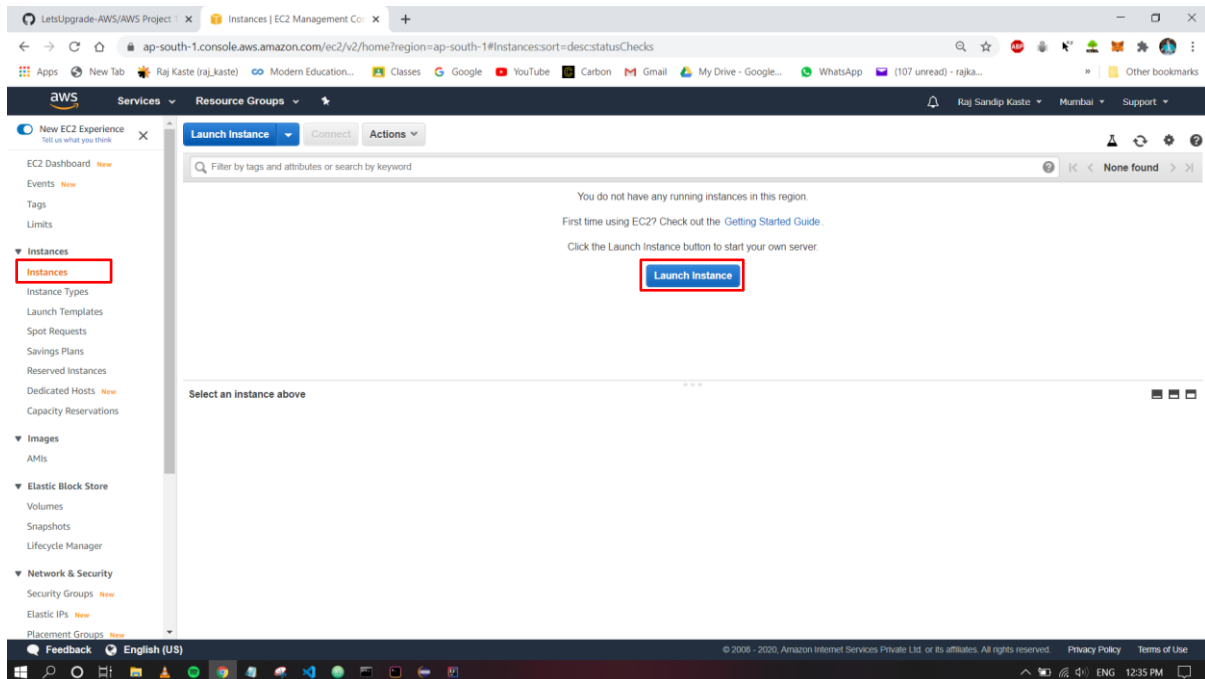


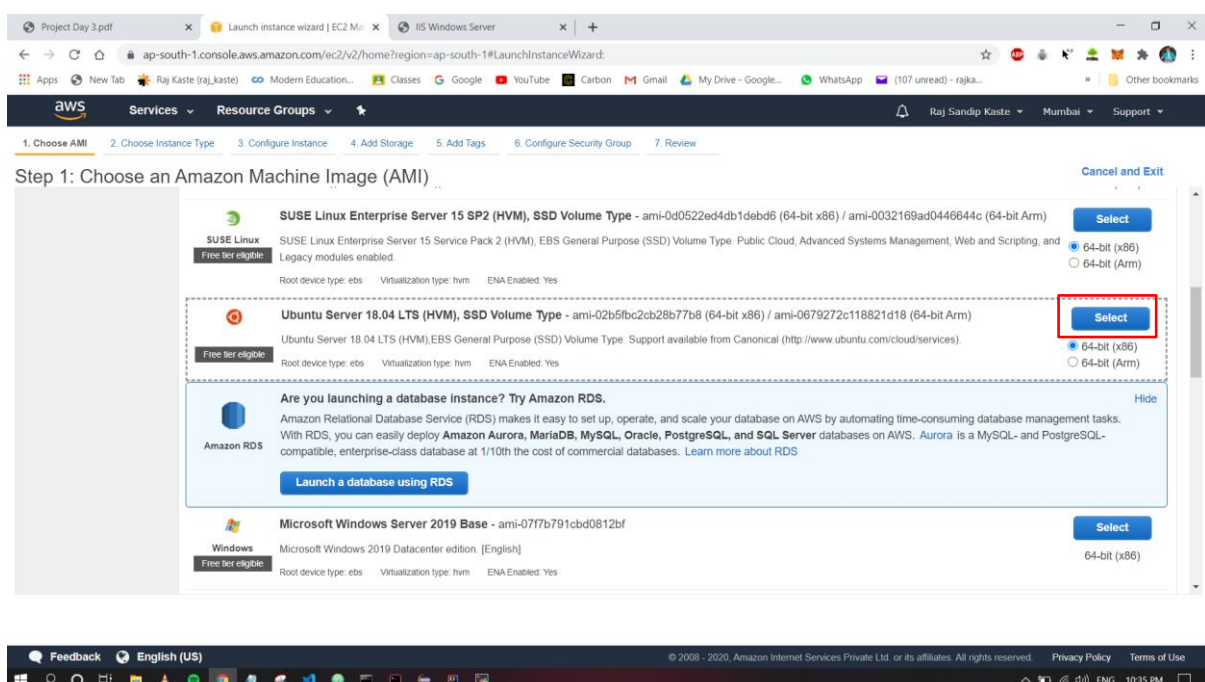
Project 2:

