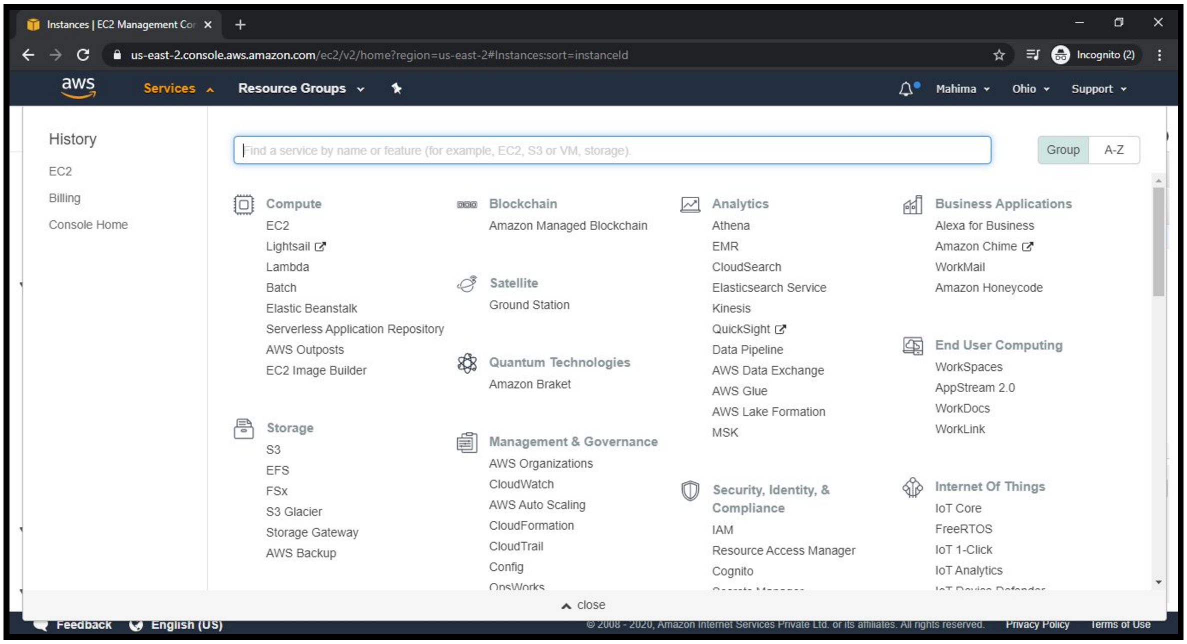
PROJECT - II

DEPLOYING A WEB SERVER ON UBUNTU INSTANCE

TASK - I: Create an Ubuntu Instance using AMI - Ubuntu Server 18.04 LTS (HVM)

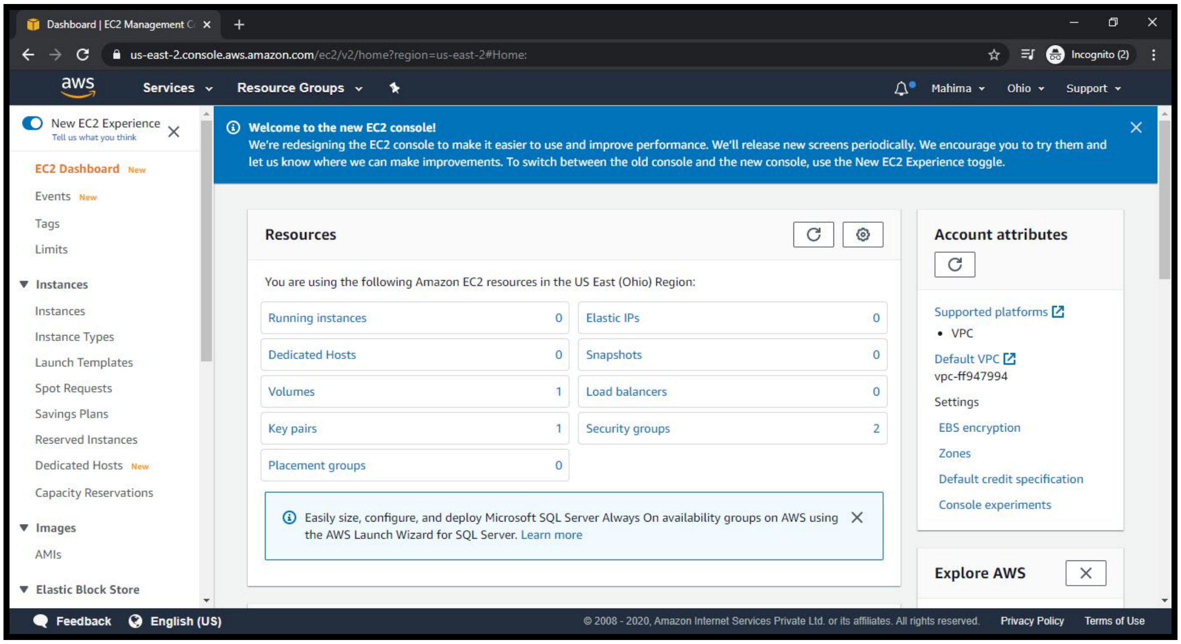
Step - 1:

Go to the AWS Management Console, click Services Tab and select EC2 from Compute service.



Step - 2:

On EC2 Dashboard, click on Running Instances displayed under the Resources Header.



Welcome to the new EC2 console!
We're redesigning the EC2 console to make it easier to use and improve performance. We'll release new screens periodically. We encourage you to try them and let us know where we can make improvements. To switch between the old console and the new console, use the New EC2 Experience toggle.

Resources

You are using the following Amazon EC2 resources in the US East (Ohio) Region:

Running instances	0	Elastic IPs	0
Dedicated Hosts	0	Snapshots	0
Volumes	1	Load balancers	0
Key pairs	1	Security groups	2
Placement groups	0		

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more

Account attributes

Supported platforms
- VPC

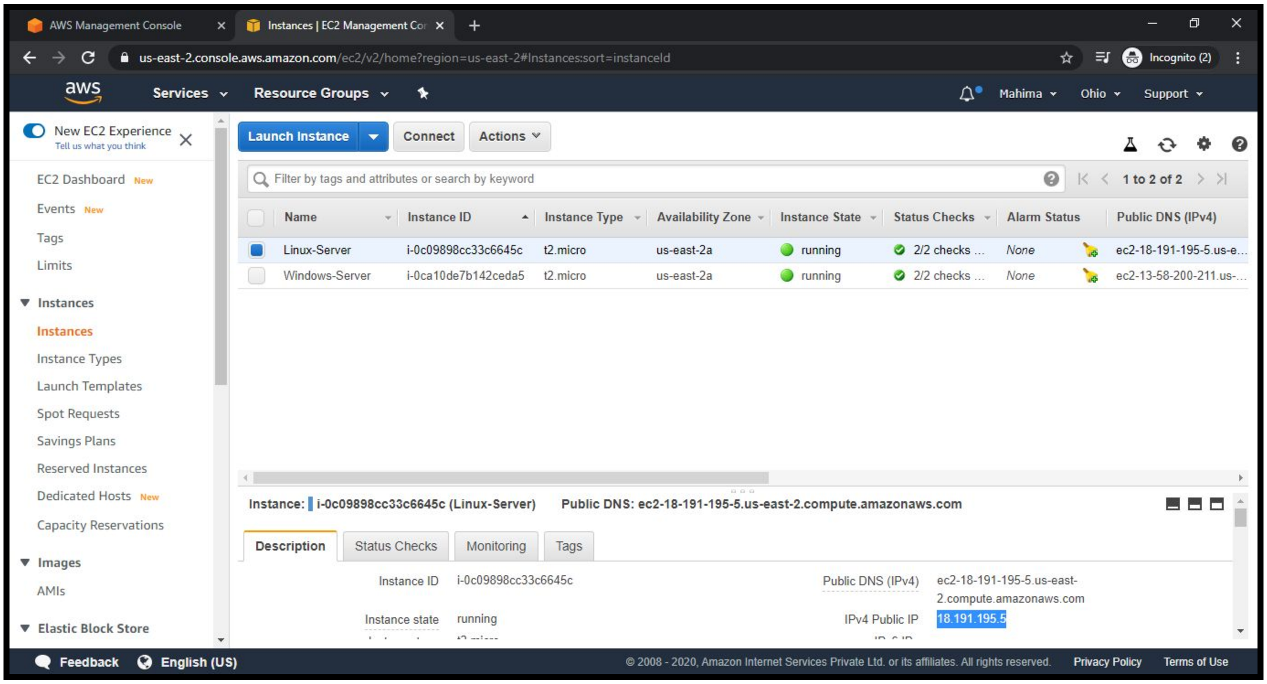
Default VPC
vpc-ff947994

Settings
EBS encryption
Zones
Default credit specification
Console experiments

Explore AWS

Step - 3:

Now, click on Launch Instance to create a new Virtual Machine i.e. Ubuntu Server in our case.



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Linux-Server	i-0c09898cc33c6645c	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-18-191-195-5.us-e...
Windows-Server	i-0ca10de7b142ceda5	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-13-58-200-211.us-...

Instance: i-0c09898cc33c6645c (Linux-Server) Public DNS: ec2-18-191-195-5.us-east-2.compute.amazonaws.com

Description | Status Checks | Monitoring | Tags

Instance ID i-0c09898cc33c6645c

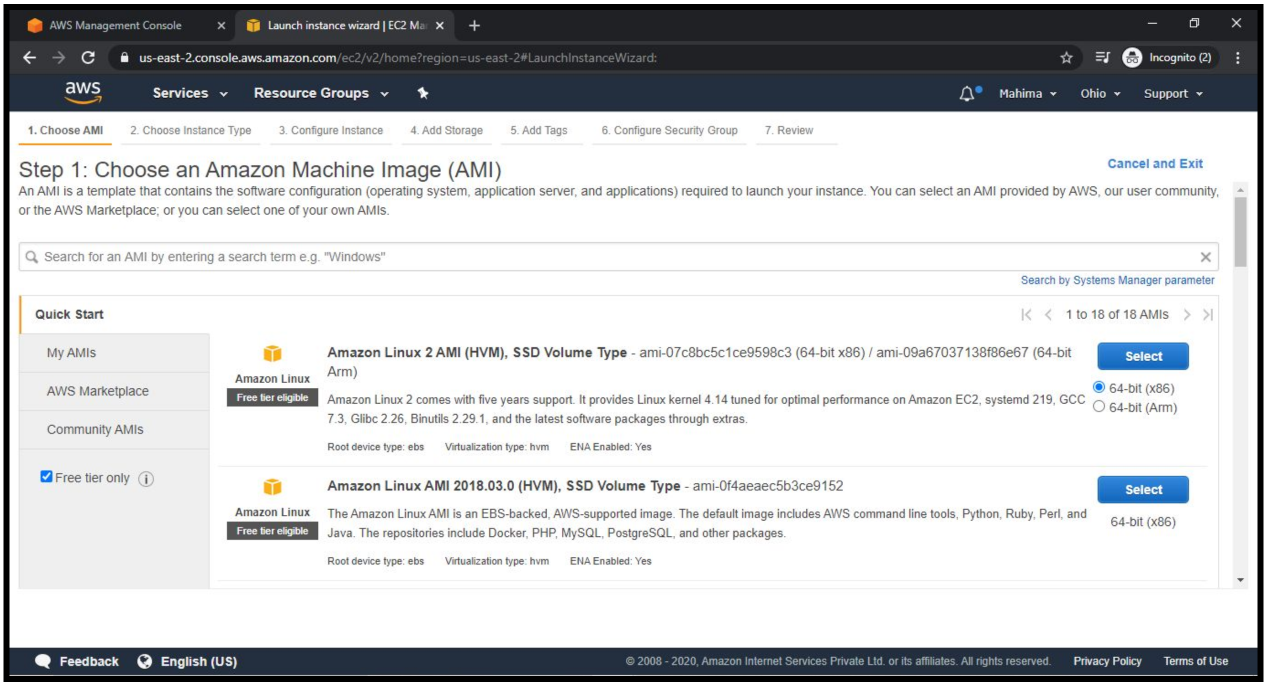
Public DNS (IPv4) ec2-18-191-195-5.us-east-2.compute.amazonaws.com

Instance state running

IPv4 Public IP 18.191.195.5

Step - 4:

First step in launching a machine is “Choose an Amazon Machine Image (AMI)” from a plethora of pre-existing images. From the left aligned menu bar, enable the “Free tier only” checkbox to list only free tier eligible resources available from AMI and avoid any additional charges from your account.



Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-07c8bc5c1ce9598c3 (64-bit x86) / ami-09a67037138f86e67 (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

● 64-bit (x86)
○ 64-bit (Arm)

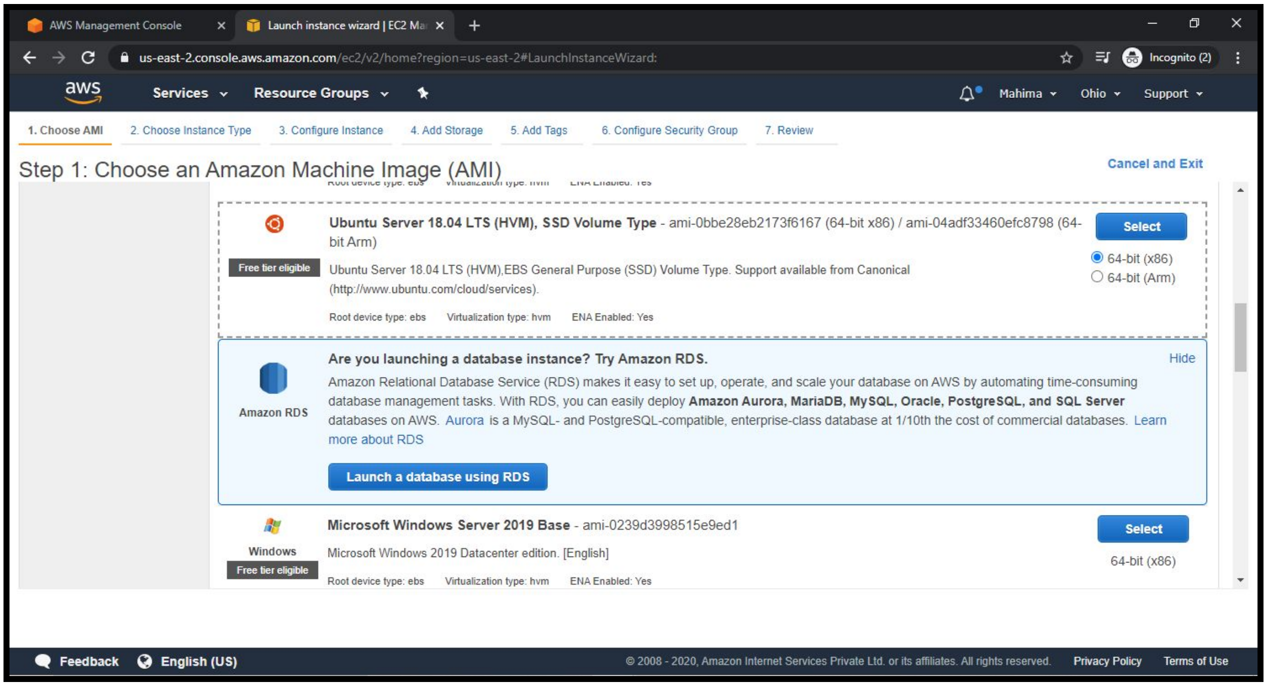
Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0f4aeaec5b3ce9152

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

64-bit (x86)

Step - 5:
Select “Ubuntu Server 18.04 LTS (HVM), SSD Volume Type” eligible under the free-tier. Click “Next: Choose Instance Type”.



AWS Management Console | Launch instance wizard | EC2 Ma

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:

Incognito (2)

aws Services Resource Groups Mahima Ohio Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Add Tags | 6. Configure Security Group | 7. Review

Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

Free tier eligible

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0bbe28eb2173f6167 (64-bit x86) / ami-04adf33460efc8798 (64-bit Arm)

Ubuntu Server 18.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Select

● 64-bit (x86)
○ 64-bit (Arm)

Amazon RDS

Are you launching a database instance? Try Amazon RDS.

Hide

Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale your database on AWS by automating time-consuming database management tasks. With RDS, you can easily deploy **Amazon Aurora, MariaDB, MySQL, Oracle, PostgreSQL, and SQL Server** databases on AWS. Aurora is a MySQL- and PostgreSQL-compatible, enterprise-class database at 1/10th the cost of commercial databases. Learn more about RDS

Launch a database using RDS

Windows
Free tier eligible

Microsoft Windows Server 2019 Base - ami-0239d3998515e9ed1

Microsoft Windows 2019 Datacenter edition. [English]

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

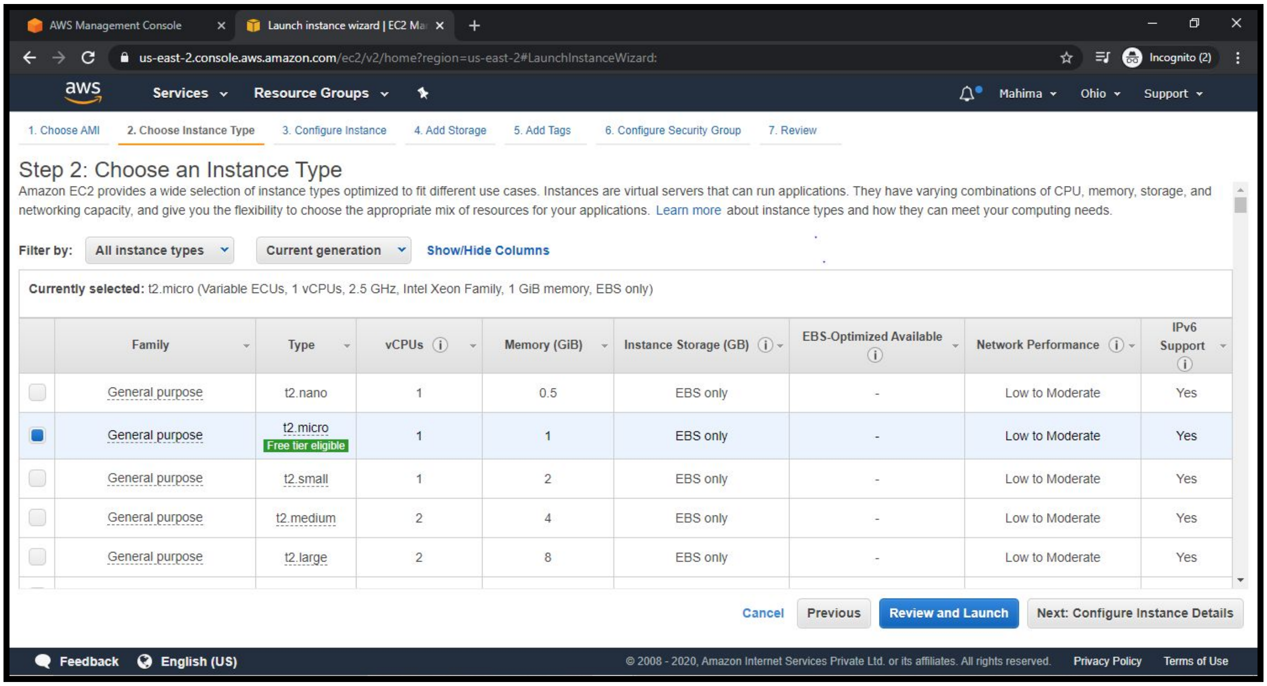
Select

64-bit (x86)

Feedback English (US)

© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Step - 6:
Second step is to “Choose an Instance Type” which has varying combinations of CPU, memory, storage, and networking capacity. We are selecting “General Purpose t2 micro” instance type eligible under the free-tier. Click “Next: Configure Instance Details”.



AWS Management Console | Launch instance wizard | EC2 Ma

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:

Incognito (2)

aws Services Resource Groups Mahima Ohio Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Add Tags | 6. Configure Security Group | 7. Review

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)

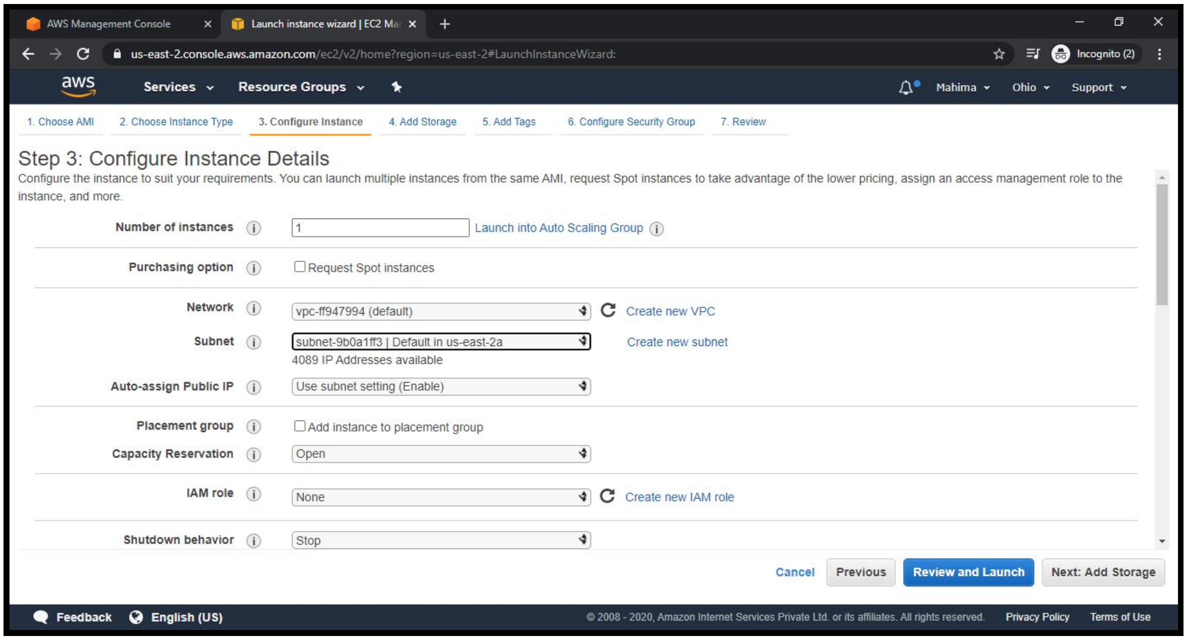
	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
□	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
☑	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
□	General purpose	t2.small	1	2	EBS only	-	Low to 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

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

Feedback English (US)

© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Step - 7:
Third step is “Configure Instance Details” i.e.,
Number of Instances: 1
Network: default (Select a default VPC as of now)
Subnet: us-east-2a (Or any default subnet can be chosen)
Auto-assign Public IP: Use subnet setting (Enable)
Rest leave all the parameters as default and click on the “i” icon corresponding to those parameters to understand the brief of each parameter.



