

# Amazon Web Services Cheat Sheet

This AWS services cheat sheet will guide you through the [basics of AWS](#), which will be helpful for beginners and also for those who want to take a quick look at the important topics of AWS.



Let's start our discussion by talking about [Cloud Computing](#) first.

## Cloud Computing

It is an internet-based computing service in which various remote servers are networked to allow centralized data storage and online access to computer services and resources.

## Types of Cloud

There are three cloud types:

- **Public cloud:** Here, the resources and services provided by third-party service providers are available to customers via the Internet.
- **Private cloud:** In a private cloud, the resources and services are managed in-house or by third parties, exclusively for a particular organization.
- **Hybrid cloud:** It is a combination of both public and private cloud types. The decision whether to run the services on public or private depends on some parameters such as the sensitivity of the data and applications, industry certifications and required standards, etc.

## AWS

Amazon Web Services (AWS) is a collection of various Cloud Computing services and applications that offers flexible, reliable, easy-to-use, and cost-effective solutions.

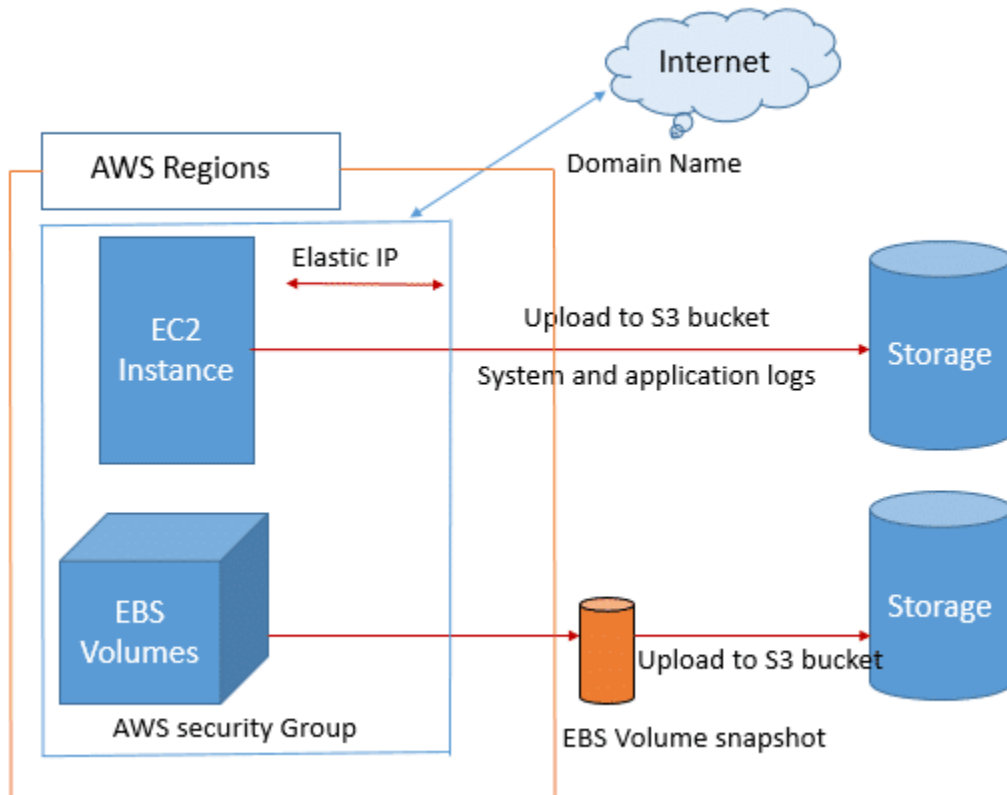
**Instance:** An instance is a virtual server for running applications on AWS.

## Types of AWS Services

**Auto-scaling:** [AWS Auto Scaling](#) is a service designed by EC2, which is used to launch or terminate EC2 instances based on user-defined policies.

**Elastic Load Balancing:** It automatically distributes the incoming application traffic across multiple instances at multiple availability zones.

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## Networking Services

- **VPC:** Amazon Virtual Private Cloud (VPC) is a virtual data center in AWS consisting of a set of isolated resources.
- **Direct Connect:** It is used to establish a dedicated network connection from the host network to AWS without an Internet connection.
- **Route 53:** It is a scalable and highly available Domain Name System (DNS) and domain name registration service, and 53 is the port on which this service runs.

## Computing Services

- **EC2:** It is a virtual server that provides resizable compute capacity on the cloud.
- **Elastic Beanstalk:** It is an application container used for deploying and managing containers. It creates an environment for working with web applications.
- **Lambda:** It is a computing service that runs the code in response to events and automatically manages the computing resources.

- **EC2 Container Service:** It allows us to easily run and manage Docker containers across a cluster of EC2 instances.

## Storage Services

- **S3:** It refers to Simple Storage Service and allows the storage of data objects of any sort and flat files in the cloud. It is secure, scalable, and durable.
- **CloudFront:** **CloudFront** defines a Content Delivery Network. It provides a way to distribute content to end-users with low latency and high data-transfer speeds.
- **Glacier:** It is a low-cost storage service that provides secure and durable storage for long-term data archiving and backup.
- **EFS (Elastic File Storage):** It is a file storage service used in [EC2](#) instances and connects to multiple EC2 instances.
- **Snowball:** It is used for moving large amounts of data into/out of AWS using secure appliances, i.e., it provides the data archiving functionality for the data that no longer needs to be accessed actively.
- **Storage Gateway:** It is used for securely integrating on-premises IT environments with cloud storage for backup and [disaster recovery](#).
- **RDS (Relational Database Service):** It allows the storage of data objects as part of the relational database. It makes it easy to set up, operate, and scale familiar relational databases in the cloud.
- **DynamoDB:** It is a scalable NoSQL data store that is used to manage distributed replicas of data for high availability.
- **ElastiCache:** It improves application performance by allowing us to retrieve information from an in-memory caching system. It is a way of caching databases in the cloud.
- **Redshift:** It is a fast, fully managed data warehousing service, which makes it cost-effective to analyze all data using the existing Business Intelligence tools.
- **DMS (Data Migration Service):** It helps in migrating databases to the cloud easily and securely. It can also be used for converting databases.
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## Analytics

