

Amazon Web Services Tutorial



Introduction

AWS is the world's leading cloud platform, but getting started can be overwhelming because of the volume of services-the so-called "service sprawl"-and the fear of unexpected billing. Many starters have a hard time with IAM and networking concepts.

This Amazon Web Services tutorial aims to cut through that complexity and only focus on those foundational services that you actually need to build your skills. We'll provide hands-on steps and clear explanations to avoid those common pitfalls. Ready to de-mystify the cloud? Click here to view the full [AWS course syllabus](#) and start your journey!

Why Students or Freshers Learn AWS?

Learning AWS is very important for students and freshers because it opens high-demand, high-paid jobs in the fastest-growing sector of IT.

- **Huge Demand:** More than 80% of large businesses use AWS, which will guarantee a wide range of job opportunities.
- **Top Salaries:** Cloud roles, such as DevOps and Cloud Architect, are considered one of the highest-paid entry-level positions.
- **Career Security:** AWS skills are the foundation of the future in tech- AI/ML and Big Data-and make your career future-proof.
- **Credibility:** AWS certifications, such as Cloud Practitioner, are proofs of your credibility to employers.
- **Practice:** The AWS Free Tier allows risk-free, hands-on learning.

Are you ready to prepare for your interviews and get a cloud job? Click here for [**AWS Interview Questions and Answers!**](#)

Step-by-Step Amazon Web Services Tutorial for Beginners

AWS (Amazon Web Services) is a well-liked cloud computing platform. Its first product, S3, was released in 2006. AWS has expanded significantly in terms of size and product offerings. Currently, it is the world's largest cloud provider.

Part 1. Introduction to Amazon Web Services

AWS's services include EC2 for virtual servers, S3 for scalable storage, RDS for managed databases, and Lambda for serverless computing.

Applications of AWS

Companies can use AWS to minimize infrastructure expenses, increase flexibility, and easily deploy applications abroad.

- By outsourcing its IT management to AWS, a small manufacturing company leverages its experience to grow.
- A large global organization can use AWS to train its dispersed staff.
- An architecture consulting company can use AWS to receive a high-computing visualization of the built prototype.
- A media organization can utilize AWS to distribute various kinds of content, including audio files or e-boxes, globally.

The advantages of Amazon Web Services are as follows:

Flexibility: It makes hosting old apps simple and gives us the option of running the apps and services concurrently or separately.

Cost-effectiveness: It makes hosting old apps simple and gives us the option of running the apps and services concurrently or separately.

Scalability: Autoscaling and elastic load balancing strategies are automatically implemented using AWS in response to variations in demand.

Security: Customers can get complete privacy and security from AWS.

AWS Infrastructure

AWS is a globally accessible cloud computing platform. AWS operates in a region known as global infrastructure. AWS is available in 33 regions, and 105 availability zones in December 2024.

The AWS infrastructure is composed of the following parts:

- **Availability Zones:** Multiple data centers can make up an availability zone, but only one availability zone is created if they are near one another.
- **Region:** A region is made up of all the data centers in it that are segregated from every other region. Metro fibers that are separated and redundant link availability zones.
- **Edge locations:** The endpoints for AWS that are utilized for content caching are called edge locations. Beyond regions, edge places exist. There are more than 150 edge places at the moment.

For example, CloudFront is Amazon's Content Delivery Network (CDN).

- **Regional Edge Caches:** Between the edge locations and CloudFront Origin servers is where the Regional Edge cache is located. The cache size of a regional edge cache is larger than that of an individual edge site.

Part 2. Configuring AWS Free Tier Architecture

Here are the steps to sign up for the AWS platform:

Step 1: Start by going to <https://aws.amazon.com>.

Step 2: After accessing the website, the screen below displays. Click Complete Sign Up to establish an account and fill out the necessary information.

Step 3: Now, press the “*Complete Sign Up*” button. If you already have an AWS account, please provide your account email address; if not, click “Create an AWS Account.”

Step 4: The following screen shows when the user clicks the button, requiring them to fill out several pieces of data.

Step 5: Now fill in the contact information.

Step 5: Enter your payment details after supplying your contact details.

Step 6: Click “Contact me” once you’ve submitted your payment details and verified your identity with your phone number and security code.

