

## Amazon web services

Cloud-based applications sharing data with on-premises databases or other cloud services for data analysis. Amazon Web Services (AWS) is a comprehensive and widely used cloud computing platform provided by Amazon.com. It offers a wide range of cloud computing services, including computing power, storage, networking, databases, machine learning, analytics, and more. AWS is designed to help businesses and developers build and scale applications, host websites, store data, and perform various other cloud-related tasks. Here's a breakdown of key components and concepts related to AWS:

- ❖ **Infrastructure as a Service (IaaS):** AWS provides on-demand access to virtualized computing resources. Users can rent virtual machines (EC2 instances), storage (S3), and other infrastructure components without the need to invest in physical hardware.
- ❖ **Platform as a Service (PaaS):** AWS offers platform services that enable developers to build and deploy applications without managing the underlying infrastructure. Examples include AWS Elastic Beanstalk for application deployment and AWS Lambda for serverless computing.
- ❖ **Storage Services:** AWS offers a variety of storage services, such as Amazon S3 (Simple Storage Service) for scalable object storage, Amazon EBS (Elastic Block Store) for block storage, and Amazon Glacier for long-term archival storage.
- ❖ **Database Services:** AWS provides managed database services like Amazon RDS (Relational Database Service) for relational databases, Amazon DynamoDB for NoSQL databases, and Amazon Redshift for data warehousing.
- ❖ **Networking:** AWS offers networking services like Amazon VPC (Virtual Private Cloud) for isolated network environments, Amazon CloudFront for content delivery, and AWS Direct Connect for dedicated network connections.
- ❖ **Security and Identity:** AWS provides various security services, including AWS IAM (Identity and Access Management) for controlling user access, AWS Key Management Service (KMS) for managing encryption keys, and AWS Shield for DDoS protection.

- ❖ **Analytics and Machine Learning:** AWS offers tools for data analytics and machine learning, such as Amazon EMR (Elastic MapReduce) for big data processing, Amazon SageMaker for machine learning model development, and Amazon QuickSight for data visualization.
- ❖ **Developer Tools:** AWS provides a suite of developer tools, including AWS CodeDeploy for automating application deployments, AWS CodeBuild for building and testing code, and AWS CodePipeline for continuous integration and continuous delivery (CI/CD).
- ❖ **Internet of Things (IoT):** AWS IoT services enable the secure connection and management of IoT devices and data, facilitating the development of IoT applications.
- ❖ **Serverless Computing:** AWS Lambda allows developers to run code in response to events without provisioning or managing servers, making it ideal for building serverless applications.
- ❖ **Global Reach:** AWS has a global presence with data centers (regions) and availability zones in multiple geographic locations, allowing users to deploy applications close to their target audience for reduced latency and improved redundancy.
- ❖ **Pay-as-You-Go Pricing:** AWS operates on a pay-as-you-go pricing model, where users only pay for the resources and services they consume, with no upfront costs or long-term commitments.

AWS is known for its reliability, scalability, and extensive ecosystem of services and partners. It is widely used by startups, enterprises, government agencies, and individual developers to build, deploy, and manage a wide range of applications and services in the cloud.