What is AWS?

Amazon Web Services (AWS) is the largest cloud computing platform, offering 200+ universally featured resources, from infrastructure to machine learning. These combinable systems provide maximum usability and are designed expressly for the optimization of one's application's performance through content delivery features, data storage, and more.

With AWS, one pay only for the exact amount of assistance required, resulting in lower capital commitment and enhanced time-to-value without compromising productivity.

Why use AWS services?

Amazon, the preeminent cloud vendor, broke new ground by establishing the first cloud computing service, Amazon EC2, in 2008. AWS offers more solutions and features than any other provider and has free tiers with access to the AWS Console, where users can centrally control their ministrations.

Designed around ease-of-use for various skill sets, AWS is tailored for those unaccustomed to software development utilities. Web applications can be deployed in minutes with AWS facilities, without provisioning servers or writing additional code.

Amazon hosts global data centers with a vast network ensuring reduced latency worldwide. AWS' replication capacity allows you to duplicate services regionally, helping you recover quickly and avoid costly downtime.

1. Amazon EC2 (Elastic Compute Cloud)

EC2 is a cloud platform provided by Amazon that offers secure, and resizable compute capacity. Its purpose is to enable easy access and usability to developers for web-scale cloud computing, while allowing for total control of your compute resources.

2. Amazon RDS (Relational Database Services)

Amazon Relational Database Service (Amazon RDS) makes database configuration, management, and scaling easy in the cloud. Automate tedious tasks such as hardware provisioning, database arrangement, patching, and backups – cost-effectively and proportionate to your needs.

RDS is available on various database instances which are optimized for performance and memory, providing six familiar database engines including Amazon Aurora, PostgreSQL, MySQL, MariaDB, Oracle. database, and SQL server. By leveraging the AWS Database Migration Service, you can easily migrate or reproduce your existing databases to Amazon RDS. Visit Amazon's RDS page.

Deploy applications rapidly without the need for investing in hardware upfront; all the while able to launch virtual servers as-needed and at scale.

3. Amazon S3 (Simple Storage Service)

Amazon S3, at its core, facilitates object storage, providing leading scalability, data availability, security, and performance. Businesses of vast sizes can leverage S3 for storage and protect large sums of data for various use cases, such as websites, applications, backup, and more.

Amazon S3's intuitive management features enable the frictionless organization of data and configurable access controls.

4. Amazon Lambda

Lambda permits you to run code without owning or managing servers. Users only pay for the compute time consumed.
Operate code for nearly any application or backend utility without administration. Users just upload the code, and Lambda does the rest, which provides precise software scaling and extensive availability.

5. Amazon CloudFront

CloudFront is a content delivery network platform that executes at rapid rates with the secure distribution of data, videos, apps, and APIs on a global scale with low delay-times. Connected with the global infrastructure of AWS, CloudFront integrates seamlessly with systems like Amazon S3, Amazon EC2, AWS Shield and Lambda@Edge to manage custom code, personalizing the experience.
When connected with applications such as Amazon S3, Amazon EC2, etc, there are no additional data transfer fees.

6. Amazon Glacier

AWS Glacier services are secure, flexible, and affordable Amazon S3 cloud storage classes for data caching and prolonged backup. These storage classes ensure confident delivery while ensuring comprehensive security and compliance capabilities, while fulfilling the regulatory prerequisites.
Users can store as little as $1 per terabyte monthly; meanwhile, helping them save both up-front and long-term when compared to their on-premises servers.

7. Amazon SNS (Simple Notification Service)

Amazon SNS is a fully managed messaging solution that provides low-cost infrastructure for bulk message delivery, primarily to mobile users. Users can chat directly with customers through system-to-system or app-to-person communication between decoupled microservice apps.

8. Amazon EBS (Elastic Block Store)

Amazon Elastic Block Store (EBS) is a high-performance block storage solution used within Amazon EC2 for throughput and transaction workloads of any size, at any time. It handles a diverse range of workloads, such as relational and non-relational databases, and enterprise applications.
With EBS, users have the option to choose between five different volume types to achieve optimal cost and effectiveness. Change volume size and type to fine-tune the performance without disturbing other vital applications, while maintaining cost-efficient storage on an as-you-go basis.

9. Amazon VPC (Virtual Private Cloud)

Amazon VPC enables you to set up a reasonably isolated section of the AWS Cloud where you can deploy AWS resources at scale in a virtual environment. VPC gives you total control over your environment, which includes the option to choose your own IP address range, creation of subsets, and arrangement of route tables and network access points.
Easily customize the network configuration of your VPC with flexible dashboard management controls designed for maximum usability. For example, users can launch public-facing subnet for web servers with internet access

10. Amazon Kinesis

Gain timely insights by leveraging Amazon Kinesis to collect, process, and analyze data in real-time, helping you react quickly. Key features inside AWS Kinesis are cost-efficient processing of streaming data at scale, and the option to choose tools best fit for your application.

Ingest real-time data, including video, audio, application records, website activity, and IoT telemetry data for machine learning and other apps. With Kineses, users can track, analyze, and process data in real-time, enabling instant response capabilities.

11. Amazon Auto-scaling

The AWS Auto-scaling solution monitors your apps and automatically tunes capacity to sustain steady, predictable performance at the lowest possible price. Seamlessly configure application scaling abilities for various resources across multiple services almost instantly.

