Cc1 - ....

Cloud Computing (Savitribai Phule Pune University)

ASSIGNMENT 1

TITLE: Case study on Amazon EC2 and learn about Amazon EC2 web services

OBJECTIVES:

- To learn Amazon EC2 web services
- To study on Amazon EC2 and learn about Amazon EC2 web services.

HARDWARE REQUIREMENTS:

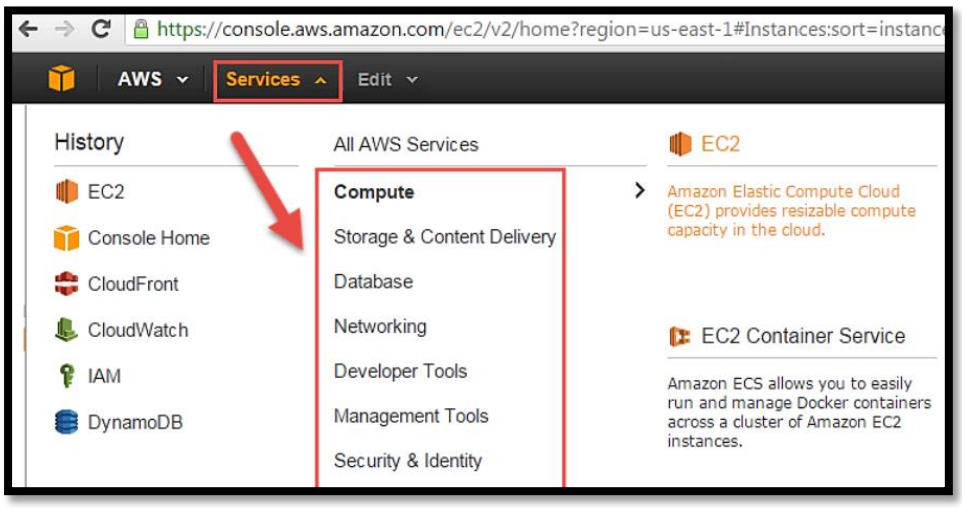
- Pentium IV with latest configuration Software Requirements
- Ubuntu 20.04

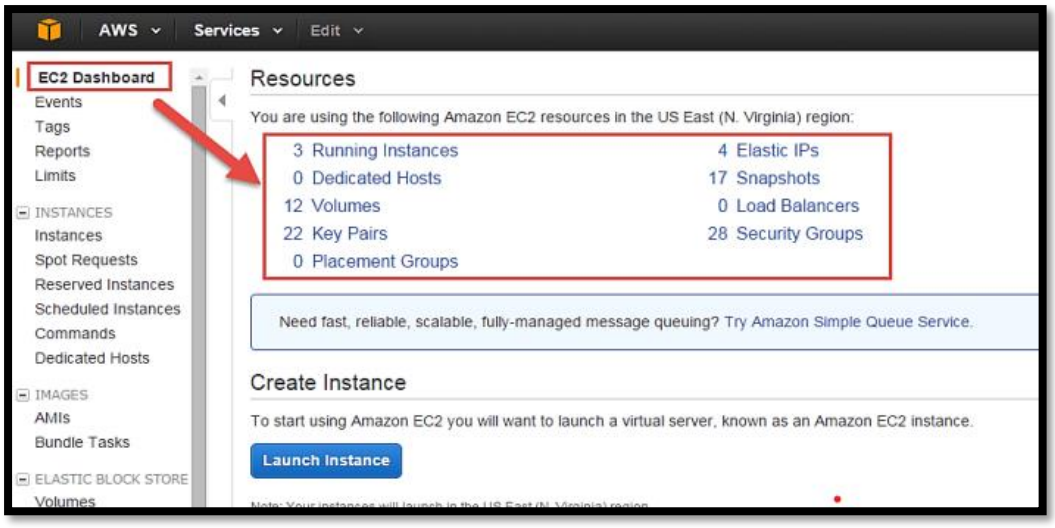
THEORY:

An EC2 instance is nothing but a virtual server in Amazon Web services terminology. It stands for Elastic Compute Cloud. It is a web service where an AWS subscriber can request and provision a compute server in AWS cloud. An on-demand EC2 instance is an offering from AWS where the subscriber/user can rent the virtual server per hour and use it to deploy his/her own applications. The instance will be charged per hour with different rates based on the type of the instance chosen. AWS provides multiple instance types for the respective business needs of the user. Thus, you can rent an instance based on your own CPU and memory requirements and use it if you want. You can terminate the instance when it's no more used and save on costs. This is the most striking advantage of an on-demand instance- you can drastically save on your CAPEX. Let us see in detail how to launch an on-demand EC2 instance in AWS Cloud.

