Experiment 6

To Launch an AWS EC2 instance and connect to it using PuTTY.

Elaboration of the terms used:-

AWS EC2 Instance:-

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers. Amazon EC2's simple web service interface allows you to obtain and configure capacity with minimal friction. It provides with complete control of your computing resources and lets you run on Amazon's proven computing environment. There are 5 types of instances:- General purpose, Compute Optimized, Memory optimized, Accelerated Computing and Storage Optimized. We will be using General purpose instance as it provides a balance of compute, memory and networking resources, and can be used for a variety of diverse workloads. These instances are ideal for applications that use these resources in equal proportions such as web servers and code repositories.

PuTTY:-

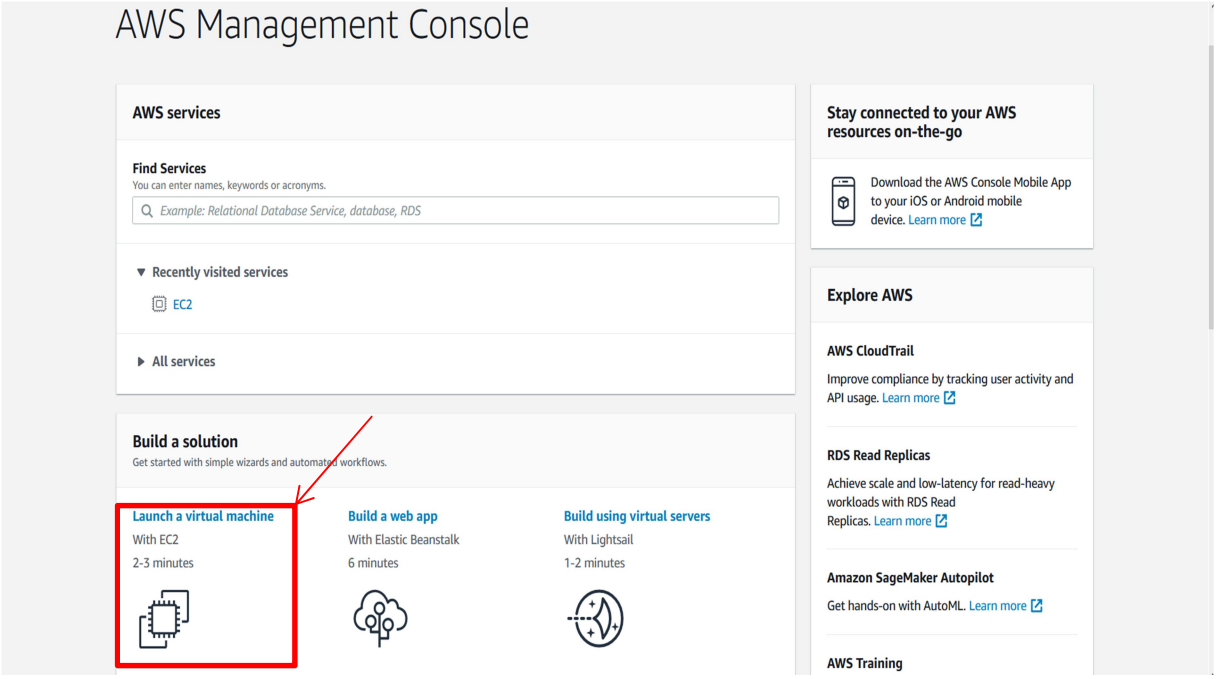
PuTTY is a free and open-source terminal emulator, serial console and network file transfer application. It supports several network protocols, including SCP, SSH, Telnet, rlogin, and raw socket connection. It can also connect to a serial port. PuTTY supports many variations on the secure remote terminal, and provides user control over the SSH encryption key and protocol version, alternate ciphers such as AES, 3DES, RC4, Blowfish, DES, and Public-key authentication. PuTTY uses own format of key files – PPK.