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: 1 — Launch into Auto Scaling Group

Purchasing option: □ Request Spot instances

Network: vpc-ff947994 (default) — Create new VPC

Subnet: subnet-9b0a1ff3 | Default in us-east-2a — Create new subnet
4089 IP Addresses available

Auto-assign Public IP: Use subnet setting (Enable)

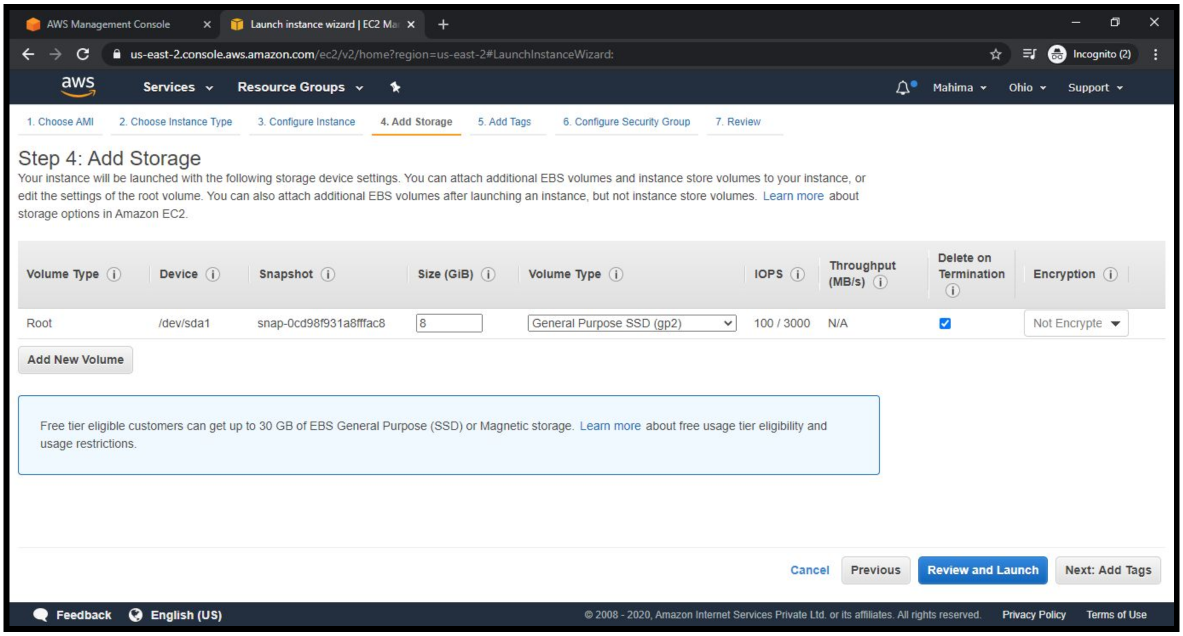
Placement group: □ Add instance to placement group

Capacity Reservation: Open

IAM role: None — Create new IAM role

Shutdown behavior: Stop

Step - 8:
Fourth step is by default, the size of the root volume for Ubuntu Instance would be “8 GIB” which can be kept as it is and then click “Next: Add Tags” to proceed to the next step.



Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-0cd98f931a8fffac8	8	General Purpose SSD (gp2)	100 / 3000	N/A	☑	Not Encrypte

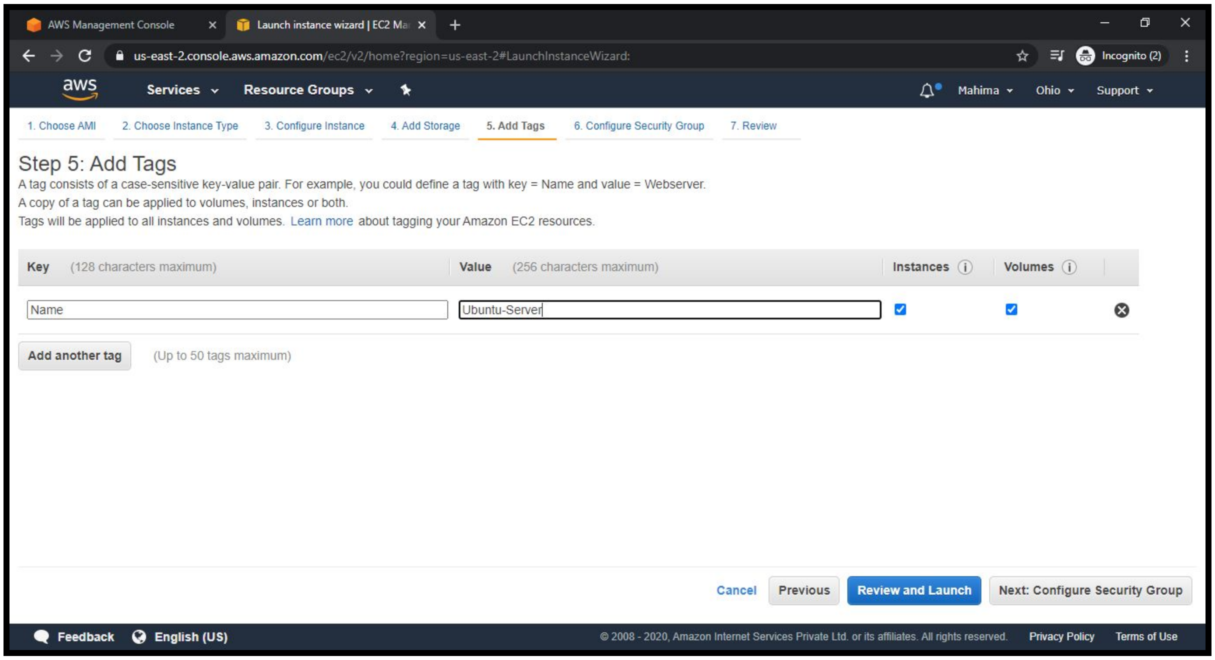
Add New Volume

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.

Cancel
Previous
Review and Launch
Next: Add Tags
Feedback
English (US)
© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use

Step - 9:

Fifth step is adding a tag which is mainly used for us to filter out the required instance from a list of n number of Instances created i.e. giving an apt name to the VM as per our use case. Give a key-value pair to our VM i.e. Key - Name and Value - Ubuntu-Server. Then click “Next: Configure Security Group” to proceed to the next step.



Step 5: Add Tags

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.

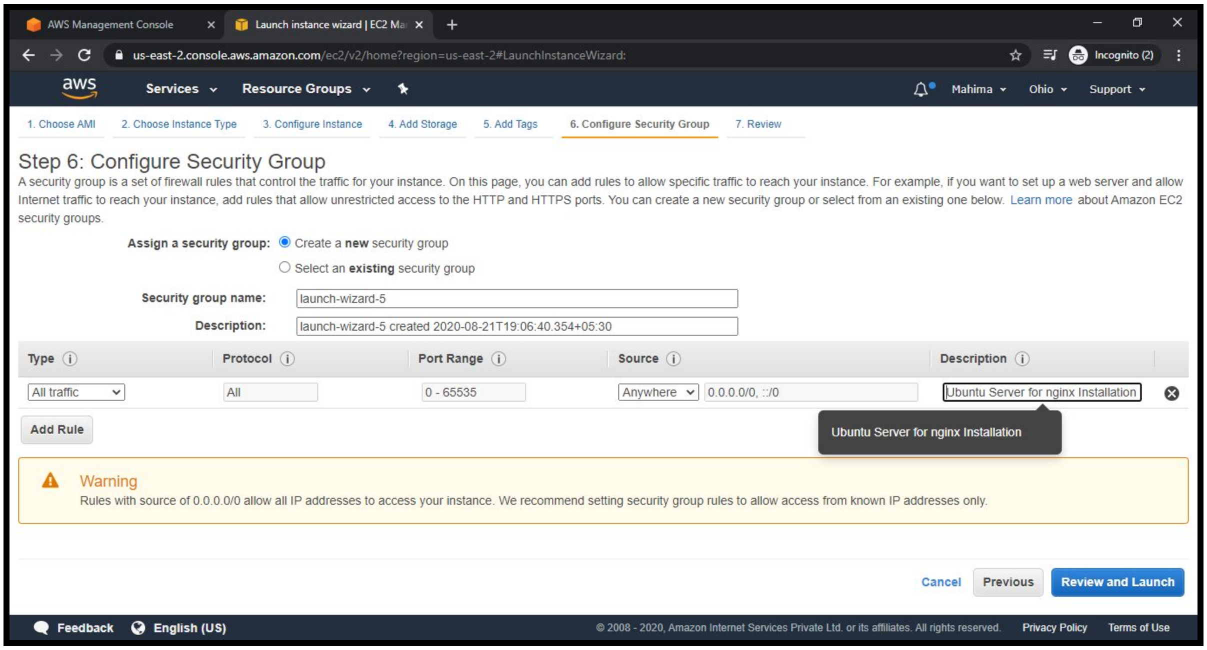
Key (128 characters maximum)	Value (256 characters maximum)	Instances	Volumes
Name	Ubuntu-Server	☑	☑

Add another tag (Up to 50 tags maximum)

Cancel
Previous
Review and Launch
Next: Configure Security Group
Feedback
English (US)
© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use

Step - 10:

Sixth step is “Configure Security Group”, we’ll create a new security group with “All traffic” enabled and source as “Anywhere” that means our VM can be accessed from anywhere and anyone without any specific restrictions. Also give a Description as “Ubuntu Server for nginx Installation”. Then click “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: launch-wizard-5

Description: launch-wizard-5 created 2020-08-21T19:06:40.354+05:30

Type	Protocol	Port Range	Source	Description
All traffic	All	0 - 65535	Anywhere 0.0.0.0/0, ::/0	Ubuntu Server for nginx Installation

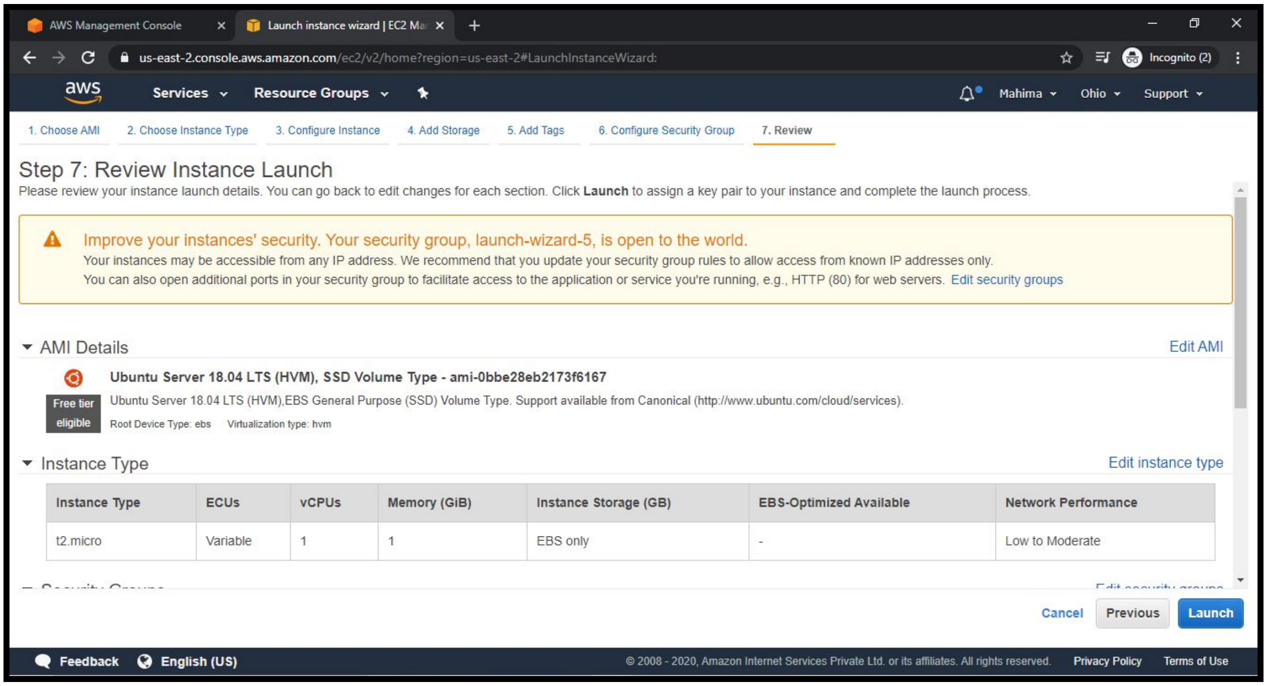
Add Rule

Ubuntu Server for nginx Installation

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
Feedback
English (US)
© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use

Step - 11:
After reviewing all the configurations selected and given for the VM, we can proceed to the Launch step and click the “Launch” button at the bottom right corner.