Step 7: To confirm that the phone number you have provided is accurate, AWS will call you.

Step 8: The following notice shows on the screen when the number has been validated.

Step 9: Now, you are redirected to the “Management Console” when you click the link to log in once more. It is the final step.

AWS Account Identifiers

Each user’s account on AWS is assigned one of two unique ID types:

- An AWS Account ID
- A canonical user ID

An AWS account ID

The 12-digit AWS account ID, which looks like 123456780123, is used to create Amazon Resource Names (ARNs).

Resources, including those belonging to an IAM user, can be identified from those in other AWS accounts by their AWS account ID.

The AWS Management Console is where we may locate the AWS account ID. To view your account ID, complete the following actions:

Step 1: After providing your email address and password to access the AWS account, you may access the management console.

Step 2: Click the account name now to bring up a drop-down selection.

Step 3: Now select “My Account” from the drop-down option next to your account name to display your account ID.

Canonical User ID

When an Amazon S3 bucket policy uses a canonical user ID, it allows resources in one AWS account to be accessed through another AWS account.

For example, you must include the canonical user ID to your bucket’s policy if you wish to grant access to your bucket from an AWS account.

A 256-bit, 64-digit Canonical user ID is encoded in hexadecimal.

Here are the steps to find the canonical user ID:

Step 1: First, go to <https://aws.amazon.com> and use your email address and password to log into your AWS account.

Step 2: Click on the account name from the management console's right side.

Step 3: Select "My Security Credentials" from the account name dropdown menu. The screen that appears is displayed below:

Step 4: To view the Canonical user ID, click Account Identifiers.

Part 3. Top AWS Services

AWS provides a wide range of services to enable the rapidly evolving field of cloud computing, as per the areas and needs. The most popular and widely used AWS services are as follows:

Amazon EC2

EC2 is the name of a virtual server in the Amazon Cloud. The abbreviation for Amazon Elastic Cloud Compute is AWS EC2. It makes increasing and decreasing capacity easier.

Reasons to Choose EC2

- It facilitates the process of raising and lowering capacity. EC2 is safe to use.
- You can therefore access the resources whenever you need to.
- There is no need for initial payment. Only the necessary purchases are made.

Configuration of Amazon EC2

Three stages are involved in getting started using EC2.

Step 1: Launch: Choose a template with the most basic configurations first. The operating system, application server, and/or applications are included in the configuration.

Step 2: Connect: Applications and programs can communicate data via a variety of connection mechanisms. By logging in, users can establish a connection and access the desktop.

Step 3: Use: You can utilize the instance after connecting. Run commands to add storage, copy, arrange, and install software, among many other things.

EC2 Instances

There are various kinds of instances. Based on their needs, one should choose which to use.

General Purpose Instance: It is used to balance computing, memory, and networking resources for various purposes like application servers, gaming servers, and so on.

Compute Optimized Instances: When high computing is required, they work well. Web apps, game servers, and application servers can all benefit from this kind of.

Memory Optimized Instances: This kind is quick to deliver tasks with massive datasets. Before the computer can use it, it loads it from storage, stores the data, and processes it.

Accelerated Computing Instances: Accelerators improve the processing of data. For streaming and graphics-intensive applications, the Accelerated Computing Instances work well.

Storage Optimized Instances: They are made to provide a high volume of input quickly. They fit large file systems, data warehouses, and online transaction systems.

Amazon S3

Amazon Simple Storage Service is an acronym for AWS S3. Any kind of file can be uploaded with it. You can set a file's access rights in S3. It is stored at the object level.

AWS S3 Storage Classes

AWS S3 storage classes are many. Their access to data varies. The frequency of data retrieval and associated costs.

- **S3 Standard:** It offers high availability for items that are stored. At least three availability zones are used to store data. It has a high cost.
- **S3 Standard – Infrequent Access:** S3 Standard-IA is for frequently requested data. It is the same as the S3 standard. Costly data retrieval but cheaper storage. The cost is greater than for other classes.
- **S3 One Zone-Infrequent Access, or S3 One Zone-IA:** Data is kept in a single availability zone. Compared to S3 Standard and S3 Standard-IA levels, it is less costly.
- **S3 Intelligent – Tiering:** It is for automation as well as observation. For data whose access is unpredictable or changes frequently, it is advised.
- **S3 Glacier:** It is used to achieve data. In a matter of minutes, it can retrieve things. S3 Glacier is a slower and less expensive class.
- **S3 Glacier Deep Archive:** It works best for archives, just like S3 Glacier. S3 Glacier Deep Archive can retrieve objects in 12 hours, as opposed to S3 Glacier.

