AWS Cloud

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Amazon Web Services (AWS) is a comprehensive and widely used cloud computing platform provided by Amazon. It offers a vast array of cloud services, including computing power, storage, databases, machine learning, analytics, networking, security, and more. AWS allows businesses and individuals to access and use computing resources on a pay-as-you-go basis, eliminating the need for significant upfront investments in physical hardware.

Here are some key components and services within AWS:

1. **Compute Services:**

   - **Amazon EC2 (Elastic Compute Cloud):** Provides resizable compute capacity in the cloud, allowing users to run virtual servers.
   - **AWS Lambda:** Allows you to run code without provisioning or managing servers, following a serverless computing model.

2. **Storage Services:**

   - **Amazon S3 (Simple Storage Service):** Offers scalable object storage for storing and retrieving data.
   - **Amazon EBS (Elastic Block Store):** Provides persistent block-level storage volumes for use with Amazon EC2 instances.

3. **Database Services:**

   - **Amazon RDS (Relational Database Service):** Manages relational databases, supporting multiple database engines like MySQL, PostgreSQL, Oracle, and SQL Server.
   - **Amazon DynamoDB:** A fully managed NoSQL database service for applications that need consistent, single-digit millisecond latency at any scale.

4. **Networking:**

   - **Amazon VPC (Virtual Private Cloud):** Enables users to launch Amazon Web Services resources into a virtual network that they've defined.
   - **Amazon Route 53:** A scalable domain name system (DNS) web service designed to route end-user requests to globally distributed endpoints.

5. **Machine Learning and AI:**

   - **Amazon SageMaker:** A fully managed service that enables developers and data

scientists to build, train, and deploy machine learning models.
- **Amazon Polly:** Converts text into lifelike speech using deep learning.

6. **Security and Identity:**

   - **AWS Identity and Access Management (IAM):** Manages access to AWS services and resources securely.
   - **Amazon GuardDuty:** A managed threat detection service that continuously monitors for malicious activity and unauthorized behavior.

7. **Analytics:**

   - **Amazon Redshift:** A fully managed data warehouse service for running complex queries on large datasets.
   - **Amazon Athena:** Allows you to query data stored in Amazon S3 using SQL.

8. **Developer Tools:**

   - **AWS CodeCommit:** A fully managed source control service that makes it easy for teams to host secure and scalable Git repositories.
   - **AWS CodeDeploy:** Automates code deployments to any instance, including Amazon EC2 instances and instances running on-premises.