# Practical 10

## Aim : Case Study on Amazon EC2 Theory

Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

**Features of Amazon EC2**

Amazon EC2 provides the following features:

* Virtual computing environments, known as *instances*
* Preconfigured templates for your instances, known as *Amazon Machine Images (AMIs)*, that package the bits you need for your server (including the operating system and additional software)
* Various configurations of CPU, memory, storage, and networking capacity for your instances, known as *instance types*
* Secure login information for your instances using *key pairs* (AWS stores the public key, and you store the private key in a secure place)
* Storage volumes for temporary data that's deleted when you stop, hibernate, or terminate your instance, known as *instance store volumes*
* Persistent storage volumes for your data using Amazon Elastic Block Store (Amazon EBS), known as *Amazon EBS volumes*
* Multiple physical locations for your resources, such as instances and Amazon EBS volumes, known as *Regions* and *Availability Zones*
* A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using *security groups*
* Static IPv4 addresses for dynamic cloud computing, known as *Elastic IP addresses*
* Metadata, known as *tags*, that you can create and assign to your Amazon EC2 resources
* Virtual networks you can create that are logically isolated from the rest of the AWS Cloud, and that you can optionally connect to your own network, known as *virtual private clouds* (VPCs)

Amazon EC2 provides the following purchasing options for instances: On-Demand Instances

Pay for the instances that you use by the second, with a minimum of 60

seconds, with no long-term commitments or upfront payments.

Savings Plans

You can reduce your Amazon EC2 costs by making a commitment to a consistent amount of usage, in USD per hour, for a term of 1 or 3 years.

Reserved Instances

You can reduce your Amazon EC2 costs by making a commitment to a specific instance configuration, including instance type and Region, for a term of 1 or 3 years.

Spot Instances

Request unused EC2 instances, which can reduce your Amazon EC2 costs significantly.

Conclusion : We have successfully understood the amazon EC2