Auto-scaling has a feature-rich and straightforward user interface that enables you to build scaling plans for various assets. These resources include Amazon EC2 instances and Spot Fleets, EC2 tasks, Dynamo DB tables and indexes, and Amazon Aurora Replicas.

12. Amazon IAM (Identity and Access Management)

AWS Identity and Access Management provides secure access and management of resources in a secure and compliant manner. By leveraging IAM, you can create and manage users and groups by allowing and denying their permissions for individual resources.

There are no additional costs, people only get charged for the use of other services by their users.

13. Amazon SQS (Simple Queue Service)

AWS SQS is a fully managed message queuing facility enabling you to decouple and scale microservices, distributed systems, and serverless apps. SQS purges the intricacies and overhead associated with managing and operating message-oriented middleware and permits developers to focus on diverse workloads.

With SQS, users can send, store, and receive messages between multiple software parts en masse, without losing message data or requiring the availability of other systems. SQS offers two classes of message queues, including standard queues, which provide maximum throughput and FIFO queues to guarantee that messages are processed only once, in the exact order the sequences occurred

15. Dynamo DB

DynamoDB is a document database with key-value structuring that delivers single-digit millisecond performance at scale. Dynamo has built-in security with a fully managed, multimaster, multiregion, durable database, backup and restore, and in-memory archiving for web-scale applications.

DynamoSB can manage upward of 10 trillion requests daily and can support thresholds of more than 20 million requests per second.

16. Amazon ElastiCache

ElastiCache is an AWS service that effortlessly sets up, runs, and scales popular open-source, in-memory data storages in the cloud. Operate data-intensive apps or enhance the performance of existing databases by evaluating data from high throughput and low latency in-memory data stores.

AWS ElastiCache is a popular option for real-time use cases including caching, session stores, gaming, geospatial services, live analytics, and queuing. For high-maintenance applications that require sub-millisecond response times, ElastiCache offers fully managed Redis and Memcached applications.

17. Amazon Redshift

Redshift is a data warehouse service offering industry-leading performance and seamless provisioning that supports cost-effective data analysis on standard SQL.

Operate sophisticated analytic queries against terabytes to petabytes of structured data using query optimization, columnar storage, and parallel query execution.

18. Amazon Sagemaker

SageMaker is a full-fledged management service providing developers and data scientists with the resources to build, train, and deploy machine learning models rapidly. Use it to create highly scalable machine learning models that deploy products faster and deliver to market quickly.

19. Amazon Lightsail

Amazon Lightsail is an easy on-ramp for users who are getting started with AWS and just need virtual private servers. Lightsail has the tools required for a speedy product launch at a low and predictable price.

The resources included in Lightsail are virtual machines, SSD-based storage, data transfer, DNS management, and a static IP. After the provision of an instance, you can easily manage them within the Lightsail console, Lightsail API, or Lightsail command line interface.

20. Amazon EFS (Elastic File System)

Elastic File System is an AWS service offering a simple, scalable, fully managed elastic NFS file system for use with AWS cloud services and on-prem resources. By leveraging EFS, users can scale on-demand to petabytes without disturbing application performance, automatically shifting as files transfer, meanwhile eliminating tedious, manual tasks.

EFS provides massively shared access to thousands of Amazon EC2 instances, while granting your apps access to high levels of aggregate throughput and IOPS with perennial low late cues.

21. Amazon Cloudwatch

CloudWatch on AWS is a monitoring and observability service designed for DevOps engineers, developers, site reliability engineers, and IT managers. In the CloudWatch console users can monitor applications, respond to performance changes system-wide, scale resources expediently, and view overall health in the form of logs, metrics, and events.

With CloudWatch, detect abnormal behaviour in your environments, set alerts, troubleshoot issues, take automated actions, and more.

22. Amazon Chime

Chat, meet, and place business calls on Chimes communication service inside and outside of your application, all on a single platform. Leverage the same infrastructure and operations of Amazon Chime with audio calling, video calling, and screen sharing capabilities integrated directly to the Amazon Chime SDK.

Amazon Chime Voice Connector lets enterprises migrate their telephony workloads to AWS, supporting inbound and outbound calling functionality.

23. Amazon Cloud Directory

Cloud Directory allows you to develop durable cloud-native directories for data hierarchy structuring along multiple dimensions. Users can build directories for a variety of use cases, including organizational charts, course catalogs, and device registries. Organizational charts can be navigated through individual hierarchies for reporting structure, location, and cost center, scaling to hundreds of millions of objects.

Cloud Directory removes time-intensive, costly administrative tasks, like scaling infrastructure and managing servers. Users define a strategy, create a directory, and then colonize their directory by coordinating with the Cloud Directory API.

24. Amazon Cognito

AWS Cognito administers a control access dashboard for on-boarding users through sign-up, and sign-in features to their web and mobile apps. AWS Cognito scales to millions of users and offers sign-in support with social identity providers including Facebook, Google, and Amazon, along with enterprise identity providers via SAML 2.0.

25. Amazon Inspector

Inspector provides automated security assessment to enhance security and compliance of apps deployed on AWS. AWS Inspector automates security audits to reveal vulnerabilities, exposures, and deviations.

After each assessment, Inspector displays a comprehensive list of security findings prioritized by the level of threat presented to your software - available on the user console or API.