

Overview of Top AWS Services

Your Name

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1 Introduction

Amazon Web Services (AWS) offers a comprehensive suite of cloud services that provide flexible, scalable, and cost-effective solutions for businesses. This document covers an overview of the top 25 AWS services, focusing on compute, storage, database, application integration, and security services.

2 Compute Services

2.1 Amazon EC2 (Elastic Compute Cloud)

Amazon EC2 provides resizable compute capacity in the cloud. It allows you to quickly scale up or down as your computing requirements change.

2.2 AWS Lambda

AWS Lambda is a serverless compute service that runs your code in response to events and automatically manages the underlying compute resources.

2.3 AWS Elastic Beanstalk

Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers like Apache, Nginx, Passenger, and IIS.

2.4 Container Services

2.4.1 Amazon ECS (Elastic Container Service)

Amazon ECS is a fully managed container orchestration service that makes it easy to run, stop, and manage Docker containers on a cluster of Amazon EC2 instances. ECS provides a highly scalable and performant container management solution that supports Docker containers and allows you to easily deploy and manage applications.

2.4.2 Amazon EKS (Elastic Kubernetes Service)

Amazon EKS is a fully managed Kubernetes service that makes it easy for you to run Kubernetes on AWS without needing to install and operate your own Kubernetes control plane or nodes. EKS runs the Kubernetes management infrastructure for you across multiple AWS availability zones to eliminate a single point of failure.

2.4.3 AWS Fargate

AWS Fargate is a serverless compute engine for containers that works with both Amazon ECS and Amazon EKS. It allows you to run containers without having to manage the underlying infrastructure. With Fargate, you no longer have to provision, configure, or scale clusters of virtual machines to run containers.

3 Storage Services

3.1 Amazon S3 (Simple Storage Service)

Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance. This means customers of all sizes and industries can use it to store and protect any amount of data for a range of use cases.

3.2 Amazon EBS (Elastic Block Store)

Amazon EBS provides persistent block storage volumes for use with Amazon EC2 instances in the AWS Cloud. Each Amazon EBS volume is automatically replicated within its Availability Zone to protect you from component failure, offering high availability and durability.

3.3 Amazon EFS (Elastic File System)

Amazon EFS provides a simple, scalable, fully managed elastic NFS file system for use with AWS Cloud services and on-premises resources. It is built to scale on demand to petabytes without disrupting applications, growing and shrinking automatically as you add and remove files.

3.4 Amazon Glacier

Amazon Glacier is a secure, durable, and extremely low-cost Amazon S3 cloud storage class for data archiving and long-term backup. It is designed to deliver 99.99999999% durability and provides comprehensive security and compliance capabilities.

3.5 AWS Backup

AWS Backup is a fully managed backup service that makes it easy to centralize and automate the backup of data across AWS services. You can create backup policies, automate backup scheduling, set retention policies, and monitor all recent backups and restore activities.

4 Database Services

4.1 Amazon RDS (Relational Database Service)

Amazon RDS makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient, resizable capacity while managing time-consuming database administration tasks.

4.2 Amazon DynamoDB

Amazon DynamoDB is a key-value and document database that delivers single-digit millisecond performance at any scale. It is a fully managed, multi-region, multi-active, durable database with built-in security, backup and restore, and in-memory caching.

4.3 Amazon Redshift

Amazon Redshift is a fast, scalable data warehouse that makes it simple and cost-effective to analyze all your data across your data warehouse and data lake. It offers ten times faster performance than other data warehouses and costs up to 75% less.

4.4 Amazon Aurora

Amazon Aurora is a MySQL and PostgreSQL-compatible relational database built for the cloud that combines the performance and availability of high-end commercial databases with the simplicity and cost-effectiveness of open-source databases.

4.5 Amazon Neptune

Amazon Neptune is a fully managed graph database service that makes it easy to build and run applications that work with highly connected datasets. The core of Amazon Neptune is a purpose-built, high-performance graph database engine optimized for storing billions of relationships and querying the graph with milliseconds latency.