- **Amazon EMR:** [Amazon Elastic MapReduce](#) helps in performing big data tasks such as web indexing, data mining, and log file analysis.
- **Data Pipeline:** It helps in moving data from one service to another. It is a service used for periodic, data-driven workflows.
- **AWS Elasticsearch:** It is a managed service that helps in deploying, operating, and scaling Elasticsearch.
- **Kinesis:** It makes it easy to work with real-time streaming data in the AWS cloud.
- **AWS Machine Learning:** It is a service that enables us to easily build smart applications.
- **QuickSight:** [AWS QuickSight](#) is a cloud-assisted Business Intelligence service that helps in deriving insights from data easily.

## Security and Identity

- **IAM:** It helps in configuring security for all the services. It is used to ensure that our other services remain safe and inaccessible to others.
- **Directory Service:** It is used to provide a managed directory in the cloud.

- **Inspector:** It enables us to analyze the behaviour of the applications we run on AWS and helps in identifying potential security issues.
- **AWS WAF (Web Application Firewall):** It protects our web application from attacks by providing web traffic filters.
- **Cloud HSM:** It is a Hardware Security Module.
- **KMS:** It is a Key Management Service.

## Management Tools

- **CloudWatch:** It is used to create different metrics. It provides monitoring for resources and applications.
- **CloudFormation:** It helps in creating and updating a collection of related AWS resources.
- **CloudTrail:** It provides increased visibility into user activity by recording API calls made on an account.
- **OpsWorks:** It is a [DevOps](#) platform for managing applications of any size or complexity on the AWS cloud.
- **Config:** It gives an inventory of AWS resources, lets us audit the AWS resource configuration history, and notifies the changes.
- **Service Catalog:** It allows organizations to manage approved catalogs of IT resources.
- **Trusted Advisor:** It inspects the AWS environment and finds opportunities to save money and improve system performance

## Application Services

- **API Gateway:** [AWS API Gateway](#) is used to create, maintain, monitor, and secure APIs.
- **AppStream:** It is used to stream resource-intensive applications and games from the cloud to multiple users.
- **CloudSearch:** It is a completely managed search service for websites and apps.
- **Elastic Transcoder:** It is used to convert media files in the cloud easily at a lower cost.
- **SES (Simple Email Service):** It is used to send and receive emails.
- **SQS (Simple Queue Service):** It is a reliable, hosted queue for storing messages.
- **SWF (Simple Workflow Service):** It is used to coordinate all the processing steps with an application.

## Developer Tools

- **AWS Code commit:** It is a managed source-control service that hosts private Git repositories.
- **AWS Code deploy:** It is used to automate the code deployment.
- **AWS Code pipeline:** It is a continuous delivery service that enables us to visualize and automate the steps required to release software.
- **AWS Amplify:** The [AWS Amplify](#) tool includes UI components, a command line interface, and a set of libraries to integrate your backend in any mobile or web app.

## Mobile Services

- **Mobile Hub:** It helps in building, testing, and monitoring the usage of mobile apps.
- **Cognito:** [AWS Cognito](#) is a simple user-identity and data-synchronization service that helps in securely managing and synchronizing the app data for users across their mobile devices.
- **Device Farm:** It helps in improving the quality of Android, Fire OS, and iOS apps by testing them against real phones and tablets on the cloud.

- **Mobile Analytics:** It is a service that is used to easily collect, visualize, and understand app usage.
- **SNS (Simple Notification Service):** It helps in publishing messages to subscribers or to other applications.

## Enterprise Apps

- **WorkSpace:** It is a fully managed desktop computing service on the cloud.
- **WorkDocs:** It is a storage and sharing service with strong administrative controls and feedback capabilities that improve user productivity.
- **WorkMail:** It is an email and calendaring service that offers strong security controls and support for the existing desktop and mobile clients.

## Types of EC2 Computing Instances

- **General Instances:** Used for applications that require a balance of performance and cost
- **Compute Instances:** Used for applications that require a lot of processing from the CPU
- **Memory Instances:** Used for applications that need a lot of RAM
- **Storage Instances:** Used for applications with datasets that occupy a lot of space
- **GPU Instances:** Used for applications requiring heavy graphics rendering

## Basic CLI Commands

- **cat /proc/mounts:** To display a list of mounted drives
- **rm <filename>:** To remove the specified file from the current directory
- **rpm - qf <package name>:** To obtain a list of utilities contained within a package
- **sudo chmod <options>:** To change the access mode for the current directory
- **sudo mkdir <directory name>:** To create a new directory to hold files
- **sudo reboot:** To reboot the removed AWS system so that we can see the results of any changes we make
- **sudo rmdir <directory name>:** to remove the specified directory
- **sudo yum groupinstall "<group package name> ":** To install the specified group of packages
- **sudo yum search '<package name> ':** To search for a package
- **sudo yum update:** To perform the required AWS updates
- **sudo yum -y install <service or feature>:** To install a required support service or feature onto the AWS system

With this, we come to the end of the AWS tutorial section that provides an AWS Cheat Sheet and Reference Guide.