Deploying a Web Server in Ubuntu Instance:

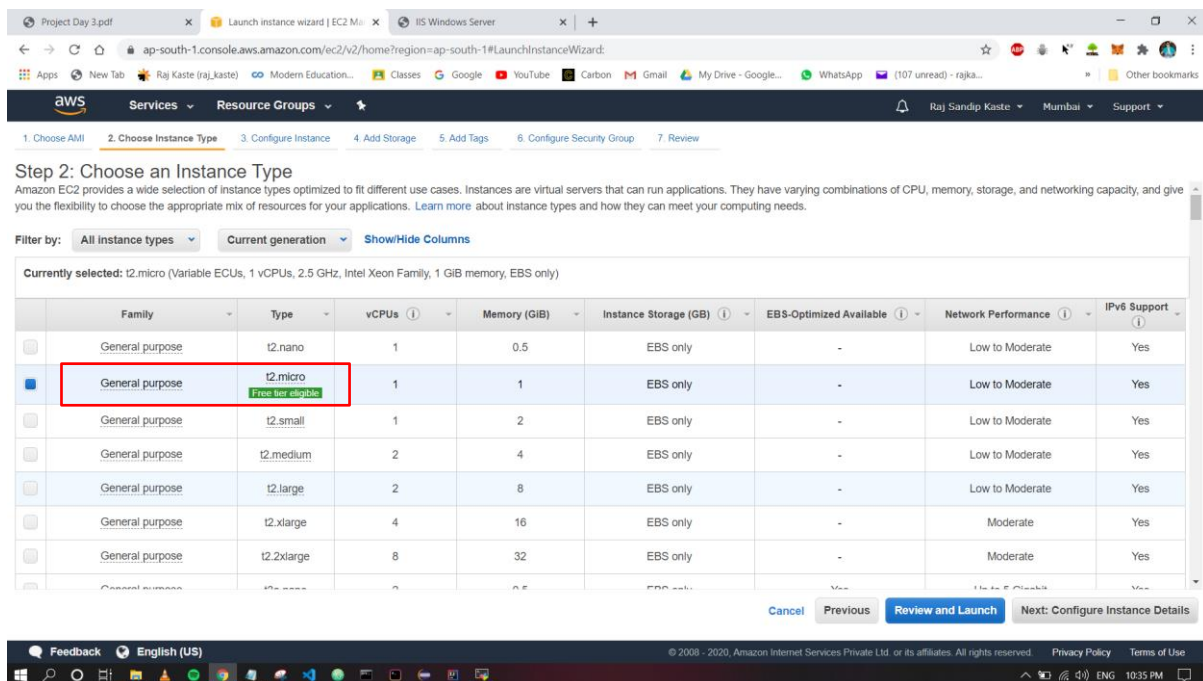
Step 1: Login to your AWS Console -> Go to Services -> Select EC2 -> In EC2 Dashboard select Instances -> Click on Launch Instance.



Step 2: Starting with EC2 (Elastic Compute Cloud) and launching a new instance Choose an AMI -> Ubuntu Server 18.04 LTS OS under Free Tier Section.



Step 3: Choose an Instance type which should be free tier eligible -> Select t2 micro and then click, Next: Configure Instance Details.



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.