Login and access to AWS services **Step 1**: In this step,

- Login to your AWS account and go to the AWS Services tab at the top left corner.
- Here, you will see all the AWS Services categorized as per their area viz. Compute, Storage, Database, etc. For creating an EC2 instance, we must choose Computer EC2 as in the next step

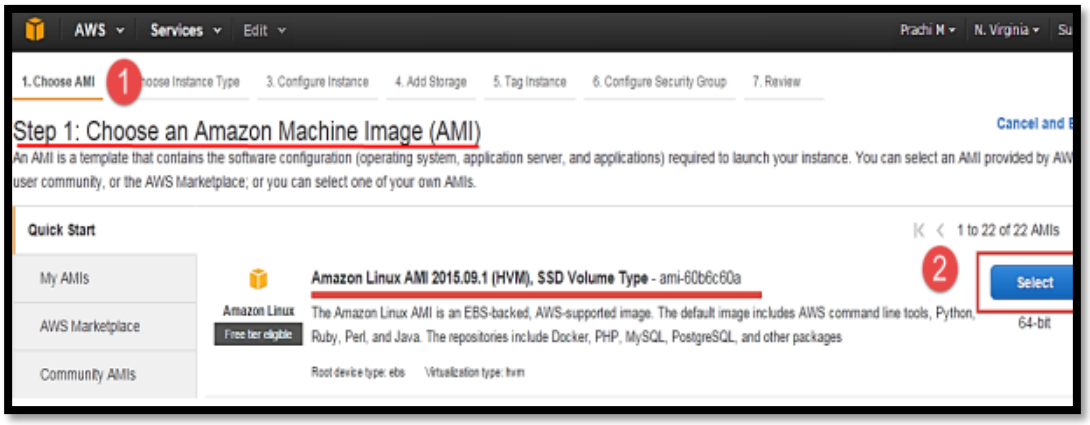


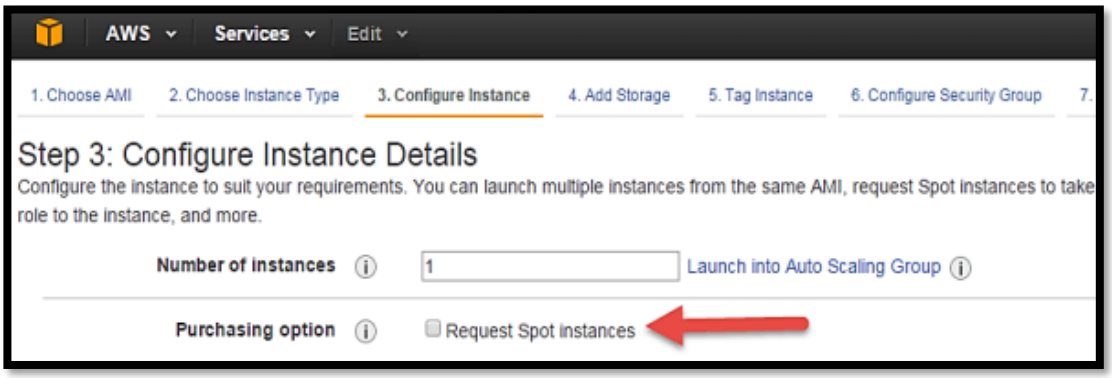


Step 2: On the top right corner of the EC2 dashboard, choose the AWS Region in which you want to provision the EC2 server. Here we are selecting N. Virginia. AWS provides 10 Regions all over the globe

- Once your desired Region is selected, come back to the EC2 Dashboard.
- Click on 'Launch Instance' button in the section of Create Instance (as shown below).
- Instance creation wizard page will open as soon as you click 'Launch Instance'.