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-5, 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

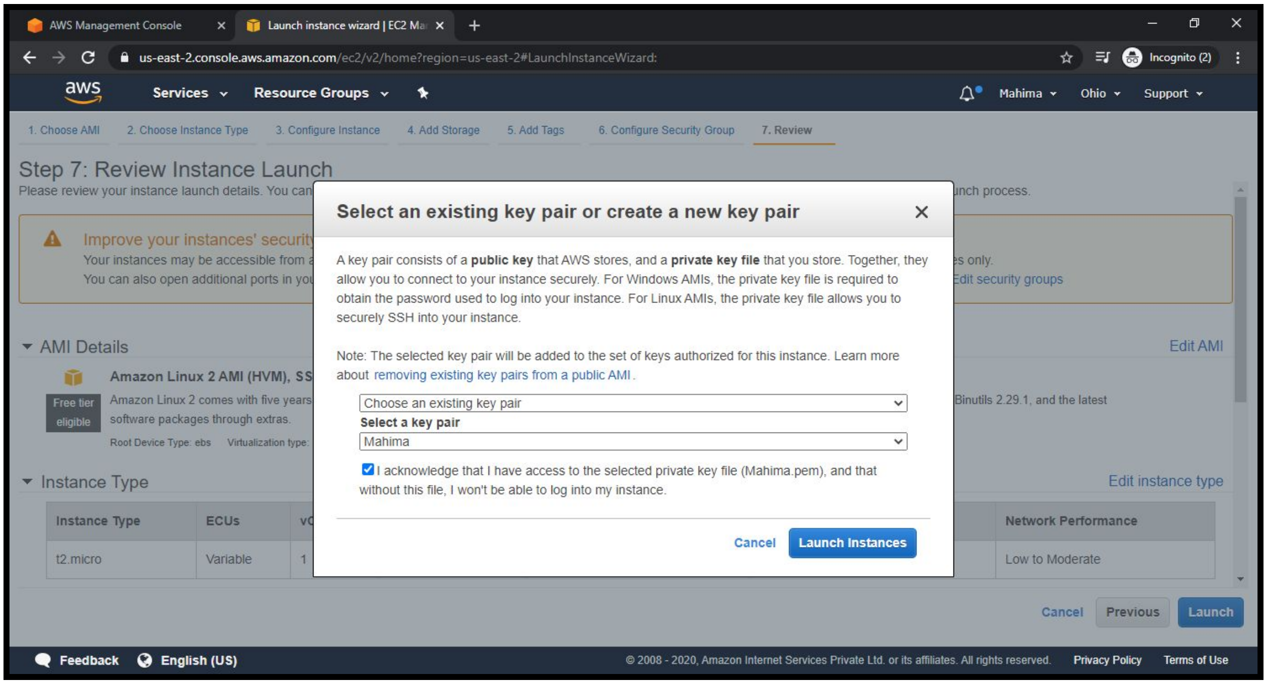
AMI Details

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0bbe28eb2173f6167
Free tier eligible
Ubuntu Server 18.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).
Root Device Type: ebs Virtualization type: hvm

Instance Type

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

Step - 12:
Now, we have to “Select an existing key pair or create a new key pair” as a last step in the process of launching an Instance on AWS. From the dropdown, select “Choose an existing key pair” as we already have it in our system from our previous launch of a Windows Instance. Enable the acknowledgment checkbox and click on “Launch Instance”.



Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI .

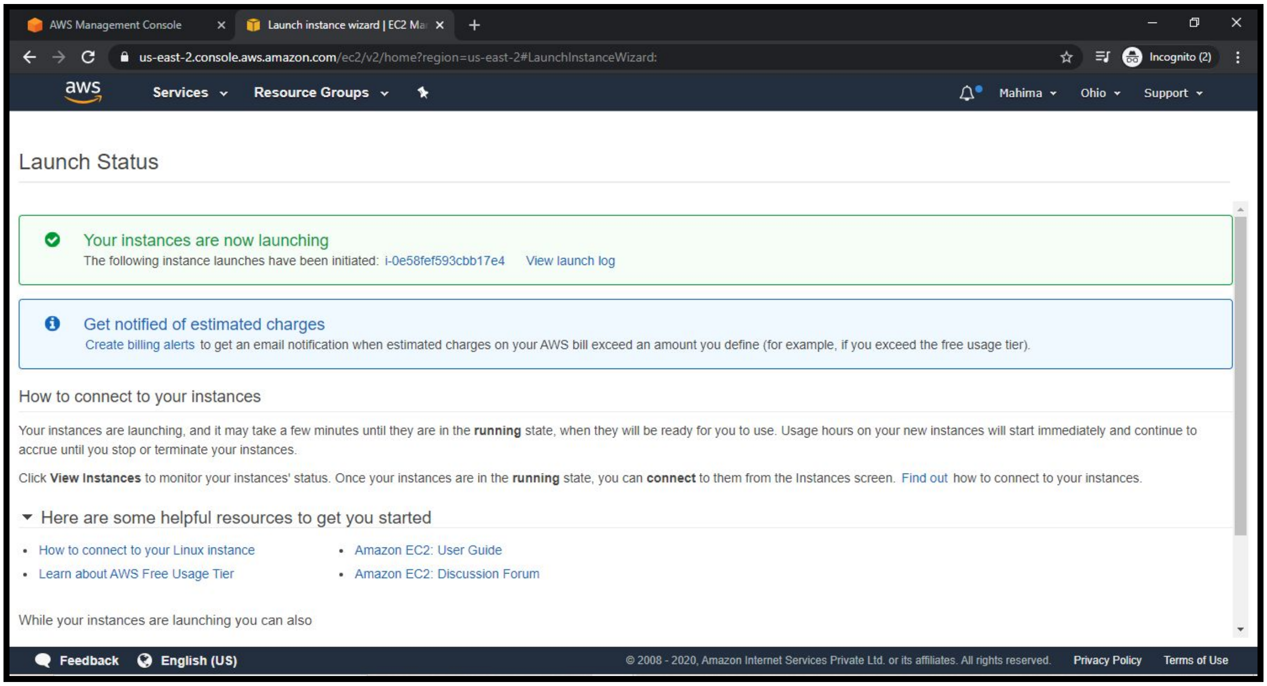
Choose an existing key pair

Select a key pair

Mahima

☑ I acknowledge that I have access to the selected private key file (Mahima.pem), and that without this file, I won't be able to log into my instance.

Step - 13:
Instance has started launching now, click on Instance ID just beside View launch log displayed under Launch Status Header.


AWS Management Console
Launch instance wizard | EC2 Ma
us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#LaunchInstanceWizard:
Incognito (2)
aws
Services
Resource Groups
Mahima
Ohio
Support
Feedback
English (US)
© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use

Launch Status

Your instances are now launching
The following instance launches have been initiated: i-0e58fef593cbb17e4 View launch log

Get notified of estimated charges
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

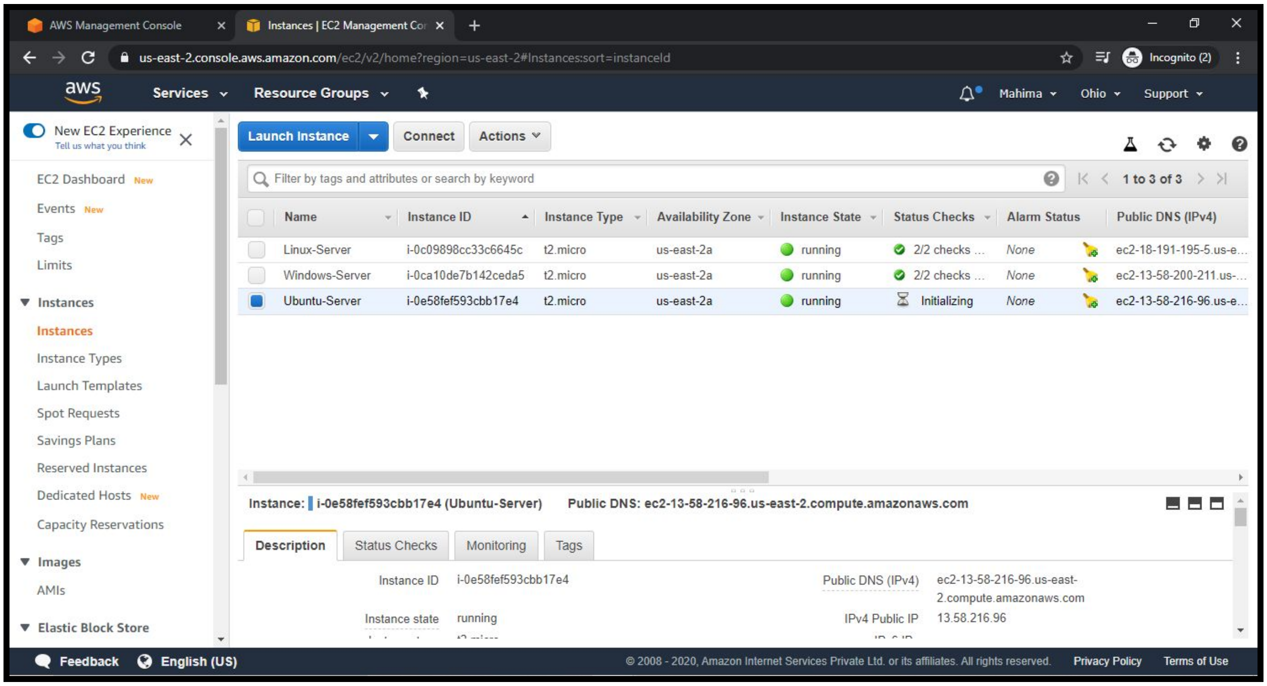
Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. Find out how to connect to your instances.

Here are some helpful resources to get you started

- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

While your instances are launching you can also

Step - 14:
Observe Status Checks would be “Initializing” at the beginning for the corresponding Instance ID, wait till the Status Checks becomes “2/2 checks”.