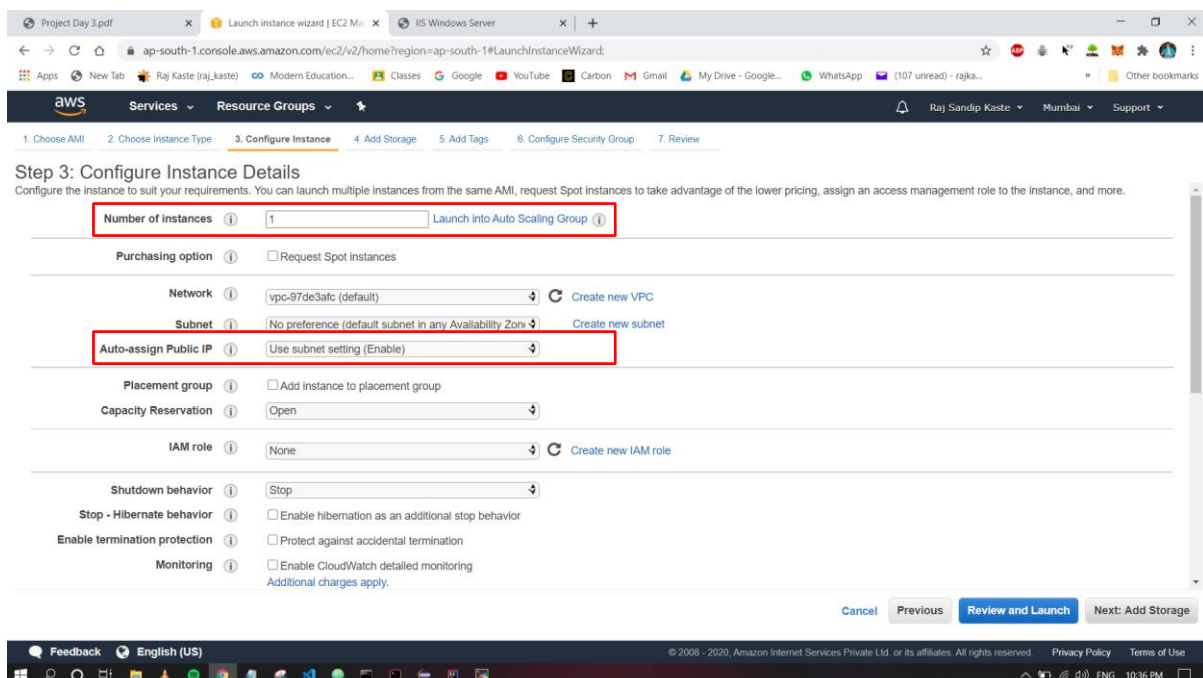
Filter by: **All instance types** **Current generation** [Show/Hide Columns](#)

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 (GiB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	t2.2xlarge	8	32	EBS only	-	Moderate	Yes

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

Step 4: Configure Instance Details -> No. of instance = 1, Auto-assign Public IP = Enable -> Click Next: Add Storage.



Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)

Auto-assign Public IP

Placement group ☐ Add instance to placement group

Capacity Reservation

IAM role [Create new IAM role](#)

Shutdown behavior

Stop - Hibernate behavior ☐ Enable hibernation as an additional stop behavior

Enable termination protection ☐ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring
Additional charges apply.

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Step 5: Let everything be default in Add Storage.

Delete on Termination must be selected. -> Click Next: Add Tags.

The screenshot shows the AWS Management Console at the 'Add Storage' step of the EC2 instance launch wizard. The 'Delete on Termination' checkbox is checked and highlighted with a red box. The 'Encryption' dropdown is set to 'Not Encrypted'. The 'Add New Volume' button is visible. A note at the bottom states: 'Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.'

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-01c49bd5fe5f144e2	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Buttons: Cancel, Previous, Review and Launch, Next: Add Tags

Step 6: Enter any name you want for your instance in Add Tags. -> Click Next: Configure Security Group.

The screenshot shows the AWS Management Console at the 'Add Tags' step of the EC2 instance launch wizard. The 'Name' tag key is highlighted with a red box. The 'Value' field is empty. The 'Instances' and 'Volumes' checkboxes are both checked. The 'Add another tag' button is visible. A note at the bottom states: 'A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. Learn more about tagging your Amazon EC2 resources.'

Key	Value	Instances	Volumes
Name		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Buttons: Cancel, Previous, Review and Launch, Next: Configure Security Group

Step 7: In Configure Security Group -> Create a new security group ->

Select Type = All Traffic and Source = Anywhere. -> Click Next: Review and launch.

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
All traffic	All	0 - 65535	Anywhere	e.g. SSH for Admin Desktop

Add Rule

Warning
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.

Cancel Previous **Review and Launch**

Step 8: Review all steps -> Click Launch.

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

Improve your instances' security. Your security group, launch-wizard-2, is open to the world.
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-02b5fbc2cb28b77b8

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

Security Groups [Edit security groups](#)

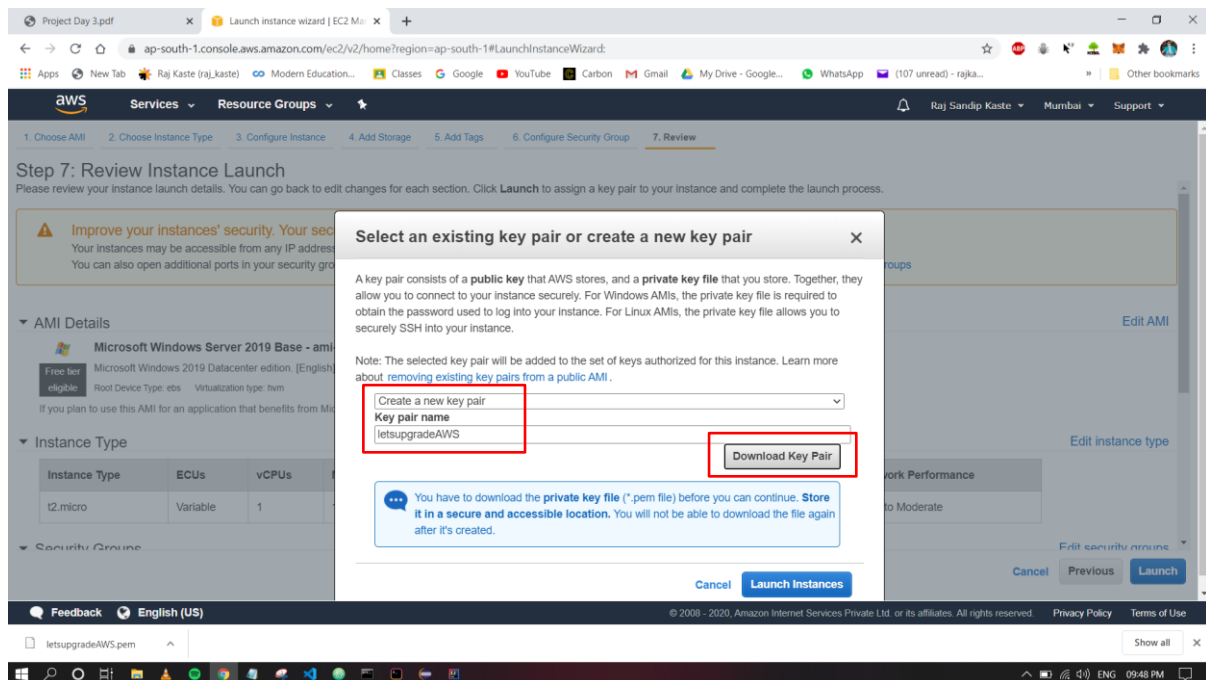
Security group name: launch-wizard-2
Description: launch-wizard-2 created 2020-08-17T22:36:48.797+05:30

