**AWS Elastic Compute Cloud**

**AWS EC2 INTRODUCTION**

**EC2 Service:**

* Stands for Elastic Compute Cloud
* **Resizable compute capacity** to support virtually any workload
* Is a web service that provides resizable compute capacity in the cloud
* Is a virtual machine in the cloud
* You can scale the compute capacity up and down as per the computing requirement changes.
* Changes the economics of computing by allowing you to pay only for the resources that you actually use
* Rather than you previously buy physical servers, you would look for a server that has more CPU capacity, RAM capacity and you buy a server over 5-year term, so you have to plan for 5 years in advance. People spend a lot of capital in such investments. EC2 allows you to pay for the capacity that you actually use
* Provides the developers with the tools to build resilient applications that isolate themselves from some common scenarios
* 750 hours per month

**EC2 INSTANCES CREATION**

**Instance:**

* A virtual server in the Amazon’s EC2 server
* With amazon EC2, you can set up and configure the operating system and applications that run on your instance

**Steps to launch an Instance:**

* In services, go to compute -> EC2
* In Instances, go to instances -> Launch Instances

1. **Names & Tags**

Enter an instance name

1. **Application and OS Images (Amazon Machine Image)**

* A special type of virtual appliances that is used to instantiate a virtual machine within EC2
* A template that contains a software configuration such as operating system, application server and applications
* Used to launch an instance

1. **Instance Type**

* Is the hardware configuration part of AWS EC2
* The instance type that you specify determines the hardware of the host computer used for your instance
* Each instance type offers different compute memory, storage capabilities and is grouped in an instance family
* Default instance type in free-tier is t2.micro, which has 1Virtual CPU, 1GB memory

1. **Key pair**

* Secure login information for your instances using key pairs
* AWS stores the public key and you store the private key in a secure place
* You can use a key pair to securely connect to your instance.
* Create a new key pair
* Enter the key pair name
* Select private key file format, if

Windows- .ppm (Privacy Enhanced Mail)

Linux- .ppk (Putty Private Key)

1. **Network settings**

**Virtual Private Clouds (VPC)**

* Is the network configuration part of AWS EC2
* Provides both public and private IP for our EC2 Instances which can be assigned as either static or dynamic state

**Security group:**

* A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using security groups
* RDP
  + Remote Desktop Protocol
  + For windows
  + Port number: 3389
* SSH
  + Secure Shell
  + For Linux and Ubuntu
  + Port number: 22

1. **Storage**

Default storage for

Windows- 10GB

Linux-8GB

Ubuntu-8GB

**Amazon Machine Image**

**Instance Type**

**Key Pairs:**

**EC2 INSTANCES PROTECTION**

**EBS, EIB, SNAPSHOTS VS AMI**