SSH:-

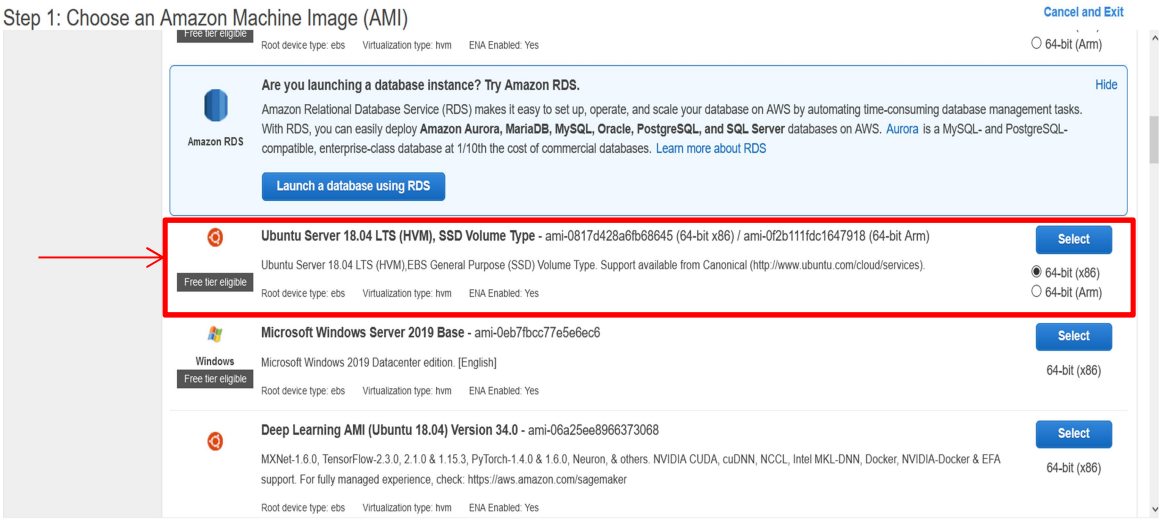
Secure Shell is a cryptographic network protocol for operating network services securely over an unsecured network. Typical applications include remote command-line, login, and remote command execution, but any network service can be secured with SSH. The SSH protocol uses encryption to secure the connection between a client and a server. All user authentication, commands, output, and file transfers are encrypted to protect against attacks in the network.

Steps to launch and connect to EC2 instance:-

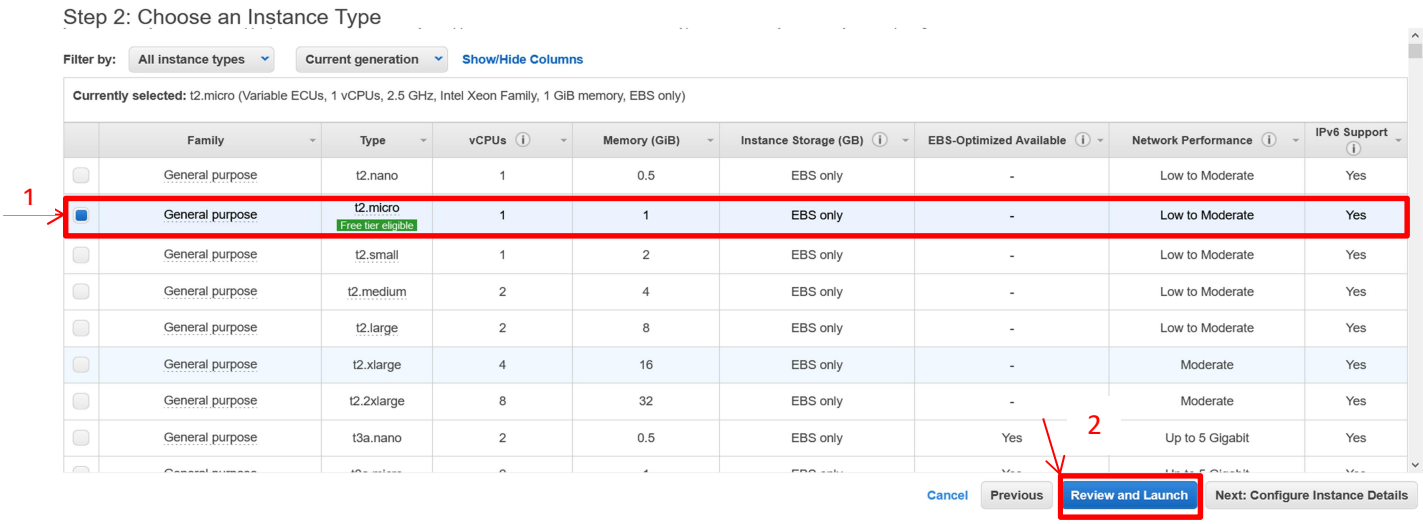
- Go to AWS educate and open AWS Management console. Now, click on Launch a Virtual Machine with EC2.