Type	Protocol	Port Range	Source	Description
All traffic	All	All	0.0.0.0/0	
All traffic	All	All	:::0	

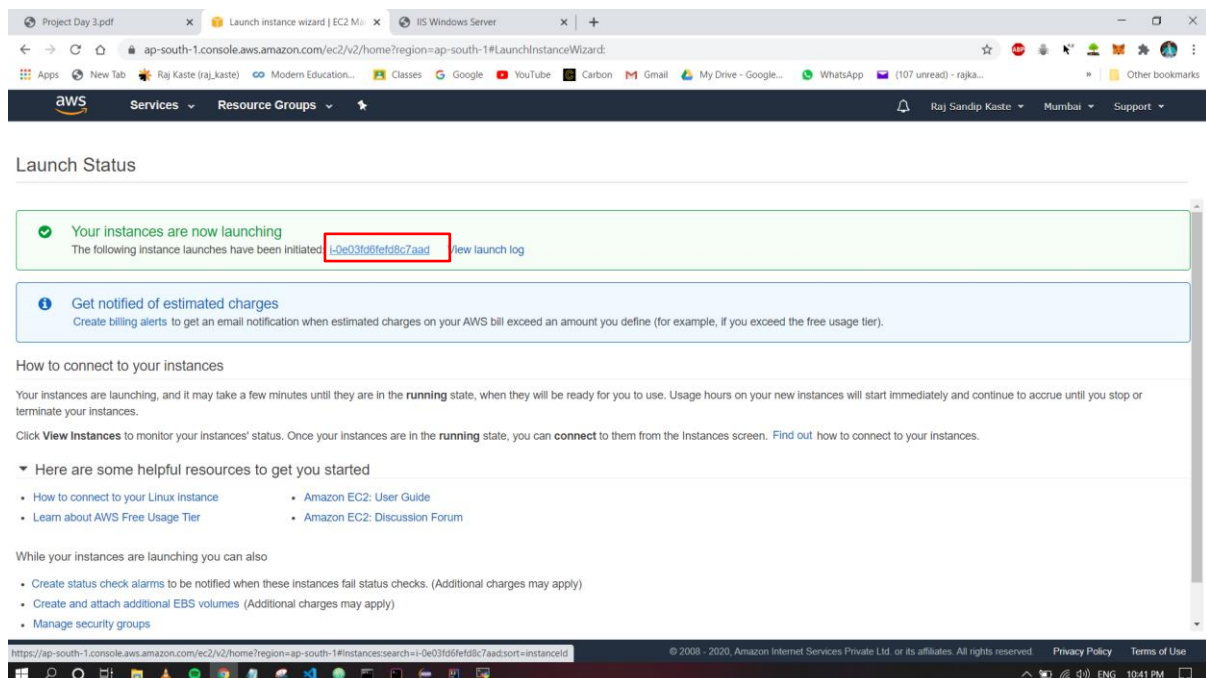
Instance Details [Edit instance details](#)

Cancel Previous **Launch**

Step 9: After launching select the existing key pair which you downloaded while creating windows instance or create a new key pair show below if you don't have the previous one. -> Click Launch Instance.

