**AWS Info –**

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types of ec2 instanes :

1. general purpose instances

2. computer optimized instances

3. memory optimized instances

4. accelerated computing

5. storage optimized

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AWS Regions -

It is a physical location around the world. Each Region consists of a minimum of three isolated Availability Zones (AZs) within a geographic area.

Advantages of offering multiple AZs zone :-

\* High Availability - you can design applications to run in multiple AZs for greater fault tolerance.

\* Independent Infrastructure - Each AZs has its own power, cooling and physical security.

\* Ultra-low-latency-networks - AZs are connected via redundant networks.

Local Zones is an extension of an AWS Region that is geographically close to your users. It provides low-latency access to specific services and resources. Local Zones are ideal for latency-sensitive workloads.

AZs is an isolated location within and AWS Region designed to be independent and resilient from failures in other AZs. When you create resources like (EC2 instances or RDS databases), you can choose a specific AZ or let AWS choose one randomly.

\* Regions are distributed globally, allowing customers to choose the one closest to them for hosting their cloud infrastructure.

\* Choose a Region close to your location to minimize network latency for end-users.

\* Not all services are available in every Region, some services debut in specific Region before expanding to others.

\* Cost and Service level agreements (SLA) can vary by Region.

\* AWS currently has 69 AZs across its Regions.

\* Not all Regions are created equally. These Regions have more services than others in their general areas: -

> Americas: US East (N. Virginia), US West (N. California)

> Asia Pacific: Singapore, Sydney, Tokyo

> EU: Frankfurt, Ireland

\* Endpoints in AWS are URLs that provide access to AWS services, optimized for regions and, in some cases, for specific AZs to ensure that best possible performance.

> For example, the Amazon S3 service provides different endpoints for each Region (e.g., s3.us-west-2.amazonaws.com for the US West (Oregon) Region).

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IAM - Identity and Access Management.

\* We create IAM users to assign specific permission to specific users. Ideally, we would not look for the access of all services to all the users. So we create policy and assign that policy to the groups. The groups will contain users restricting it from accessing services.

\* We can assign policy to users directly.

\* Basically, you create policy name that will have set of AWS services like s3, ec2 etc.