CC Practical Assignment - 1

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Aim - Case study on Amazon EC2 and learn about Amazon EC2 web services.

Theory - Amazon Elastic compute cloud (EC2) provides scalable computing capacity in Amazon web services cloud. Using Amazon EC2 eliminates your need to invest in hardware upfront, so you can develop and deploy applications faster.

You can use Amazon EC2 to launch as many as few virtual servers as you need, configure security and networking and manage storage.

Amazon EC2 enables you to scale up or scale down your cloud resources and services.

* Instances -

Virtual computing environments are known as instances.

Pre-configured templates for the instances known as Amazon machine images that package the you need for your instances.

Various configurations of CPU memory storage, networking capacity and other services are possible using instances.

Secure login information are required for your instances.

We can use metadata known as tags that you can create and assign to your Amazon EC2 resources.

It allows multiple physical location for our resources such as regions and adversary zones.

Page No.
Date

* Creating an EC2 Instance -

The following steps are taken to create and launch an EC2 instance manually.

1) Create credentials that you want to assign to the EC2 instance.
2) Choose an Amazon Machine Image (AMI)
3) Choose an Instance type.
4) Configure Instance Details such as network and storage.
5) Add labels on tags for identifying for your EC2 instances.
6) Configure firewall (called security group) as appropriate.
7) Review and launch the EC2 instance.
8) Once the EC2 instance is created, you can connect to it using the chosen credentials.

Let us see the detailed procedure for each of these.

1) Create credentials -

i) Go to AWS console, choose EC2 service and the region in which you want to create the key pair for launching instances. Click the key pairs in the navigation menu.

ii) click on Great key pair. Provide key pair name and click on create.

iii) This creates a new key pair and automatically downloads the private key.

2> Creating an instance

i> Choose an AMI

ii> Choose an instance type (t2.micro)

iii> Configure instance details

iv> Add storage - Free tier defaults

v> Add tags - to add identification information as meta properties of the instance.

vi> Configure security group - carefully add firewall rules for the instance. Firewall requirements would vary based on your scenario.

vii> Review instance launch.

viii> Connect - Once the instance is ready, it would show as running. You can click on connect to specify the key pair and connect to the instance.

* Amazon EC2 use cases -

1> Hosting environment - One of the uses of EC2 is hosting a variety of applications, software and websites on the cloud. users are even hosting games on the cloud, turning servers on and off when needed.

2> Development and test environment - The scalable nature of EC2 means that the organisations, now have the ability to create and deploy large scale testing and development environment with unprecendental scale.

Page No.
Date

3) Backup and disaster recovery - Companies are leveraging EC2 as a medium for performing disaster recovery for both active and passive environments. With Amazon EC2 business have access to faster follower with minimal adowntime for apps.

* Amazon EC2 - web service

It is the collection of remote computing resources / services also called as web services, that makes up a cloud computing platform. The most central and well known of these services are Amazon EC2 & S3. the service capacity is much faster and cheaper than building a physical server.

* Benifits of AWS -

i) It does not require any hardware unit.

ii) It is easily scalable

iii) It is pay as per use platform.

iv) Since it is Iaas cloud model, use have complete content on our projects.

Conclusion - Amazon EC2 instance has been created and launched.