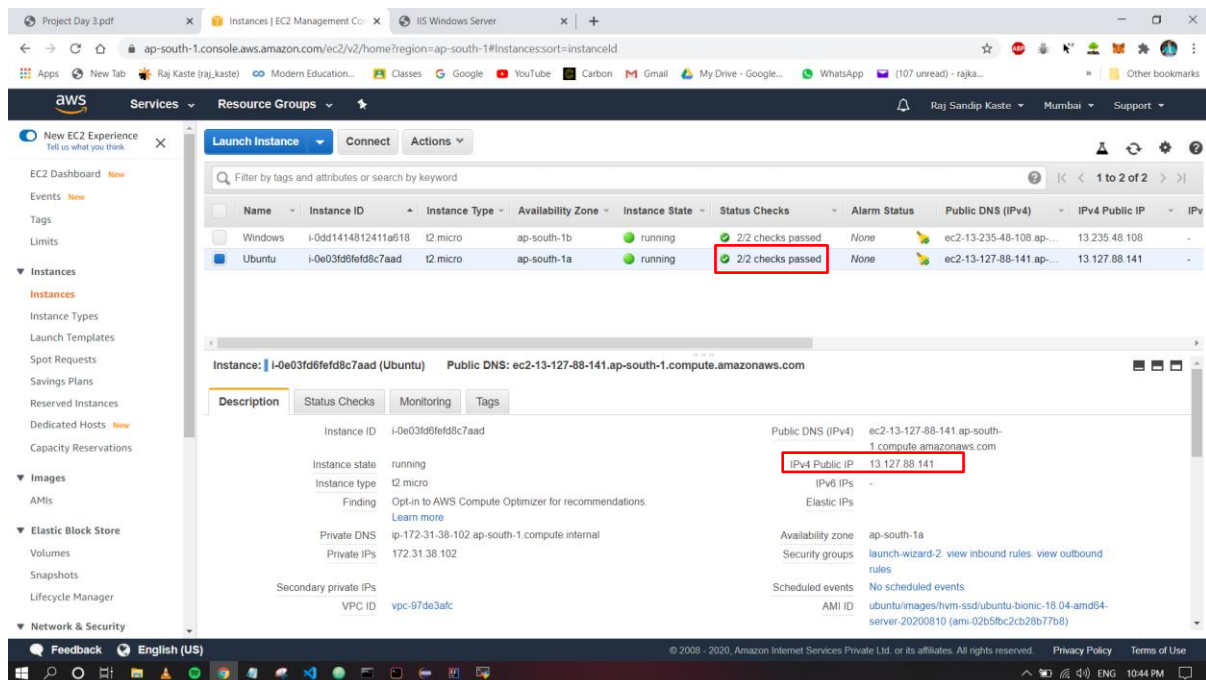


Step 10: Instance is created. -> Click on instance id which will redirect you to EC2 instances list.



Step 11: Wait till the status checks are done. After Status Checks are done, copy the Public IP Address of the Ubuntu instance.

Here it is: **13.127.88.141**

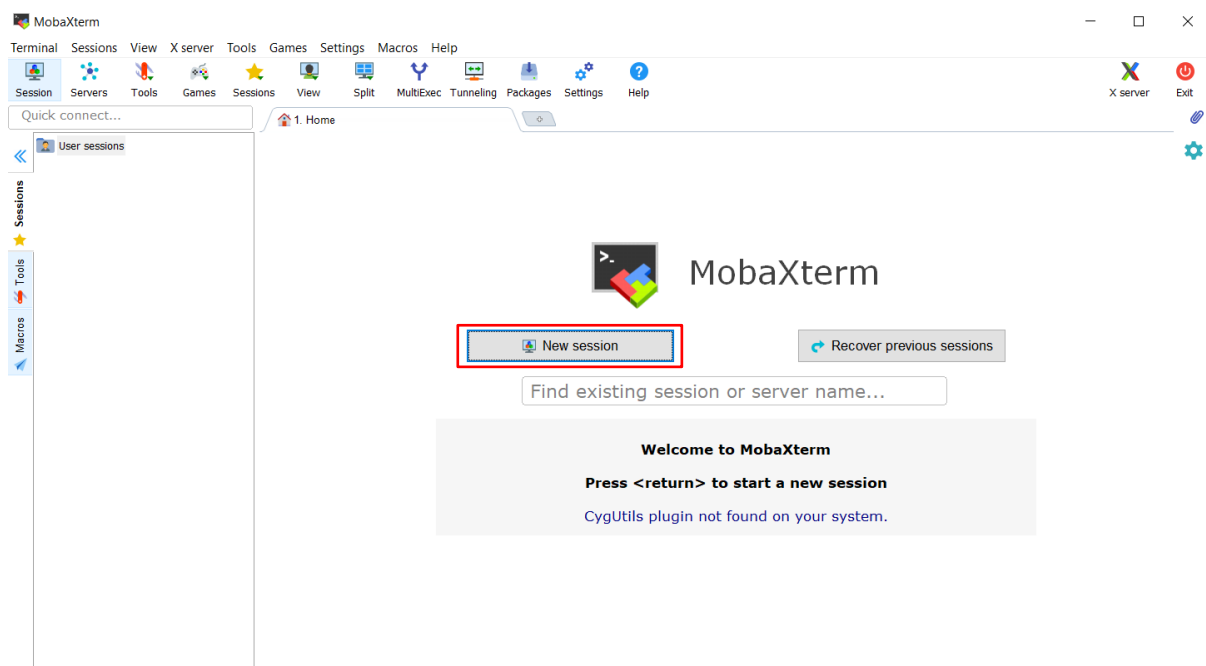


Step 12: **Now to connect and launch your web server**, Download MobaXterm Portable Edition from the link below:

