AWS Cloud First Recap

Topics : AWS
Written on December 08, 2023

1. **AWS (Amazon Web Services):**

   - AWS is a cloud computing platform provided by Amazon. It offers a wide range of services, including computing power, storage, databases, machine learning, analytics, and more.

2. **Cloud Computing Models:**

   - **Infrastructure as a Service (IaaS):** Provides virtualized computing resources over the internet, such as virtual machines, storage, and networking (e.g., Amazon EC2).
   - **Platform as a Service (PaaS):** Offers a platform that includes runtime, development, and deployment services, eliminating the need to manage underlying infrastructure (e.g., AWS Elastic Beanstalk).
   - **Software as a Service (SaaS):** Delivers software applications over the internet without the need for users to install, manage, and maintain the application (e.g., Amazon WorkMail).

3. **AWS Global Infrastructure:**

   - AWS operates in multiple geographic regions worldwide, each with multiple availability zones. This provides redundancy, fault tolerance, and low-latency access to AWS services.

4. **AWS Core Services:**

   - **Compute:** Amazon EC2 (virtual servers), AWS Lambda (serverless compute), AWS Elastic Beanstalk (PaaS).
   - **Storage:** Amazon S3 (object storage), Amazon EBS (block storage), Amazon Glacier (cold storage).
   - **Databases:** Amazon RDS (managed relational databases), Amazon DynamoDB (NoSQL), Amazon Redshift (data warehousing).
   - **Networking:** Amazon VPC (Virtual Private Cloud), Elastic Load Balancing, Amazon Route 53 (DNS).

5. **Identity and Access Management (IAM):**

   - IAM is used to manage access to AWS services securely. It allows you to create and manage AWS users and groups, assign policies, and control permissions.

6. **Security and Compliance:**

   - AWS provides a robust set of security features, including encryption, identity management, monitoring, and compliance certifications. Customers are responsible for securing their own content and applications.

7. **AWS Management Console:**

   - The AWS Management Console is a web-based interface that allows users to access and manage AWS services. It provides a visual way to interact with various AWS resources.

8. **AWS Marketplace:**

   - The AWS Marketplace is a digital catalog where customers can find, buy, and deploy software and services directly from AWS partners.

9. **AWS Well-Architected Framework:**

   - A set of best practices and guidelines for building secure, high-performing, resilient, and efficient infrastructure on AWS.

10. **Serverless Computing:**

    - AWS offers serverless computing options such as AWS Lambda, allowing developers to run code without provisioning or managing servers.

11. **Containerization:**

    - AWS provides services like Amazon ECS (Elastic Container Service) and Amazon EKS (Elastic Kubernetes Service) for managing and orchestrating containerized applications.

12. **AI and Machine Learning:**

    - AWS offers services like Amazon SageMaker for machine learning, Amazon Polly for text-to-speech, and Amazon Rekognition for image and video analysis.