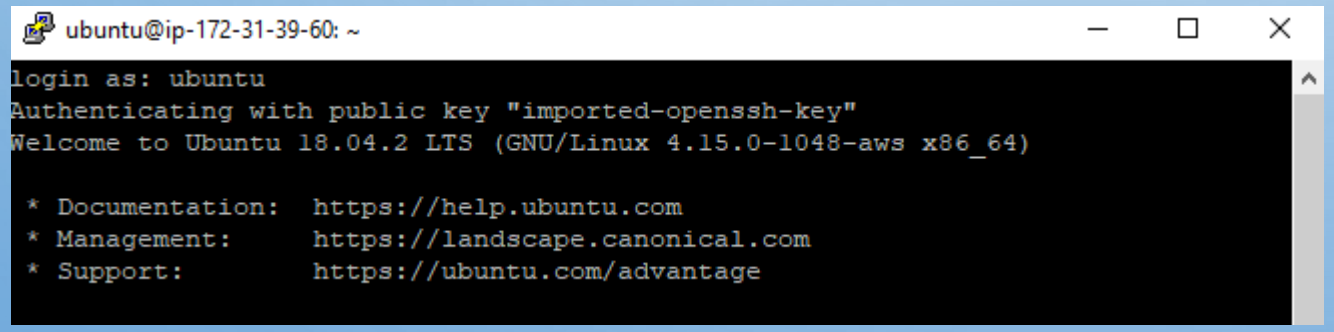
Cancel | Previous | Review and Launch | Next: Configure Instance Details

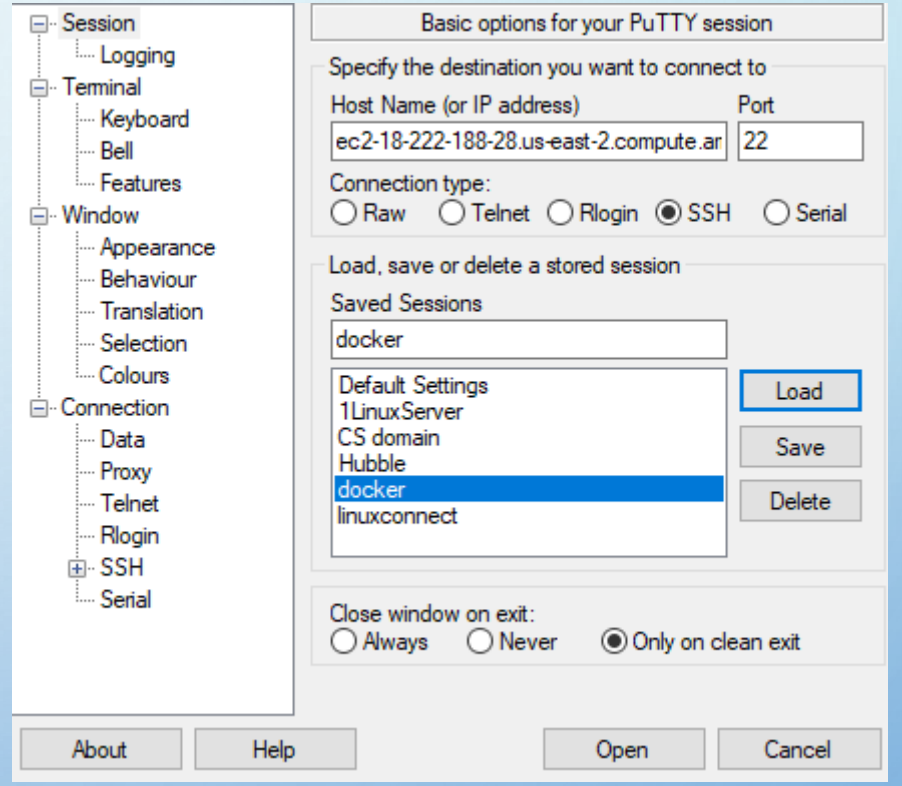
CONNECT YOUR INSTANCE

- ONCE YOU LAUNCHED YOUR INSTANCE,
- FOR WINDOWS USER –
  - CONNECT THE INSTANCE USING ‘PUTTY’
  - A COMPLETE GUIDE HAS BEEN GIVEN ON HOW TO CONNECT
  - HOWEVER, WHEN CONNECTING, USE THE “PUBLIC DNS / PUBLIC IP” FROM AWS AS A ‘HOST NAME’ ON PUTTY
  - KEEP THE PORT AS DEFAULT
  - CLICK ON OPEN
  - LOGIN AS “UBUNTU”

CONNECT YOUR INSTANCE CONT..