AWS Lambda

One serverless computing service is AWS Lambda. You can run code with this service, and it enables you to concentrate on the most crucial tasks, like creating a fantastic application.

Just the compute time that you utilize is charged to you. Pay solely for the time your code runs; this is also known as paying for what you use.

How AWS Lambda Works

The general steps to comprehend the idea are as follows:

- Launch your Lambda code.
- Prepare the code so that it may start an event.
- Code execution is limited to triggers.
- Only pay while your code is executing.

Back-end Code with AWS Lambda

AWS Lambda can be used to execute back-end code. You can utilize node.js, Python, Java, Kotlin, or C# in it.

Amazon RDS or AWS Relational Database Service

It automates database tasks and makes it possible to use relational databases on the AWS Cloud.

The following database engines are supported:

- AWS PostgreSQL with Aurora
- SQL
- MaDB
- Oracle Information Base
- Microsoft SQL Server

Amazon Aurora: For big businesses and organizations, Amazon Aurora is a relational database that is perfect. It provides great data availability. It works great for handling big data sets.

As compared to a MySQL database, it is five times faster. Compared to a PostgreSQL database, it is three times faster.

Amazon VPC or AWS Virtual Private Cloud

A service called Amazon VPC, or Amazon Virtual Private Cloud, enables customers to start their virtual machines in a secure and private virtual environment that they designate.

Use Cases of AWS VPC

- A single-tier basic web application, a public-facing website, or just a regular website can all be hosted with VPC.
- With VPC peering, we may use VPC to restrict the connectivity between our web servers, application servers, and databases.
- The incoming and outgoing security of our application can be restricted by controlling the inbound and outbound connections.

Part 4. AWS Management Console

The AWS management console is the web-based interface to use to access AWS. It has a smartphone application for the same purpose and requires an AWS account.

Upon logging in for the first time, you are presented with the console home page, which lists all of AWS's services. The console is also used for cost monitoring.

Features of AWS Management Console

- Developers can create apps using AWS as their backend by utilizing a variety of Software Development Kits (SDKs) that provide access to AWS resources.
- Every major language (e.g., JavaScript, Python, Node.js, .Net, PHP, Ruby, Go, and C++) has an SDK available.
- Android, iOS, React Native, Unity, and Xamarin all have mobile SDKs available.
- AWS has a remote access tool called the AWS Command Line Interface (CLI) that may be used to create scripts that automate a variety of tasks.
- The AWS-API can be used to make HTTP requests to AWS.
- There is an iOS and Android app for this console as well. You may easily download the AWS console app for mobile apps.

Part 5. AWS Cloud Computing Models

AWS offers three different cloud computing models.

IaaS, or infrastructure as a Service

It gives users access to networking capabilities, computer hardware (virtual or dedicated), and data storage space.

It is very adaptable and provides the developer with management authority over the IT resources.

For example, VPC, EC2, and EBS.

Platform as a Service (PaaS)

Using PaaS, developers can work more efficiently. They can focus on application deployment and management rather than undifferentiated heavy lifting like capacity planning, software maintenance, resource procurement, patching, etc.

For example, RDS, EMR, and ElasticSearch.

SaaS, or Software as a Service

It is a finished product that often uses a web browser. It is mostly used for end-user software. The service provider is in charge of managing and running it. The only thing left for the end user to worry about is applying the right software for their needs.

For example, Salesforce.com, web-based email, and Office 365.

There are many other things to learn in AWS. We have covered some fundamental things to start learning about AWS in this AWS tutorial. Check out our other blog that covers [AWS Challenges and Solutions](#) to learn further.

Real Time Examples for AWS Tutorial for Learners

The best way to learn AWS is by working on real-world, practical examples that reflect how companies really use the cloud. Such examples often involve several services combined and provide you with the kind of skills highly prized by employers.

