Introducing the AWS Cloud

Introduction

Providing services over internet for example data storage, networking, software instead of maintaining physical server and data canter is called as cloud computing.

The cloud allows users to store and access data and applications over the internet rather than on their own hard drives or local servers. Cloud services follow a pay-as-you-go model that eliminates the large capital investment in physical infrastructure.

Data and applications can be accessed from any device with an internet connection that enables remote work and collaboration.

Amazon Web Services (AWS) is widely adopted cloud computing platform provided by Amazon. It offers a broad set of services that help businesses and individuals to build, deploy, and manage applications in the cloud with ease, scalability, and flexibility.

AWS provides a highly reliable, scalable, and low-cost infrastructure platform that supports a variety of workloads, ranging from simple websites to complex machine learning applications.

Key Features

1. Compute Services:

- **Amazon EC2 (Elastic Compute Cloud):** This service allows you to launch virtual servers to run applications in the cloud.
- **Amazon Elastic Beanstalk:** This service allows you to deploy and manage applications in various programming languages with minimal configuration.

2. Storage Services:

- **Simple Storage Service:** This service is used for storing and retrieving any amount of data at any time. It's ideal for backups, content distribution, and data archiving.
- **Elastic Block Store:** This service provides persistent block-level storage volumes for use with EC2 instances, suitable for databases, file systems, or any application that requires persistent storage.
- **Amazon Glacier:** This service provides low-cost storage service designed for data archiving and long-term backup.

3. Database Services:

- **Relational Database Service:** This is a managed service that simplifies the setup, operation, and scaling of relational databases like MySQL, PostgreSQL, SQL Server, and Oracle.
- **Amazon DynamoDB:** This is a fast and flexible database service that provides high performance and scalability.

- **Amazon Aurora:** A MySQL- and PostgreSQL-compatible relational database offering high performance and availability at a lower cost.

4. Networking and Content Delivery:

- **Amazon VPC (Virtual Private Cloud):** A service that allows users to create a private network within AWS, giving complete control over IP address ranges, subnets, route tables, and network gateways.
- **Amazon CloudFront:** A global content delivery network (CDN) that speeds up the delivery of your website, applications, and content to users worldwide.

5. Security and Identity:

- **AWS IAM (Identity and Access Management):** Provides fine-grained access control for AWS resources by managing users, groups, and permissions.
- **AWS Shield:** A managed DDoS (Distributed Denial of Service) protection service to safeguard applications against malicious attacks.
- **Amazon GuardDuty:** A security monitoring service that provides intelligent threat detection and continuous security monitoring for your AWS environment.

6. Machine Learning & Artificial Intelligence:

- **Amazon SageMaker:** A service for building, training, and deploying machine learning models quickly and easily.
- **AWS Rekognition:** A service that allows you to add image and video analysis capabilities to your applications, such as facial recognition and object detection.

Graphic Diagram of AWS Cloud