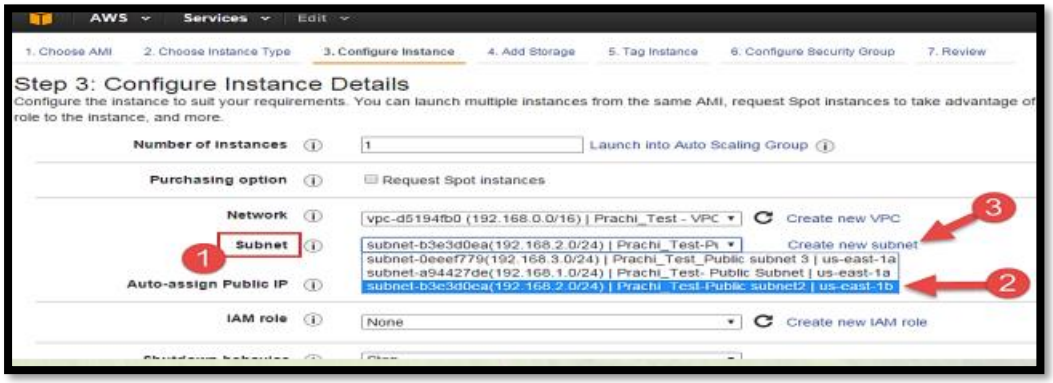
Choose AMI





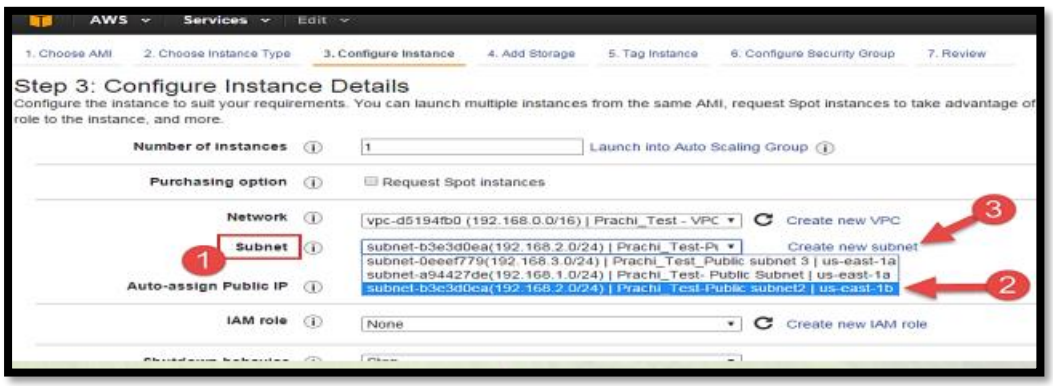
Step 3) Next, we must configure some basic networking details for our EC2 server.

- You must decide here, in which VPC (Virtual Private Cloud) you want to launch your instance and under which subnets inside your VPC. It is better to determine and plan this prior to launching the instance. Your AWS architecture set-up should include IP ranges for your subnets etc. pre-planned for better management. (We will see how to create a new VPC in Networking section of the tutorial
- Subnetting should also be pre-planned. E.g.: If it's a web server you should place it in the public subnet and if it's a DB server, you should place it in a private subnet all inside your VPC. Below, 1. Network section will give a list of VPCs available in our platform. 2. Select an already existing VPC 3. You can also create a new VPC Here I have selected an already existing VPC where I want to launch my instance.



