Advantages of Cloud Computing

1. Cost effective: Since cloud computing follow the pay-as-you-go model, CSP will charge the client based on the resources used.

2. Easy management: Management & maintenance is taken care by the CSP itself.

3. Increased accessibilty: Since cloud computing follows client-service model, it can be easily & remotely accessed through the Internet.

4. Increased scalibility: Since cloud computing follows on demand service, resources can be scaled instantly.

AWS

>> AMAZON WEB SERVICIES
>> It is a subsidiary of Amazon organization.
>> There are more than 200+ services present in AWS.
>> AWS follows pay-as-you-go model.

HISTORY OF AWS

>> In 2002 - AWS was launched interally.
>> In 2004 - AWS came up with a service called as SQS(Simple Queue Server).
>> In 2004 - AWS launched EC2 & S3 were commercialized.

AWS GLOBAL INFRASTRUCTURE

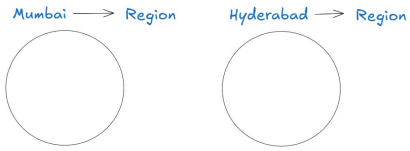
>> AWS Global Infrastructure is the worldwide network of inter-connected data centers & resources.

>> It has some key components:

1. Region
2. Availability Zone
3. Edge Location
4. Regional Edge Cache

1. Region

>> Geographical location containing clusters of data center.



>> In AWS, we have 38 different regions.

Parameters that should be followed in order to select a region in AWS

1. Compliance with Data Governance & Legal Requirements

>> Regions allows customers to store & process data within the specific geographic locations, complying with local regulations & data law.

SBI(YONO) -> should be deployed in India only.

E-commerce (Myntra)-> can be deployed anywhere in the world.

2. Low Latency

Latency -> Delay

>> We should choose the region in such a way that the content/data which needs to be delivered to the end users, should reach them with less latency/delay.

>> Deploying workloads in the region closest to the end-users reduces the network latency

3. Availability of Services

>> Not all AWS services are present everywhere.

>> We have to select a particular region according to our requirements.

4. Pricing

>> Pricing varies from region-to-region.

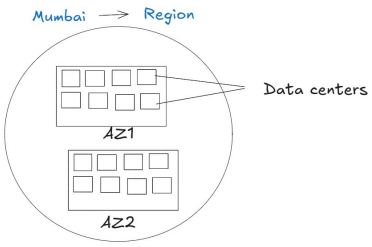
>> EC2 instance in India - 1.02 USD = Rs 90/month
EC2 instance in India - 2.04 USD = Rs 180/month

2. Availability Zone:

>> Availability Zone (AZ) are the actual location of data centers present in a region.

>> AZ is a group of data centers together in a region.

>> Each region contains multiple AZs - a group of physically distinct data centers connected by fibre-optic networking.



Reason for having multiple AZ in a particular region

1. Availabiltiy of resources & data center

>> An AZ consists of one or more data center which are isolated from each other with seperate power and connectivity.

>> If one AZ is experiencing failure due to something, the other AZ in the region cab be used to to operate the responses.

2. Scalability & Performance:

>> AZs lets the customer scale the application on demand by distributing compute power, across multiple AZS, this scaling based on demand.

Min. no. of AZ in a region = 3
Max no. of AZ in a region = 6