<https://mobaxterm.mobatek.net/download-home-edition.html>

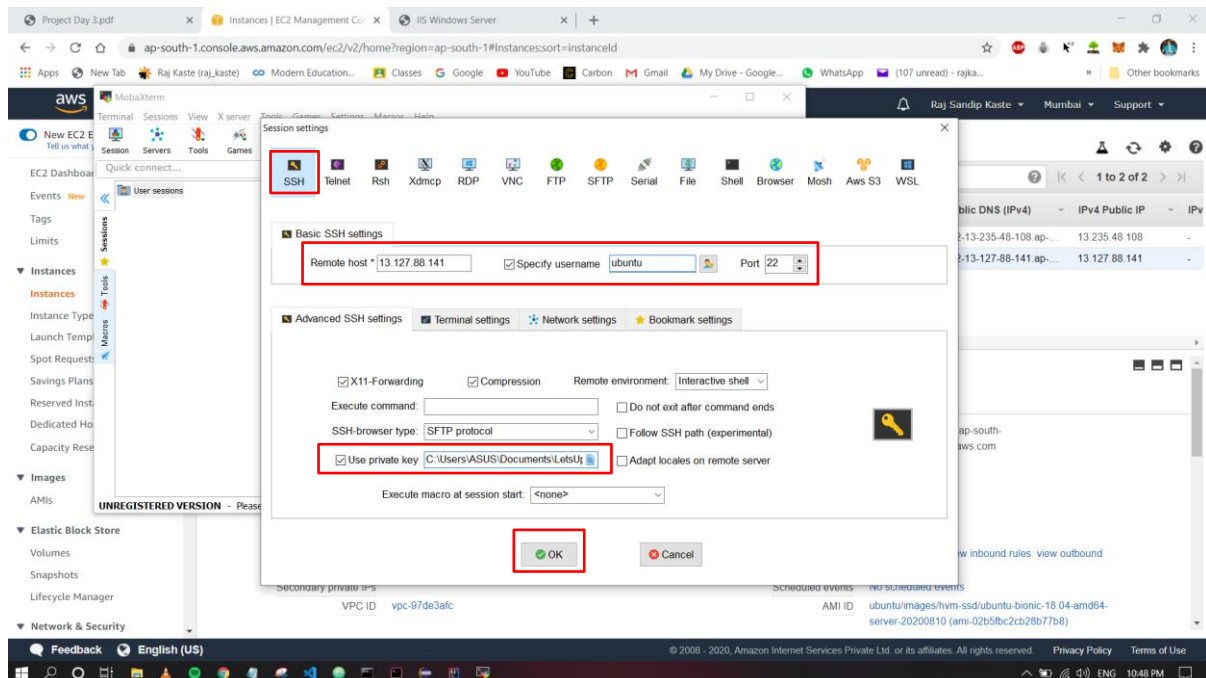
After downloading extract the zip file to get the MobaXterm.exe file.

Step 13: Open MobaXterm.exe -> click on New Session



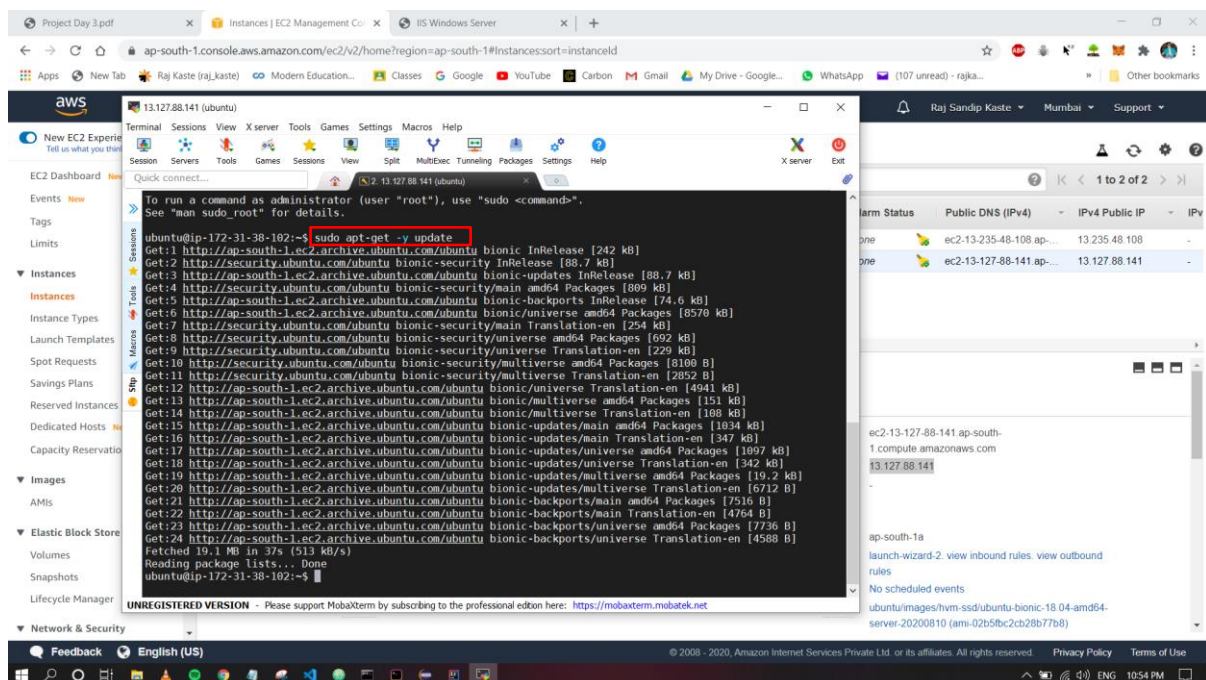
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