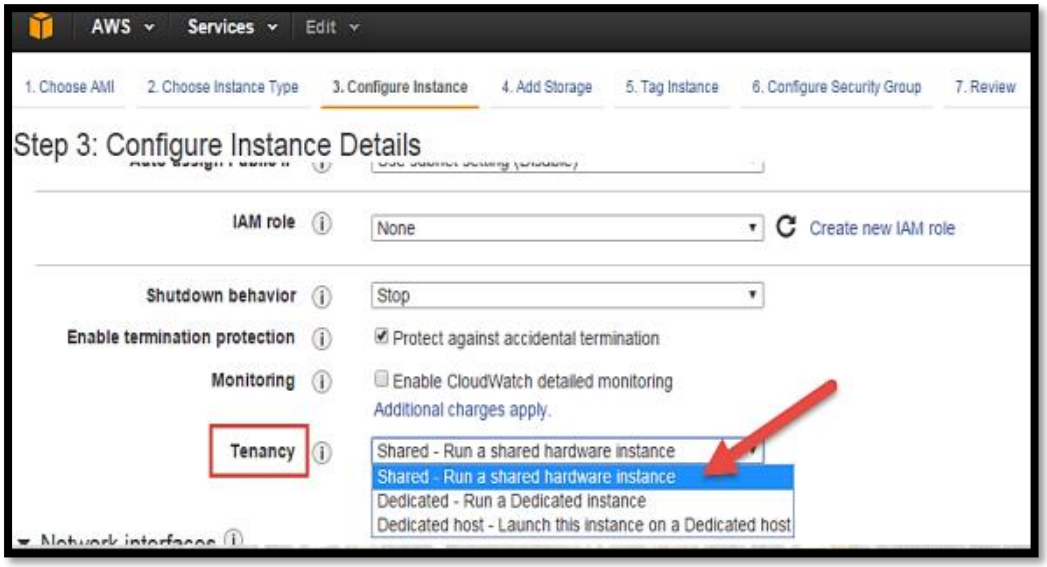
Step 4) In this step,

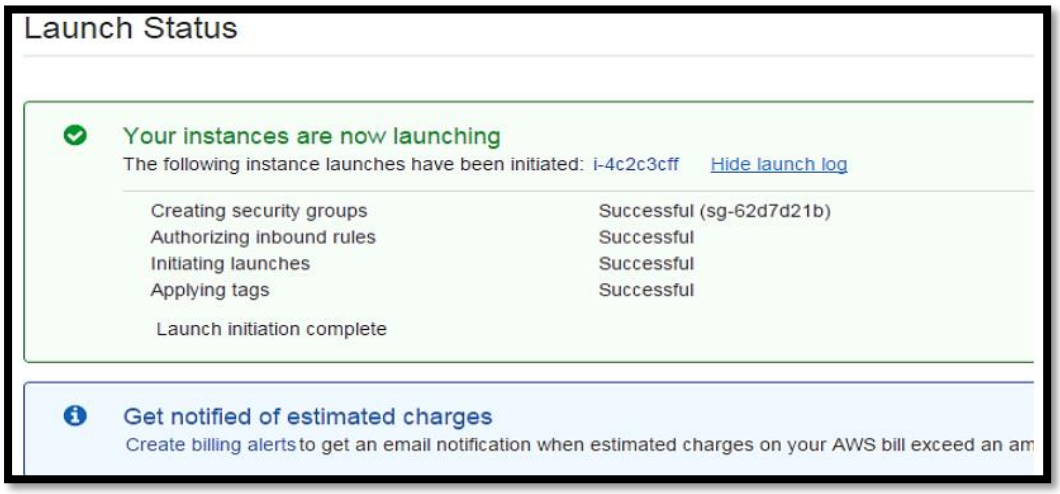
- A VPC consists of subnets, which are IP ranges that are separated for restricting access.
- Below, 1. Under Subnets, you can choose the subnet where you want to place your instance. 2. I have chosen an already existing public subnet. 3. You can also create a new subnet in this step.
- Once your instance is launched in a public subnet, AWS will assign a dynamic public IP to it from their pool of IPs.



Step 5) In this step,

- You can choose if you want AWS to assign it an IP automatically, or you want to do it manually later. You can enable/ disable 'Auto assign Public IP' feature here likewise.
- Here we are going to assign this instance a static IP called as EIP (Elastic IP) later. So we keep this feature disabled as of now.





CONCLUSION: Thus, we saw in detail how to create an on-demand EC2 instance in this tutorial. Because it is an on-demand server, you can keep it running when in use and 'Stop' it when it's unused to save on your costs