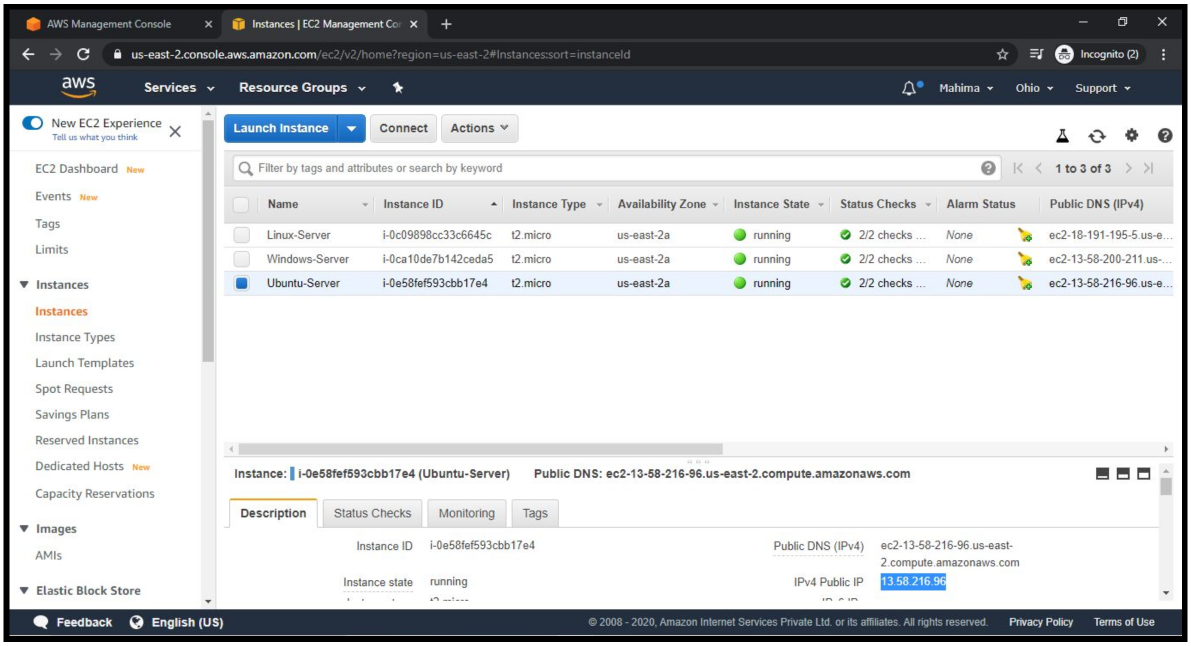


Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Linux-Server	i-0c09898cc33c6645c	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-18-191-195-5.us-e...
Windows-Server	i-0ca10de7b142ceda5	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-13-58-200-211.us-...
Ubuntu-Server	i-0e58fef593cbb17e4	t2.micro	us-east-2a	running	Initializing	None	ec2-13-58-216-96.us-e...

Instance: i-0e58fef593cbb17e4 (Ubuntu-Server) Public DNS: ec2-13-58-216-96.us-east-2.compute.amazonaws.com

Instance ID i-0e58fef593cbb17e4
Instance state running
Public DNS (IPv4) ec2-13-58-216-96.us-east-2.compute.amazonaws.com
IPv4 Public IP 13.58.216.96

Step - 15:
We observe 2/2 status checks on the console, hence we are good to go and connect to the respective VM. Also observe the IPv4 Public IP under the Description Header on the screenshot below for corresponding to Ubuntu Instance created.



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Linux-Server	i-0c09898cc33c6645c	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-18-191-195-5.us-e...
Windows-Server	i-0ca10de7b142ceda5	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-13-58-200-211.us-...
Ubuntu-Server	i-0e58fef593cbb17e4	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-13-58-216-96.us-e...

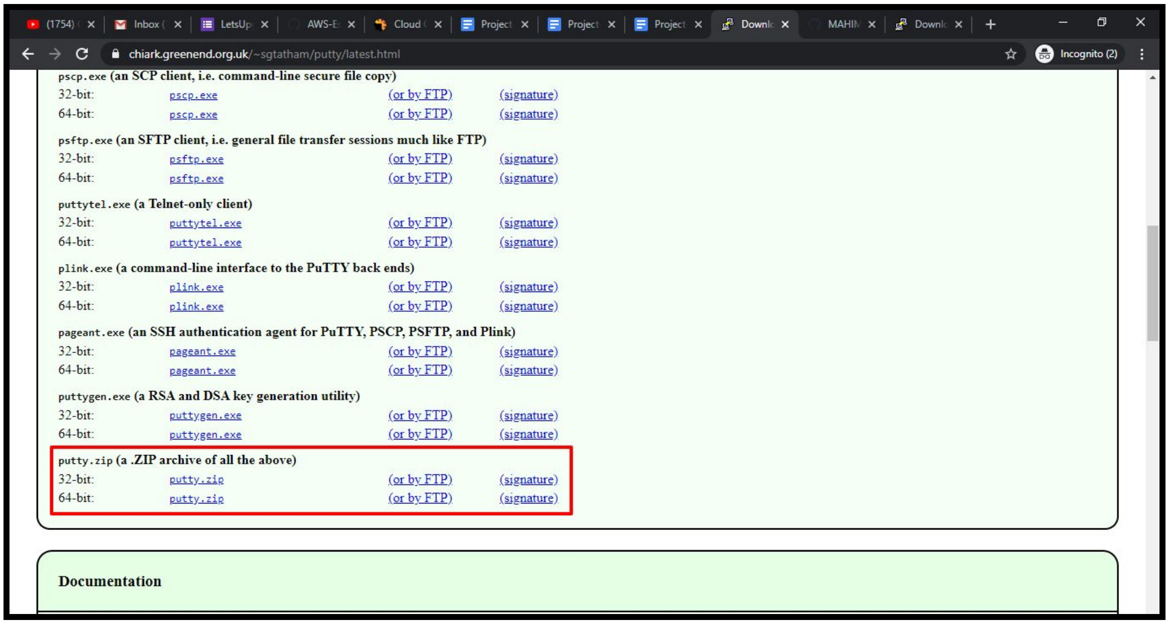
Instance: i-0e58fef593cbb17e4 (Ubuntu-Server)   Public DNS: ec2-13-58-216-96.us-east-2.compute.amazonaws.com

Description | Status Checks | Monitoring | Tags

Instance ID	i-0e58fef593cbb17e4	Public DNS (IPv4)	ec2-13-58-216-96.us-east-2.compute.amazonaws.com
Instance state	running	IPv4 Public IP	13.58.216.96

TASK - II: Download and Install MobaXterm Portable Edition or Putty

Step - 16:
For downloading the tools for ssh connection to the Servers:
MobaXterm Portable Edition: https://mobaxterm.mobatek.net/download-home-edition.html
Putty and Puttygen Tool: https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html
For Putty and Puttygen, download the zip file directly "**putty.zip (a .ZIP archive of all the above)".**



pscp.exe (an SCP client, i.e. command-line secure file copy)

32-bit:	pscp.exe	(or by FTP)	(signature)
64-bit:	pscp.exe	(or by FTP)	(signature)

psftp.exe (an SFTP client, i.e. general file transfer sessions much like FTP)

32-bit:	psftp.exe	(or by FTP)	(signature)
64-bit:	psftp.exe	(or by FTP)	(signature)

puttytel.exe (a Telnet-only client)

32-bit:	puttytel.exe	(or by FTP)	(signature)
64-bit:	puttytel.exe	(or by FTP)	(signature)

plink.exe (a command-line interface to the PuTTY back ends)

32-bit:	plink.exe	(or by FTP)	(signature)
64-bit:	plink.exe	(or by FTP)	(signature)

pageant.exe (an SSH authentication agent for PuTTY, PSCP, PSFTP, and Plink)

32-bit:	pageant.exe	(or by FTP)	(signature)
64-bit:	pageant.exe	(or by FTP)	(signature)

puttygen.exe (a RSA and DSA key generation utility)

32-bit:	puttygen.exe	(or by FTP)	(signature)
64-bit:	puttygen.exe	(or by FTP)	(signature)

putty.zip (a .ZIP archive of all the above)

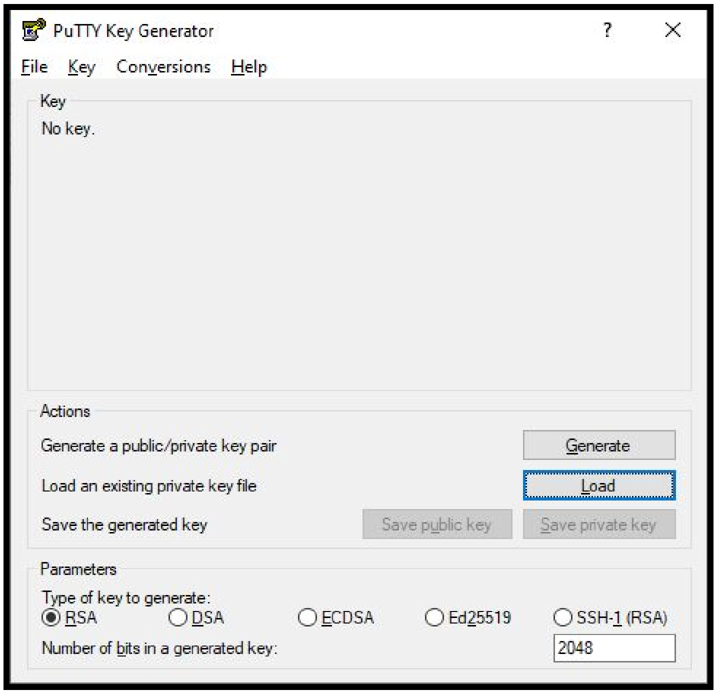
32-bit:	putty.zip	(or by FTP)	(signature)
64-bit:	putty.zip	(or by FTP)	(signature)

Documentation

TASK - III: Launch the Ubuntu Instance using SSH (Username as “ubuntu”)

Step - 17:

Open the Puttygen tool and click on the load button and browse the .pem file which was downloaded at the time of launching an Instance.



Key

No key.

Actions

Generate a public/private key pair

Load an existing private key file

Save the generated key

Parameters

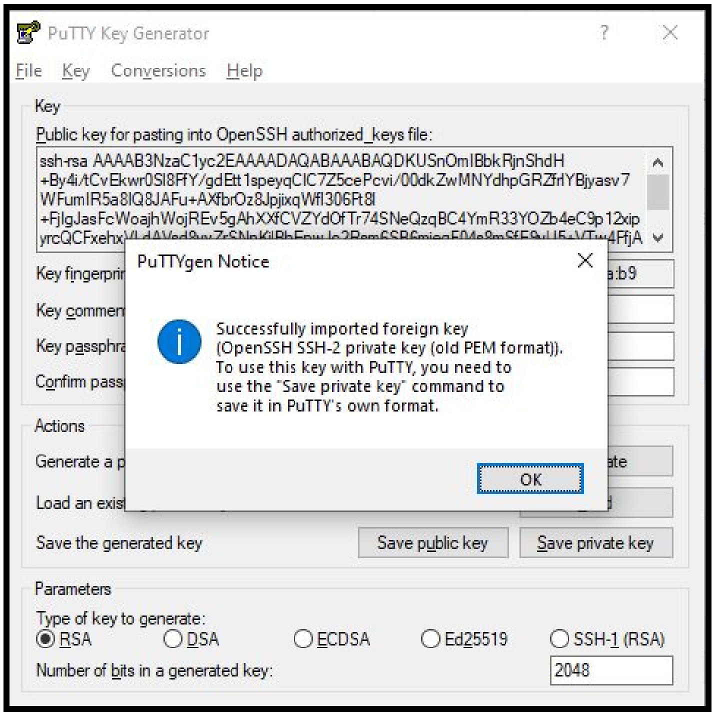
Type of key to generate:

● RSA ○ DSA ○ ECDSA ○ Ed25519 ○ SSH-1 (RSA)

Number of bits in a generated key: 2048

Step - 18:

Successfully imported foreign key popup messages should be displayed.