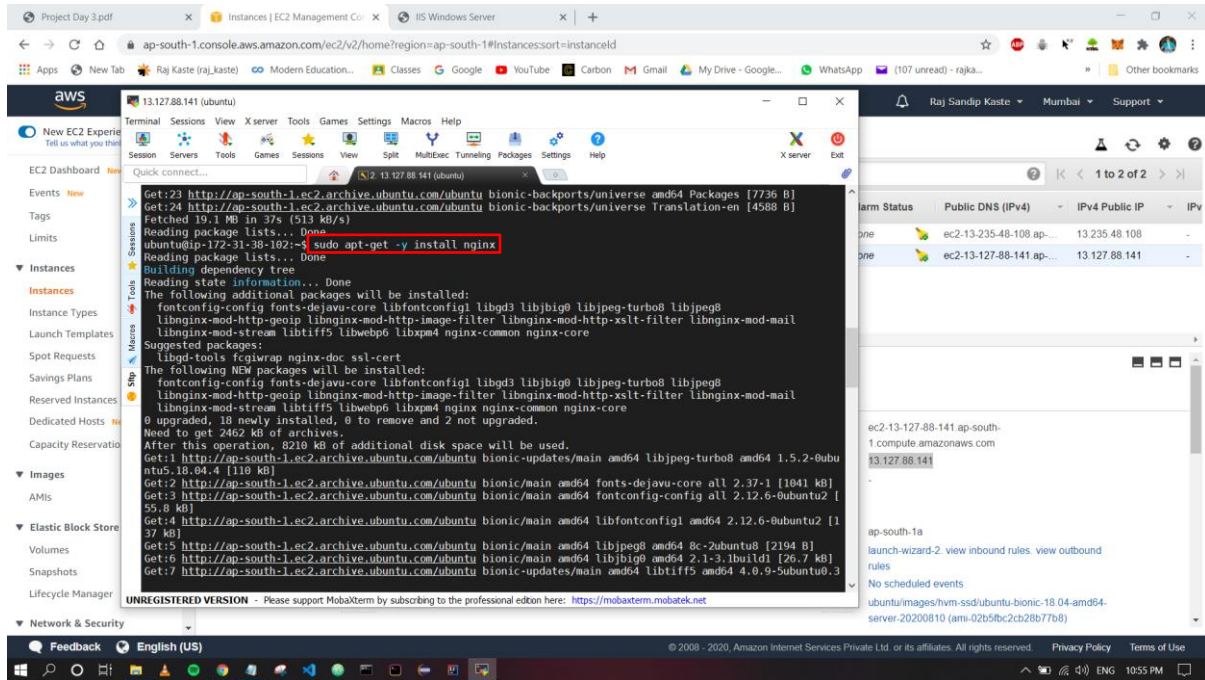
Step 14: Select SSH and give it a specific username -> Paste the Public IP Address generated after Ubuntu instance creation from Step 11 in Remote host and upload your key pair .pem file from Step 9 in Advanced SSH Settings -> click OK.



Step 15: After clicking OK an Ubuntu Bash will appear in that run the following two commands given below one at a time:

```
sudo apt-get -y update
sudo apt-get -y install nginx
```

