What is IAM?

- IAM stands for Identity Access Management.
- IAM allows you to manage users and their level of access to the aws console.
- It is used to set users, permissions and roles. It allows you to grant access to the different parts of the aws platform.
- AWS Identity and Access Management is a web service that enables Amazon Web Services (AWS) customers to manage users and user permissions in AWS.
- With IAM, Organizations can centrally manage users, security credentials such as access keys, and permissions that control which AWS resources users can access.
- Without IAM, Organizations with multiple users must either create multiple user accounts, each with its own billing and subscriptions to AWS products or share an account with a single security credential. Without IAM, you also don't have control about the tasks that the users can do.
- IAM enables the organization to create multiple users, each with its own security credentials, controlled and billed to a single aws account. IAM allows the user to do only what they need to do as a part of the user's job.

Features of IAM

- **Centralised control of your AWS account:** You can control creation, rotation, and cancellation of each user's security credentials. You can also control what data in the aws system users can access and how they can access.
- **Shared Access to your AWS account:** Users can share the resources for the collaborative projects.
- **Granular permissions:** It is used to set a permission that user can use a particular service but not other services.
- **Identity Federation:** An Identity Federation means that we can use Facebook, Active Directory, LinkedIn, etc with IAM. Users can log in to the AWS Console with same username and password as we log in with the Active Directory, Facebook, etc.

- **Multifactor Authentication:** An AWS provides multifactor authentication as we need to enter the username, password, and security check code to log in to the AWS Management Console.
- **Permissions based on Organizational groups:** Users can be restricted to the AWS access based on their job duties, for example, admin, developer, etc.
- **Networking controls:** IAM also ensures that the users can access the AWS resources within the organization's corporate network.
- **Provide temporary access for users/devices and services where necessary:** If you are using a mobile app and storing the data in AWS account, you can do this only when you are using temporary access.
- **Integrates with many different aws services:** IAM is integrated with many different aws services.
- **Supports PCI DSS Compliance:** PCI DSS (Payment Card Industry Data Security Standard) is a compliance framework. If you are taking credit card information, then you need to pay for compliance with the framework.
- **Eventually Consistent:** IAM service is eventually consistent as it achieves high availability by replicating the data across multiple servers within the Amazon's data center around the world.
- **Free to use:** AWS IAM is a feature of AWS account which is offered at no additional charge. You will be charged only when you access other AWS services by using IAM user.