Key

Public key for pasting into OpenSSH authorized_keys file:

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDKUSnOmIBbkRjnShdH
+By4i/tCvEkwr0SI8FfY/gdEtt1speyqCIC7Z5cePcvi/00dkZwMNYdhpGRZfrlYBjyasv7
WFumIR5a8IQ8JAFu+AXfbrOz8JpjixqWfI306Ft8I
+FjlgJasFcWoajhWojREv5gAhXXfCVZYdOfTr74SNeQzqBC4YmR33YOZb4eC9p12xip
yrcQCFxehx
```

Key fingerpri … a:b9

Key commen

Key passphra

Confirm pass

Successfully imported foreign key (OpenSSH SSH-2 private key (old PEM format)). To use this key with PuTTY, you need to use the "Save private key" command to save it in PuTTY's own format.

Actions

Generate a p

Load an exis

Save the generated key

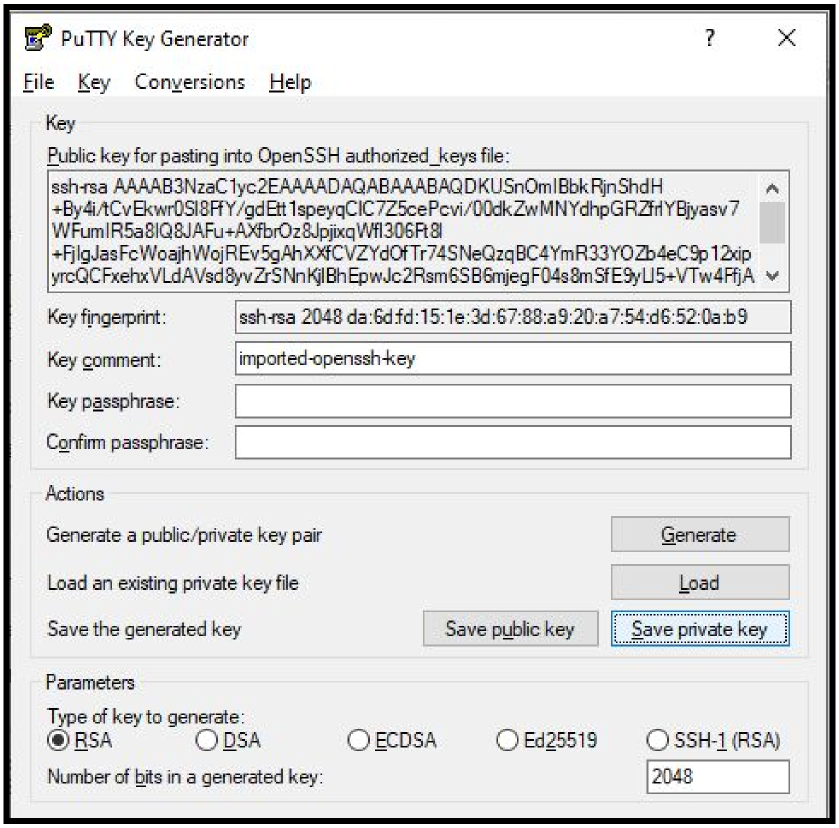
Parameters

Type of key to generate:

● RSA ○ DSA ○ ECDSA ○ Ed25519 ○ SSH-1 (RSA)

Number of bits in a generated key: 2048

Step - 19:
Save the private key with an extension *.ppk at a safe location in your system.



Public key for pasting into OpenSSH authorized_keys file:

```
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQDKUSnOmIBbkRjnShdH
+By4i/tCvEkwr0SI8PfY/gdEtt1speyqCIC7Z5cePcvi/00dkZwMNYdhpGRZfrlYBjyasv7
WFumIR5a8IQ8JAFu+AXfbrOz8JpjixqWfI306Rt8l
+FjlgJasFcWoajhWojREv5gAhXXfCVZYdOfTr74SNeQzqBC4YmR33YOZb4eC9p12xip
yrcQCFxehxVLdAVsd8yvZrSNnKjlBhEpwJc2Rsm6SB6mjegF04s8mSfE9yLl5+VTw4FfjA
```

Key fingerprint: ssh-rsa 2048 da:6d:fd:15:1e:3d:67:88:a9:20:a7:54:d6:52:0a:b9

Key comment: imported-openssh-key

Key passphrase:

Confirm passphrase:

Generate a public/private key pair — Generate

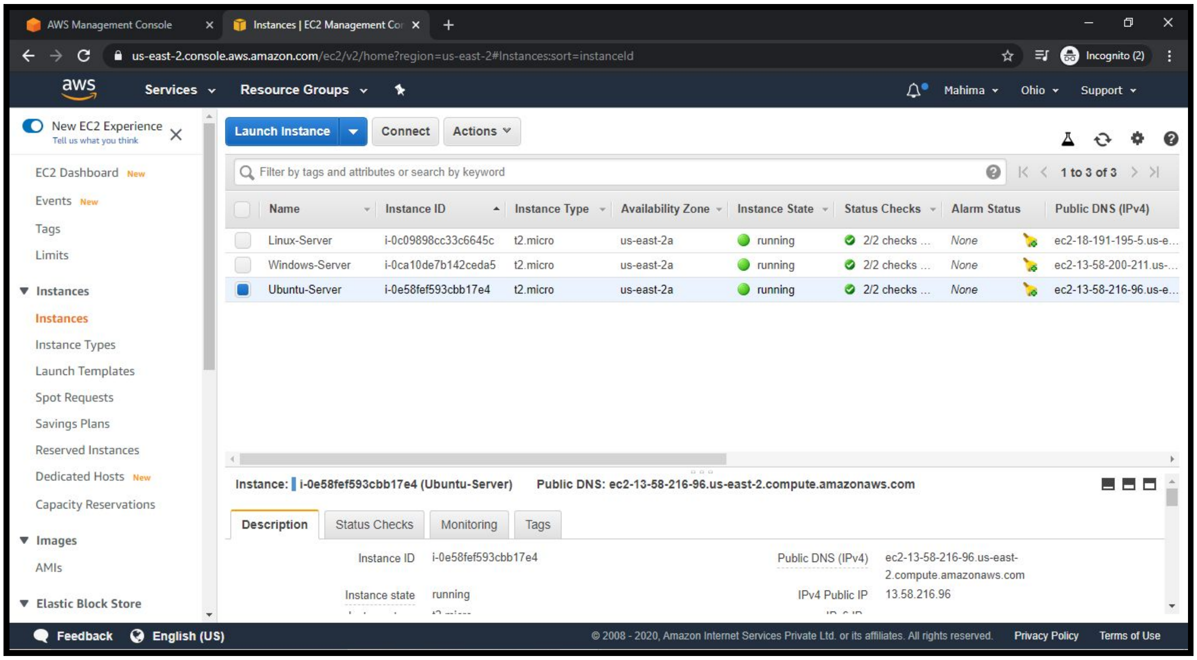
Load an existing private key file — Load

Save the generated key — Save public key — Save private key

Type of key to generate:
● RSA ○ DSA ○ ECDSA ○ Ed25519 ○ SSH-1 (RSA)

Number of bits in a generated key: 2048

Step - 20:
Copy the IPv4 Public IP corresponding to Ubuntu Server from the Description Tab on AWS Management Console.

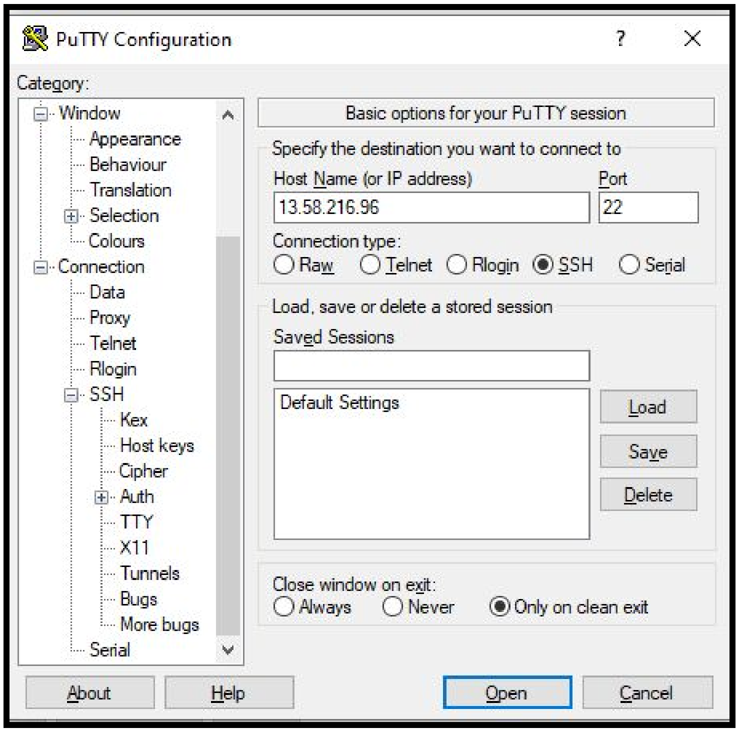


	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
□	Linux-Server	i-0c09898cc33c6645c	t2.micro	us-east-2a	● running	✓ 2/2 checks ...	None	ec2-18-191-195-5.us-e...
□	Windows-Server	i-0ca10de7b142ceda5	t2.micro	us-east-2a	● running	✓ 2/2 checks ...	None	ec2-13-58-200-211.us-...
■	Ubuntu-Server	i-0e58fef593cbb17e4	t2.micro	us-east-2a	● running	✓ 2/2 checks ...	None	ec2-13-58-216-96.us-e...

Instance: i-0e58fef593cbb17e4 (Ubuntu-Server) Public DNS: ec2-13-58-216-96.us-east-2.compute.amazonaws.com

Instance ID	i-0e58fef593cbb17e4	Public DNS (IPv4)	ec2-13-58-216-96.us-east-2.compute.amazonaws.com
Instance state	running	IPv4 Public IP	13.58.216.96

Step - 21:
Open Putty.exe via Run as Administrator. Enter the IP Address or Host Name of the Ubuntu Server, Port as 22 and select a Connection type as “SSH”.



PuTTY Configuration

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address): 13.58.216.96

Port: 22

Connection type: ○ Raw ○ Telnet ○ Rlogin ● SSH ○ Serial

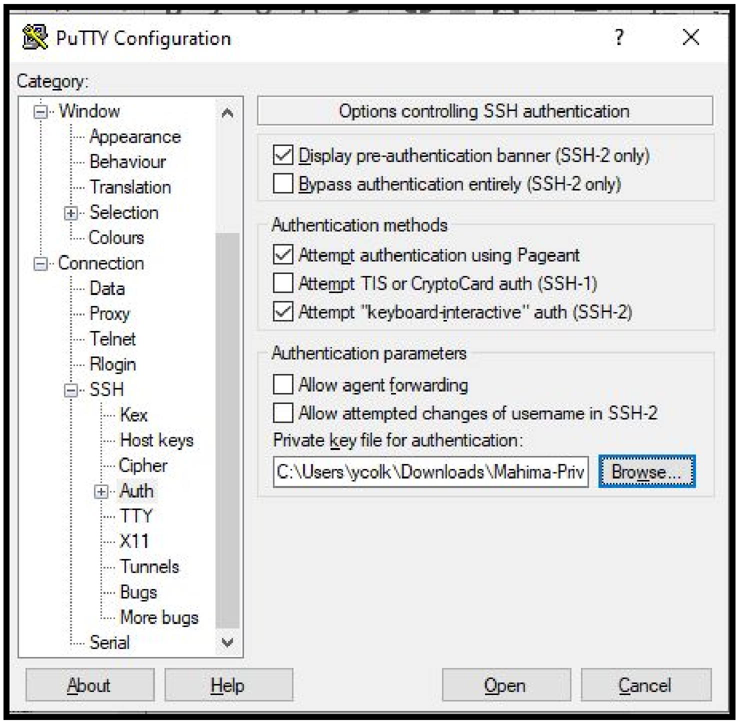
Load, save or delete a stored session

Saved Sessions

Default Settings

Close window on exit: ○ Always ○ Never ● Only on clean exit

Step - 22:
From the left navigation pane, expand Connection > SSH and then select Auth. Browse the Private Key File for authentication and then click Open.



PuTTY Configuration

Options controlling SSH authentication

☑ Display pre-authentication banner (SSH-2 only)
☐ Bypass authentication entirely (SSH-2 only)

Authentication methods

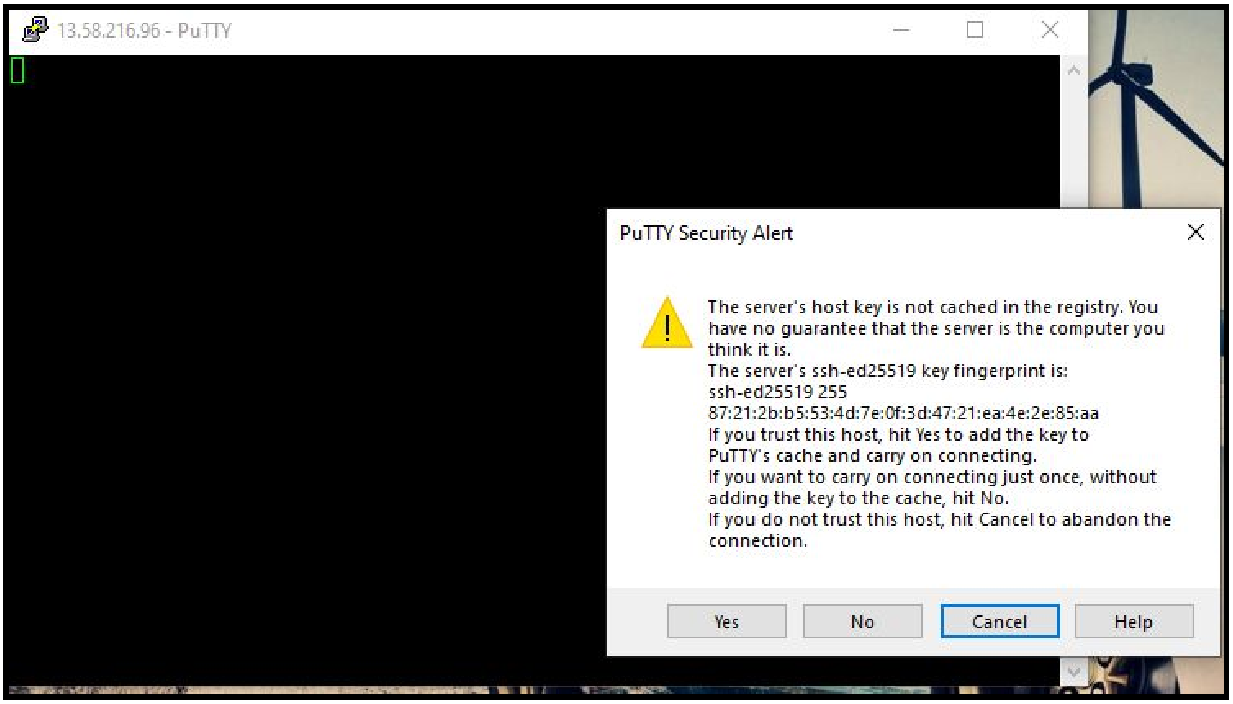
☑ Attempt authentication using Pageant
☐ Attempt TIS or CryptoCard auth (SSH-1)
☑ Attempt "keyboard-interactive" auth (SSH-2)

Authentication parameters

☐ Allow agent forwarding
☐ Allow attempted changes of username in SSH-2

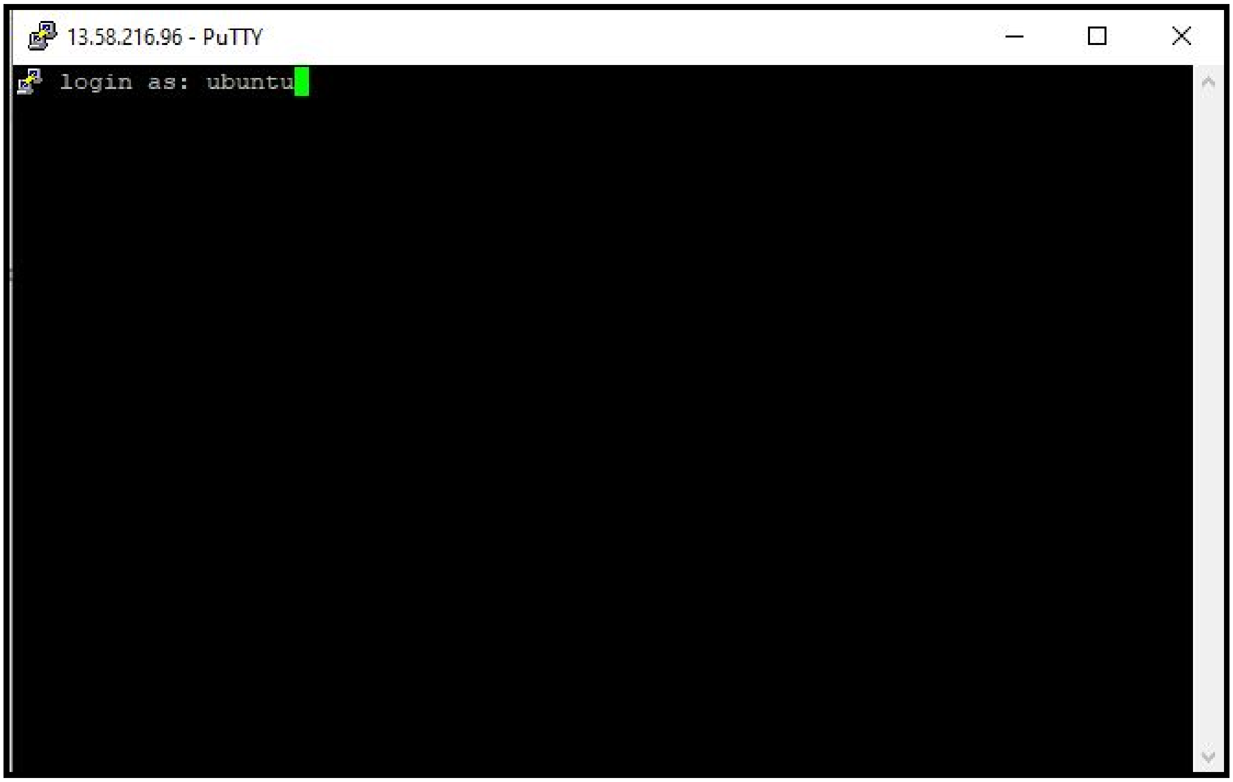
Private key file for authentication: C:\Users\ycolk\Downloads\Mahima-Priv

Step - 23:
Click “YES” to the PuTTy Security Alert to connect to the Ubuntu Instance.



The server's host key is not cached in the registry. You have no guarantee that the server is the computer you think it is.
The server's ssh-ed25519 key fingerprint is:
ssh-ed25519 255
87:21:2b:b5:53:4d:7e:0f:3d:47:21:ea:4e:2e:85:aa
If you trust this host, hit Yes to add the key to PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without adding the key to the cache, hit No.
If you do not trust this host, hit Cancel to abandon the connection.

Step - 24:
Enter “ubuntu” as a username while asked for login as in the process of connecting to the Ubuntu Instance.



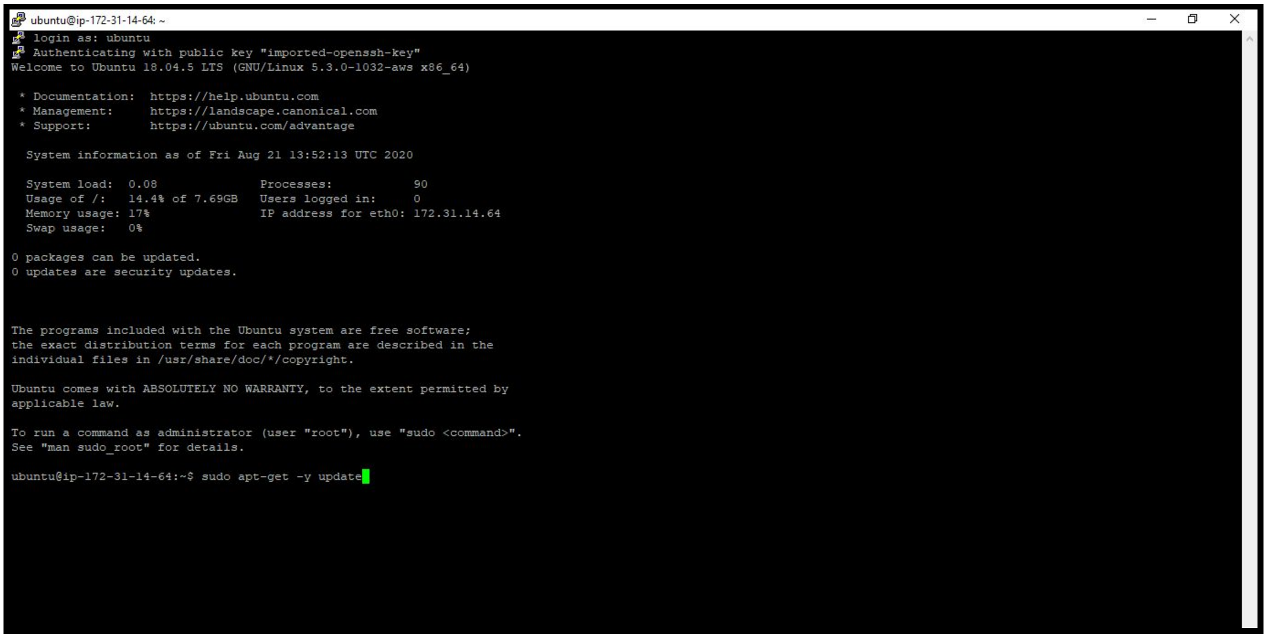
```
login as: ubuntu
```

TASK - IV: Install the nginx web server using Bash

Step - 25:

We are successfully able to connect to the Ubuntu Server, update the system configurations using the command:

sudo apt-get -y update



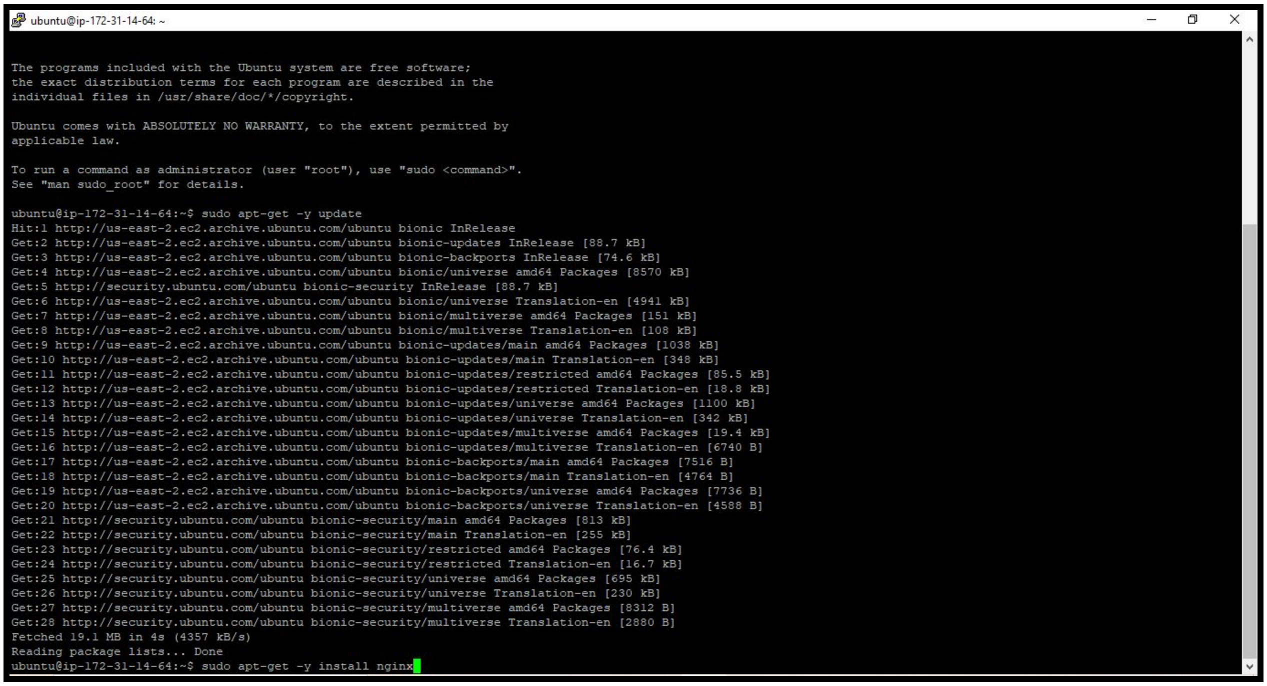
ubuntu@ip-172-31-14-64: ~