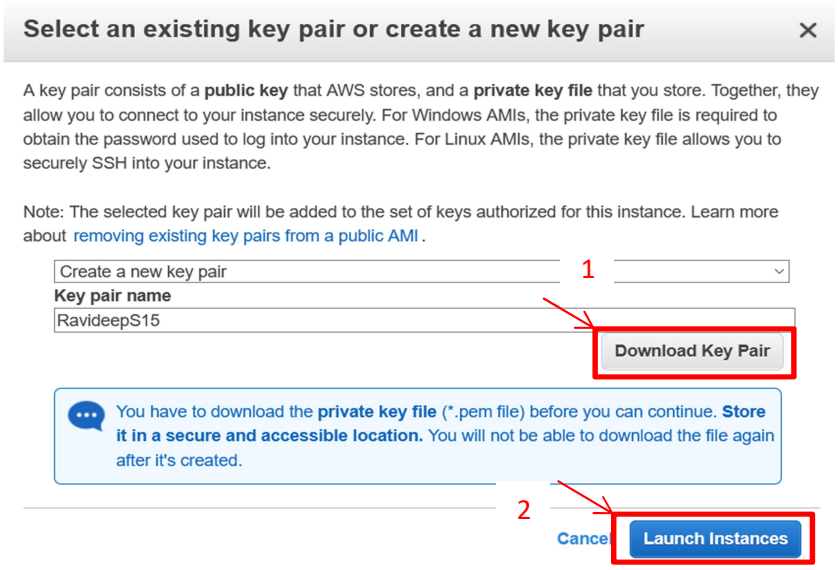
- Now, choose an Amazon machine language(AMI). It is a template that contains the software configuration (operating system, application server, and applications) required to launch instance. Here we choose **Ubuntu Server 18.04 LTS**



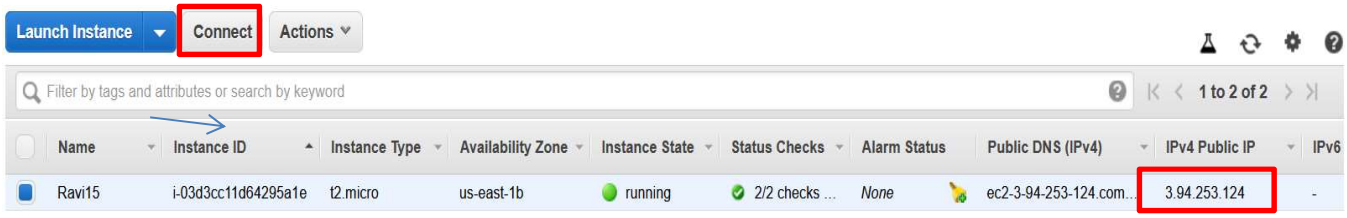
- Choose the Instance type that you require according to your need. Here we select general purpose t2.micro instance which consists of 1 CPU with 1GiB Memory and EBS instance storage. Then click Review and Launch. After reviewing, Launch the instance.



- On launching, create a new key pair. This key pair will allow you to connect to the instance securely. Type a key pair name and download the key pair. Keep it in a safe and accessible location. After this click on Launch Instance