5 Networking & Content Delivery

5.1 Amazon VPC (Virtual Private Cloud)

Amazon VPC lets you provision a logically isolated section of the AWS Cloud where you can launch AWS resources in a virtual network that you define. You have complete control over your virtual networking environment, including selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways.

5.2 Amazon CloudFront

Amazon CloudFront is a fast content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to customers globally with low latency and high transfer speeds.

5.3 AWS Direct Connect

AWS Direct Connect makes it easy to establish a dedicated network connection from your premises to AWS. Using AWS Direct Connect, you can establish private connectivity between AWS and your data center, office, or colocation environment, which can reduce your network costs, increase bandwidth throughput, and provide a more consistent network experience than internet-based connections.

5.4 AWS Global Accelerator

AWS Global Accelerator is a networking service that improves the availability and performance of your applications with users around the globe. It provides static IP addresses that act as a fixed entry point to your applications, improving performance by routing user traffic to the optimal endpoint based on latency, health, and other policies.

5.5 AWS Route 53

Amazon Route 53 is a scalable Domain Name System (DNS) web service designed to give developers and businesses a reliable and cost-effective way to route end users to internet applications by translating names like `www.example.com` into the numeric IP addresses like `192.0.2.1` that computers use to connect to each other.

6 Application Integration

6.1 Amazon SQS (Simple Queue Service)

Amazon SQS is a fully managed message queuing service that enables you to decouple and scale microservices, distributed systems, and serverless applications. SQS offers two types of message queues: Standard queues offer maximum throughput, best-effort ordering, and at-least-once delivery, and FIFO queues, which are designed to guarantee that messages are processed exactly once, in the exact order that they are sent.

6.2 Amazon SNS (Simple Notification Service)

Amazon SNS is a fully managed messaging service for both application-to-application (A2A) and application-to-person (A2P) communication. It is used to send time-critical messages to large numbers of subscribers or other applications.

6.3 AWS Step Functions

AWS Step Functions lets you coordinate multiple AWS services into serverless workflows so you can build and update apps quickly. Workflows are made up of a series of steps, with the output of one step acting as input to the next.

6.4 Amazon EventBridge

Amazon EventBridge is a serverless event bus service that makes it easy to connect your applications with data from a variety of sources. It helps you to build event-driven architectures and to respond quickly to changes in your data.

6.5 Amazon MQ

Amazon MQ is a managed message broker service for Apache ActiveMQ and RabbitMQ that makes it easy to set up and operate message brokers in the cloud. It handles the provisioning, setup, and maintenance of message brokers, reducing the operational load for developers.

7 Security, Identity, & Compliance

7.1 AWS IAM (Identity and Access Management)

AWS IAM enables you to manage access to AWS services and resources securely. Using IAM, you can create and manage AWS users and groups, and use permissions to allow or deny their access to AWS resources.

7.2 AWS KMS (Key Management Service)

AWS KMS is a managed service that makes it easy to create and control the encryption keys used to encrypt your data. AWS KMS is integrated with other AWS services making it easy to encrypt the data you store in these services and control access to the keys that decrypt it.

7.3 AWS Shield

AWS Shield is a managed Distributed Denial of Service (DDoS) protection service that safeguards applications running on AWS. AWS Shield provides always-on detection and automatic inline mitigations that minimize application downtime and latency, so there is no need to engage AWS Support to benefit from DDoS protection.

7.4 AWS WAF (Web Application Firewall)

AWS WAF is a web application firewall that helps protect your web applications from common web exploits that could affect application availability, compromise security, or consume excessive resources.

7.5 AWS Secrets Manager

AWS Secrets Manager helps you protect access to your applications, services, and IT resources without the upfront cost and maintenance of managing your own hardware security module (HSM) infrastructure.