```
login as: ubuntu
Authenticating with public key "imported-openssh-key"
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.3.0-1032-aws x86_64)

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

  System information as of Fri Aug 21 13:52:13 UTC 2020

  System load:  0.08              Processes:           90
  Usage of /:   14.4% of 7.69GB   Users logged in:     0
  Memory usage: 17%               IP address for eth0: 172.31.14.64
  Swap usage:   0%

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-172-31-14-64:~$ sudo apt-get -y update
```

Step - 26:

After updating, use the command for installing the nginx web server on the machine:

sudo apt-get -y install nginx

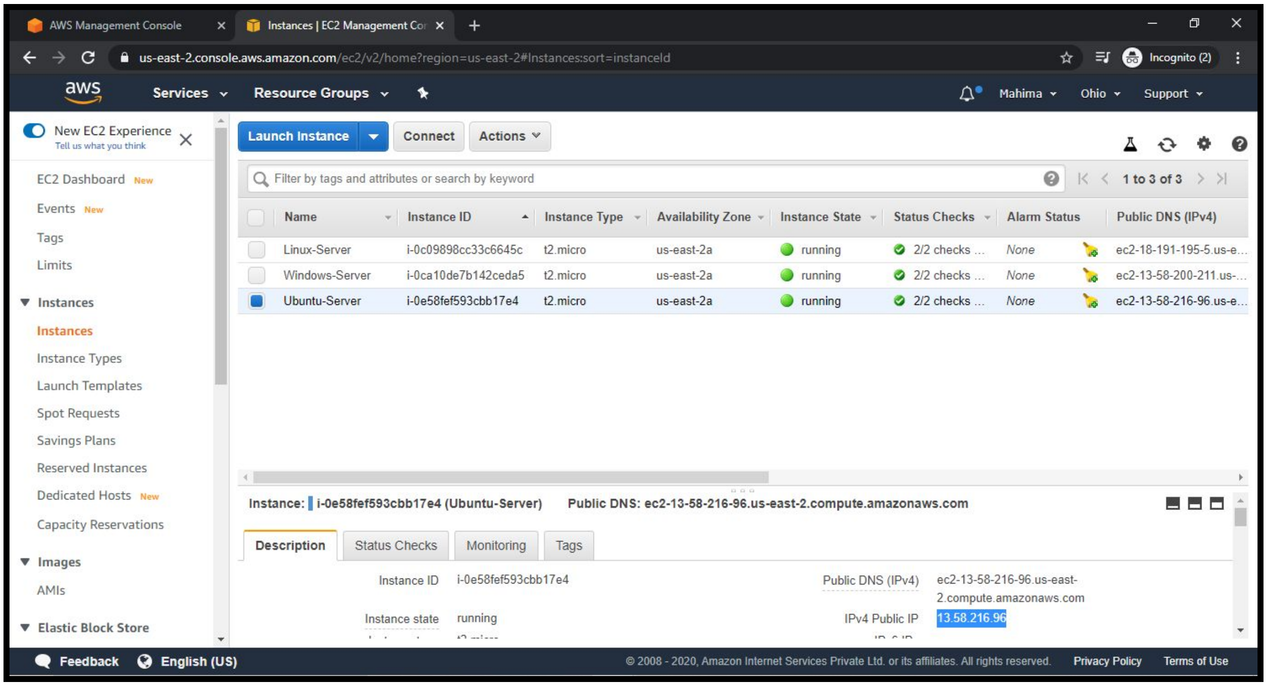


ubuntu@ip-172-31-14-64: ~

```
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-172-31-14-64:~$ sudo apt-get -y update
Hit:1 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic InRelease
Get:2 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB]
Get:3 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-backports InRelease [74.6 kB]
Get:4 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 Packages [8570 kB]
Get:5 http://security.ubuntu.com/ubuntu bionic-security InRelease [88.7 kB]
Get:6 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/universe Translation-en [4941 kB]
Get:7 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/multiverse amd64 Packages [151 kB]
Get:8 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic/multiverse Translation-en [108 kB]
Get:9 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main amd64 Packages [1038 kB]
Get:10 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/main Translation-en [348 kB]
Get:11 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/restricted amd64 Packages [85.5 kB]
Get:12 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/restricted Translation-en [18.8 kB]
Get:13 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 Packages [1100 kB]
Get:14 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/universe Translation-en [342 kB]
Get:15 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/multiverse amd64 Packages [19.4 kB]
Get:16 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-updates/multiverse Translation-en [6740 B]
Get:17 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-backports/main amd64 Packages [7516 B]
Get:18 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-backports/main Translation-en [4764 B]
Get:19 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-backports/universe amd64 Packages [7736 B]
Get:20 http://us-east-2.ec2.archive.ubuntu.com/ubuntu bionic-backports/universe Translation-en [4588 B]
Get:21 http://security.ubuntu.com/ubuntu bionic-security/main amd64 Packages [813 kB]
Get:22 http://security.ubuntu.com/ubuntu bionic-security/main Translation-en [255 kB]
Get:23 http://security.ubuntu.com/ubuntu bionic-security/restricted amd64 Packages [76.4 kB]
Get:24 http://security.ubuntu.com/ubuntu bionic-security/restricted Translation-en [16.7 kB]
Get:25 http://security.ubuntu.com/ubuntu bionic-security/universe amd64 Packages [695 kB]
Get:26 http://security.ubuntu.com/ubuntu bionic-security/universe Translation-en [230 kB]
Get:27 http://security.ubuntu.com/ubuntu bionic-security/multiverse amd64 Packages [8312 B]
Get:28 http://security.ubuntu.com/ubuntu bionic-security/multiverse Translation-en [2880 B]
Fetched 19.1 MB in 4s (4357 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-14-64:~$ sudo apt-get -y install nginx
```

TASK - V: Verify successful installation of nginx Web Server

Step - 27:
On successful installation of the nginx Web Server on Ubuntu Machine, copy the IPv4 Public IP from the AWS Management Console for that particular Ubuntu-Server and copy it.



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Linux-Server	i-0c09898cc33c6645c	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-18-191-195-5.us-e...
Windows-Server	i-0ca10de7b142ceda5	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-13-58-200-211.us-...
Ubuntu-Server	i-0e58fef593cbb17e4	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-13-58-216-96.us-e...

Instance: i-0e58fef593cbb17e4 (Ubuntu-Server) Public DNS: ec2-13-58-216-96.us-east-2.compute.amazonaws.com

Description | Status Checks | Monitoring | Tags

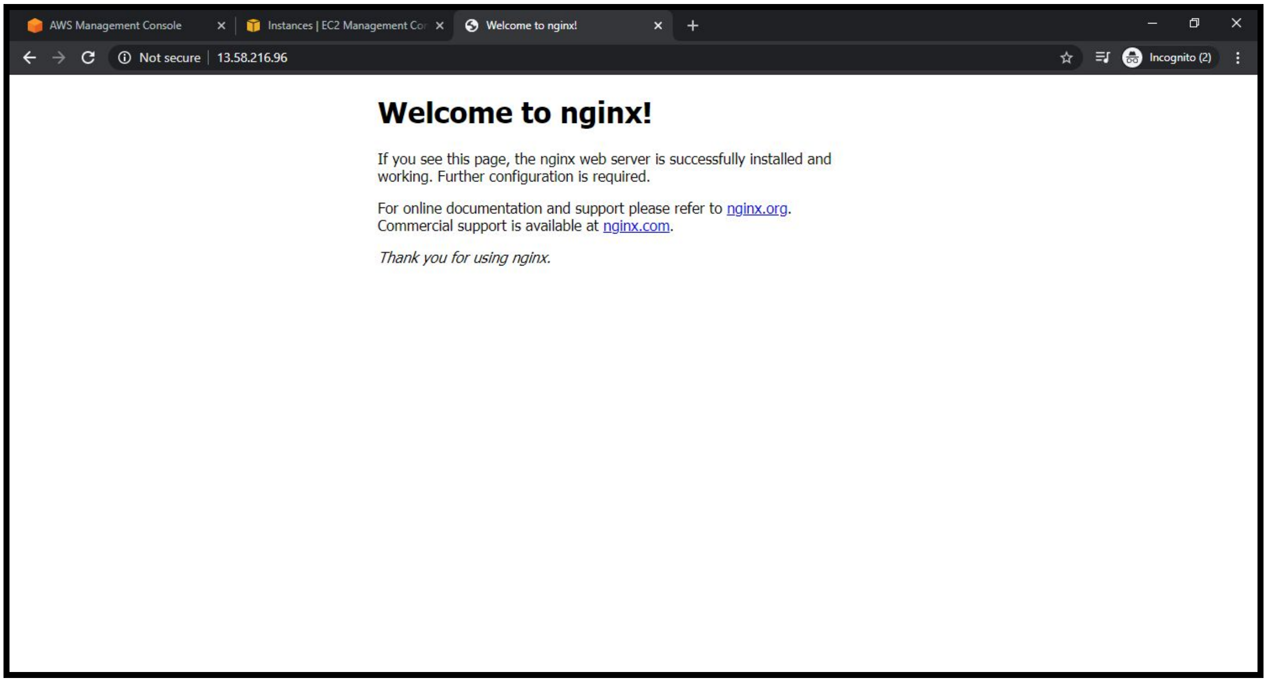
Instance ID i-0e58fef593cbb17e4

Instance state running

Public DNS (IPv4) ec2-13-58-216-96.us-east-2.compute.amazonaws.com

IPv4 Public IP 13.58.216.96

Step - 28:
Open a new tab on the Browser and paste that VM's Public IP on the URL and we should be able to see the "Welcome to nginx!" Webpage.



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.