Connect To Your Instance

I would like to connect with
- (•) A standalone SSH client
- ( ) EC2 Instance Connect (browser-based SSH connection)
- ( ) A Java SSH Client directly from my browser (Java required)

To access your instance:

1. Open an SSH client. (find out how to connect using PuTTY)
2. Locate your private key file (docker.pem). The wizard automatically detects the key you used to launch the instance.
3. Your key must not be publicly viewable for SSH to work. Use this command if needed:

```
chmod 400 docker.pem
```

4. Connect to your instance using its Public DNS:

```
ec2-18-222-188-28.us-east-2.compute.amazonaws.com
```

Example:

```
ssh -i "docker.pem" ubuntu@ec2-18-222-188-28.us-east-2.compute.amazonaws.com
```

Please note that in most cases the username above will be correct, however please ensure that you read your AMI usage instructions to ensure that the AMI owner has not changed the default AMI username.

If you need any assistance connecting to your instance, please see our connection documentation.

Close

CONNECT YOUR INSTANCE

- FOR MAC USER,
  - GO TO THE TERMINAL
  - CHANGE THE MODE OF THE .PEM FILE
  - THEN CONNECT TO THE INSTANCE WHICH HAS BEEN PROVIDED IN THE EXAMPLE

COPY YOUR DOCKERFILE AND ECHO FILE

- ONCE YOU LOGGED INTO THE INSTANCE,
  - IF YOU ARE A WINDOWS USER, YOU CAN USE WINSCP TO TRANSFER YOUR FILE FROM LOCAL TO REMOTE
  - IF YOU ARE A MAC USER, YOU CAN USE "SCP" COMMAND TO TRANSFER YOUR FILE FROM LOCAL TO REMOTE

    SCP FILE.TXT REMOTE_USERNAME@10.10.0.2:/REMOTE/DIRECTORY
- UPON TRANSFERRING THE FILES FROM LOCAL TO REMOTE
- IN THE EC2 INSTANCE, SIMPLY CHANGE THE DIRECTORY TO THE FOLDER WHICH CONTAINS THE DOCKER FILE AND BUILD THE IMAGE AND RUN YOUR ECHO SERVER

RUN ECHO SERVER AND DOCKER

```
ubuntu@ip-172-31-39-60:~$ cd Assignment/
ubuntu@ip-172-31-39-60:~/Assignment$ ls
Dockerfile  src
ubuntu@ip-172-31-39-60:~/Assignment$ docker build -t python-docker-dev .
Sending build context to Docker daemon   5.12kB
Step 1/7 : FROM python:3.6
 ---> 1c515a624542
Step 2/7 : WORKDIR /app
 ---> Using cache
 ---> d6f0dd07e6e2
Step 3/7 : COPY . /app/
 ---> Using cache
 ---> 29f929b922ae
Step 4/7 : COPY src /app
 ---> Using cache
 ---> a06d4d83e9c8
Step 5/7 : EXPOSE 80
 ---> Using cache
 ---> e2c614d5ba34
Step 6/7 : RUN chmod a+x echo-server.py
 ---> Using cache
 ---> e22103580def
Step 7/7 : CMD ["python", "echo-server.py"]
 ---> Using cache
 ---> 013dae87410c
Successfully built 013dae87410c
Successfully tagged python-docker-dev:latest
ubuntu@ip-172-31-39-60:~/Assignment$ docker run -d --name python-echoserver -p 80:80 python-docker-dev
d45f23bad387fa7d2cbedfaa16a77f0df7a0d55372809b989cf82f48dc515c74
ubuntu@ip-172-31-39-60:~/Assignment$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS                  NAMES
d45f23bad387        python-docker-dev   "python echo-server.…"   9 seconds ago       Up 7 seconds        0.0.0.0:80->80/tcp   python-echoserver
ubuntu@ip-172-31-39-60:~/Assignment$ cd src/
```