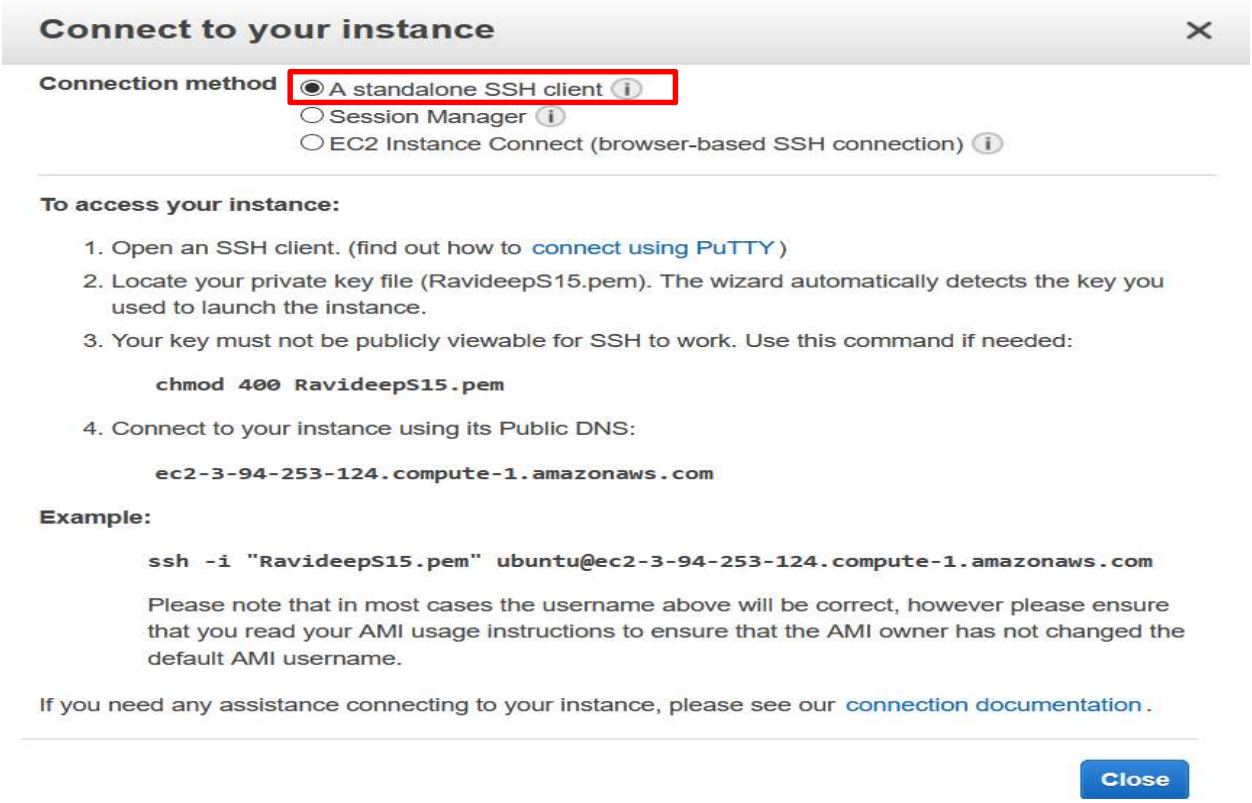


- Click on view instance. You would be able to see the instance that you created as shown below