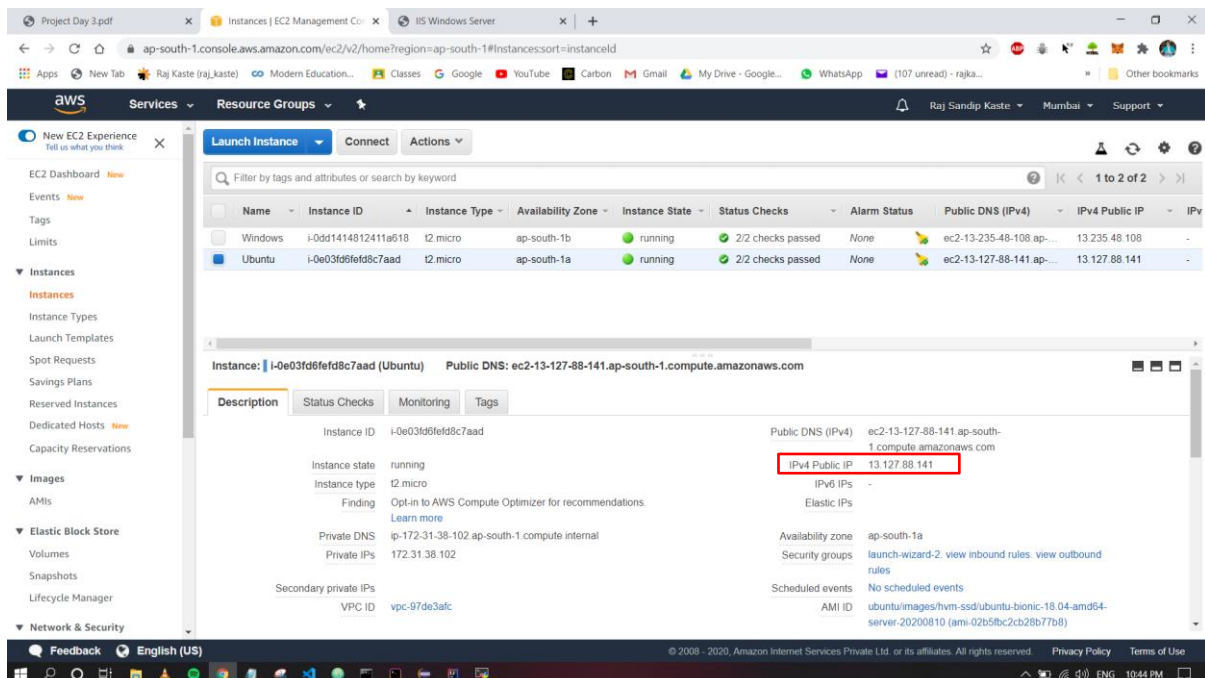




These commands will install **nginx web server**.

Step 16: After all the nginx packages are installed. Copy the Public IP Address of the Ubuntu instance.

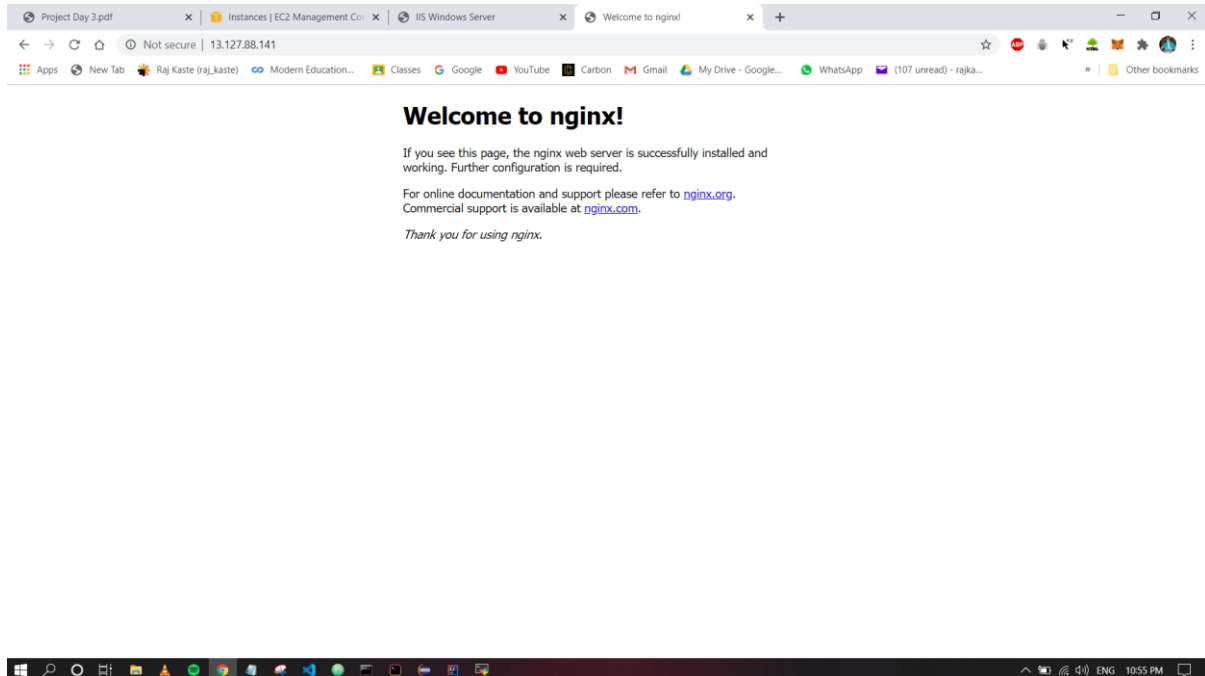
Here it is: **13.127.88.141**



Step 17: After installation webserver will be deployed and can be viewed by public IP address available on the EC2 instances list. -> Copy the IP Address and paste and open it in the Browser.

Step 18: Webserver Deployed and Viewed.

With the Public IP address: 13.127.88.141



TASK DONE.

MAKE SURE THAT THE INSTANCES CREATED ARE TERMINATED AFTER THE USAGE TO AVOID UNNECESSARY CHARGES.