7. Elastic Cloud Compute:

- EC2 – is the abbreviation of Elastic Cloud Compute.

- EC2 is a virtual machine/virtual server. It is a web service that provides re-sizeable computing capacity in a single click.

- Machine/server is used as a hardware platform to run various tasks like running a web application and passing the data to the wired or wireless connections in a Local Area Network.

- Similarly, EC2 acts as a Virtual server to a computer which is used for accessing various websites or web applications.

- Virtual machines are known as EC2 instances - a service in AWS.

- Compute means the machine who is capable of understanding the request of function that needs to be performed by using a computer.

- It can compute the operation of adding two numbers to executing a code in Python or Java.

Introduction to AWS Elastic Cloud Compute:

- Example: If we’re cooking a meal for 2 people in a small pot, and incase 5 guests arrive, we cannot prepare the meal in the same pot which is meant to cook for 2 people. We’ll need a bigger utensil for 7 people.

- Amazon EC2 provides scalability in the IT resources in terms of storage, database, RAM. Operating System, networking, etc.

- We can launch as many as and as few as required virtual servers.

- The Elastic Cloud Compute enables the user to virtually scale the hardware requirements of the server according to the requirement.

- These instances have the Pay-as-you-go pricing model which enables the users to pay as per the requirement and usage of the resource.

- Due to the competition in the market, the AWS charge the instances in Per hour, Per Minute as well as Per Second module.

- Amazon EC2 has two types of storages which are present in the root volume (the data that the OS requires and runs on):

1. EBS:

- Elastic Block Storage.

- As the name explains, it is present outside the host/server and acts as a database.

- It is Persistent in nature i.e., even if the server is closed, the data can be stored in the Elastic Block Storage.

- It is bit slower than the Instance Storage since its present outside the server and data retrieving takes time.

2. Instance Storage:

- Instance storage is the storage which is present in the server.

- It is non-persistent in nature i.e., the data will be deleted and needed to be transported or created again if the servers are closed.

- It is generally faster than Elastic Block Storage since the database is present inside the server/host.

- There are numerous preconfigured templates for the Elastic Cloud Compute which will create the server fast and will eliminate the unnecessary steps for creation of the same instances.

- The templates are based on various types of OS, various hardware components, software, etc.

- In the created AWS account, the creation of the EC2 instances is limited to 20 Instances per regional zone.

- It has 2 default high I/O instances.

- If the required instances exceed the maximum number of instances in regional zone, the user can contact and request to grant more instances sin that specific regional zone.

The types of EC2 instances are:

1. General purpose: Balanced memory, storage and CPU.
2. Compute Optimized: More CPU power, Processor power

than RAM.

1. Memory Optimized: More RAM.
2. Storage optimized: Low Latency.
3. Accelerated Computing: high graphic card specifications.
4. High Memory optimized: High memory, High RAM, low latency and many other specifications.
5. Previous generation: Not yet discussed.

Types of EC2 instances are:

1. General-Purpose: The normal usage of the instances with mostly default parameters in the servers are the General-Purpose Instances.
2. Compute Optimized: The Compute Optimized instances are the one which require multi cores, processors, and CPU boosting components, more than the RAM.
3. Memory Optimized: The Memory Optimized instances are the ones which require more RAM than any other thing.
4. Storage Optimized: The Storage Optimized instances focuses on the low latency, delays in the connection.
5. Accelerated Computing: Accelerated Computing are the instances which provide high graphics to the computer or the Virtual computer for various use cases like designing, gaming creation, movie designing, etc.
6. High Memory Optimized: The high Memory optimized instances helps to create a virtual environment which has high Ram, Graphics, latency, and various other components to improve the quality of service.
7. Previous Generation: Not yet discussed.