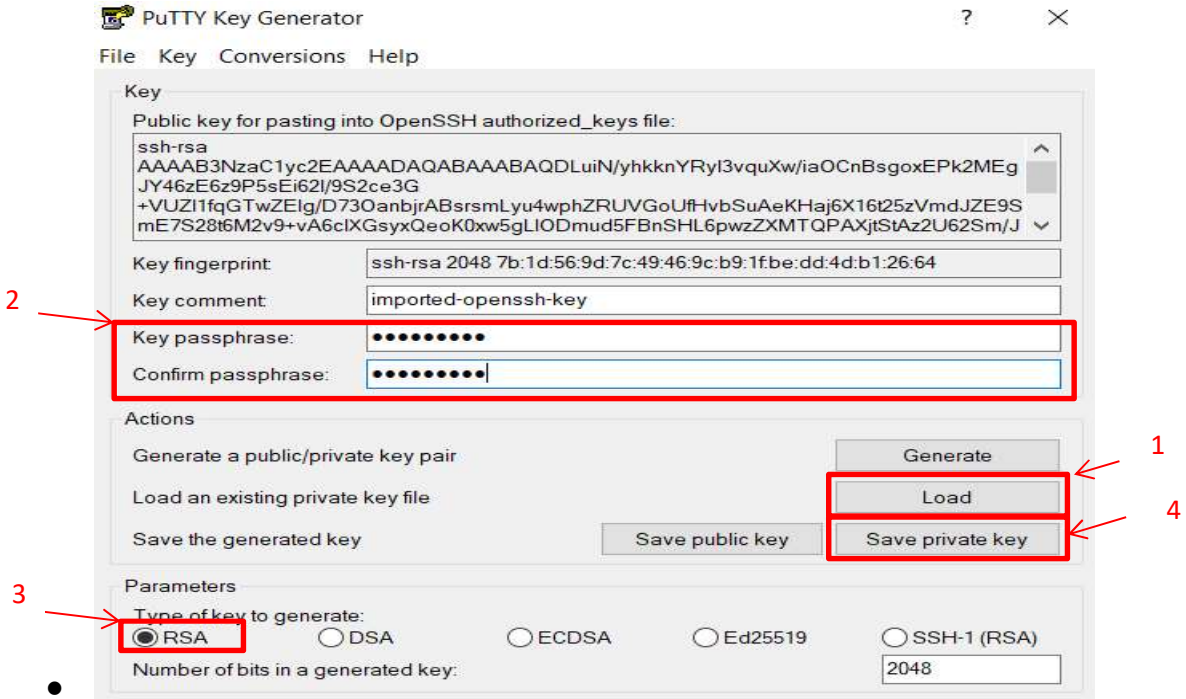


Note the value of IPv4 public IP as it will be used to connect to the instance. After this click on Connect.

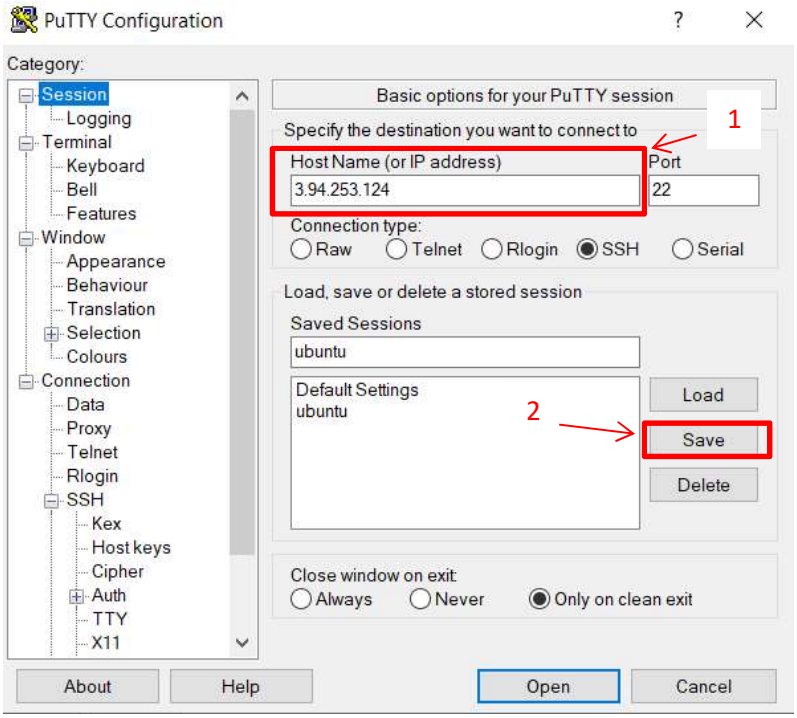
Now choose the connection method as standalone SSH client.



- Now download PuTTY from the internet and install it. After installation open PuTTYgen to generate a key. After opening, select the private key file that you downloaded before and load it. Also put a key passphrase. This is a password that you would need to enter for accessing the instance you created. After this select parameter as RSA and click on save private key and download the key.



- Now open PuTTY. Under sessions category, put host name as the IPv4 Public address that you noted in the beginning and save the session by giving a name (Ubuntu here).



Under Auth section, browse the putty file that you generated thorugh PuTTYgen in the previous step. Click open. A command window will open. Type the name of the session in login as and password in passphrase section.

After the correct input of username and password, the command line of the Ubuntu operating system will open