Hosting a Simple Static Website

- **Real-World Use:** Hosting documentation, landing pages, or a personal portfolio site.
- **Services Used:** Amazon S3, which provides secure, low-cost file storage, and Amazon CloudFront, a Content Delivery Network caching the site globally to ensure fast page loads.
- **Core Concepts:** Object storage, public/private access control, and content distribution.

Deploying a Serverless Web API

- **Real-World Use:** Creating a backend for either a mobile application or a dynamic website, such as user registration or even form submissions.
- **Services Used:** AWS Lambda for running code without managing servers, Amazon API Gateway for handling HTTP requests, and Amazon DynamoDB, a fast, flexible NoSQL database.
- **Core Concepts:** Serverless computing; event-driven architecture; permissions management with IAM (Identity and Access Management)

Setting Up an Automated Backup Solution

- **Real-World Use:** Business continuity and disaster recovery of critical data or databases of an enterprise.
- **Services Used:** Amazon EC2 for virtual servers; Amazon S3 for long-term storage; and Amazon CloudWatch to monitor the process and trigger alerts.
- **Core Concepts:** Virtual Machine deployment, scheduled events, leveraging the cloud for data durability.

Ready to transition from theory to practice? Apply these concepts right away! Check out some awesome [AWS project ideas](#) to build your portfolio!

FAQs About Amazon Web Services Tutorial for Beginners

1.What are the 4 pillars of AWS?

Currently, the AWS Well-Architected Framework is based on six pillars, which include Operational Excellence, Security, Reliability, Performance Efficiency, Cost Optimization, and Sustainability. The original framework had the first four: Operational Excellence, Security, Reliability, and Performance Efficiency.

2.Can I learn AWS on my own?

Yes, certainly. AWS has given extensive documentation, the generous Free Tier for hands-on practice, and several certification paths-like Cloud Practitioner-which structure your self-learning journey. However, it is important to have hands-on exposure for jobs.

3.What is the AWS job salary?

AWS job salaries vary a lot depending on the role, location, and experience. An entry-level Cloud Support/Engineer generally starts at ₹ 4.5 – ₹ 6 LPA in India, while for certified roles like Solutions Architect, the compensation increases very fast. Know more about [AWS salary for freshers and experienced in India](#).

4.How many roles are there in AWS?

There is no defined number, but key roles leveraging AWS heavily include Cloud Architect, DevOps Engineer, Cloud Developer, Cloud Security Specialist, and Data Engineer.

5.How many 9s is AWS?

AWS is legendary for the durability of Amazon S3, which is designed for 11 nines (99.999999999%). That means it is designed to preserve data over ultra-long periods by replicating it across multiple Availability Zones.

6.What are the 4 main cloud services?

The four main cloud service models are: Infrastructure as a Service (IaaS) – such as EC2, Platform as a Service (PaaS) – such as AWS Elastic Beanstalk, Software as a Service (SaaS) – such as Gmail, and often Function as a Service (FaaS) – such as AWS Lambda.

7.How many subnets are in AWS?

The default quota for subnets per VPC within AWS is 200, although this is a soft limit and can usually be increased by request through an AWS support ticket.

8.Which cloud type is most secure?

The Private Cloud model, since it is dedicated to one organization, is often considered the most secure because it offers the highest level of control, isolation, and customization for strict compliance requirements.

9.Can my cloud be hacked?

Yes, your cloud environment can be hacked, mainly because of user-side misconfigurations, weak IAM (Identity and Access Management) policies, insecure APIs, or stolen credentials. The cloud provider secures the cloud, but you secure the data in the cloud.

10.What are the security tools of AWS?

AWS has a lot of security tools: AWS IAM, which stands for Identity and Access Management; AWS Security Hub for compliance monitoring; Amazon GuardDuty for threat detection; and AWS WAF, standing for Web Application Firewall, for application protection.

Conclusion

You have successfully covered the basic concepts of AWS, demystified the service sprawl, and identified the critical importance of cloud literacy. Remember, the path from

newbie to professional is based on hands-on practice and continuous learning. By focusing on key services, practicing with Free Tier, and prioritizing security basics, you are now ready to build real-world projects. Ready to take the next structured step and master AWS core services? Join our complete [**AWS course in Chennai**](#) today and become a Certified Cloud Practitioner!