Cloud Internship Program

DATAVALLEY™

IT SOLUTIONS | TRAININGS | PLACEMENTS

Introduction to AWS

Quick Recap

1. AWS vs Azure vs GCP
2. Top Cloud Computing Real Time Use Cases
3. Cloud Computing Myth
4. What is Virtualization
5. Understanding Cloud Architecture

About Datavalley

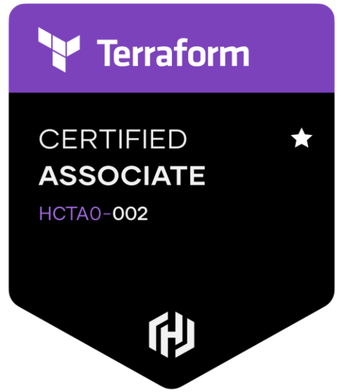
Datavalley, Inc. is a multinational corporation with a mission to create high-performing data experts and deliver innovative data solutions. Datavalley specializes in providing top-tier training and consulting services in cutting-edge fields such as Full Stack, Big Data, Data Engineering, DevOps, Data Science, ML, IoT, Cloud Technologies, and Advanced Analytics. The company is headquartered in Newark, Delaware, USA and maintains a strong global presence with multiple offices in various countries, including the United Kingdom and India.

Our Vision is to transform the data ecosystem by cultivating top-tier professionals and Bridging the gap between real-world demands and academic learning. We aspire to become the Gold Standard in providing innovative data solutions, consulting, and training. Our goal is to pioneer a future where organizations reach unprecedented heights with data as the cornerstone of innovation.

Our Mission is to drive success and growth for organizations through the power of data. As a leading provider of innovative data solutions, consulting, and training, we are committed to empower professionals with the essential skills and knowledge needed to succeed in today's data-driven world.

KNOW YOUR TRAINER

Shivani Gandhi
DevOps Engineer,
IBM India



Shivani is a certified passionate engineer educator and trainer with more than 4 years of experience into the industry and training. She has specialization in multi cloud domain with infra and Devops. She is a cloud enthusiast and enjoys reading about new cloud tech enhancement and eagerly shares newfound discoveries and sparking discussions on the transformative power of cloud technologies. She specializesin delivering customized trainings based on customer and business needs. She also hasexperience in delivering online and classroom training. Shivani has mentored manystudents for their final year projects.She has experience in delivering training for participants from Mumbai, Hyderabad,Pune, and Bengaluru.

Today’s Agenda

1. What is AWS?
2. AWS Cloud Architecture
3. AWS Global Infrastructure (AZ, Edge Locations, Regions)
4. AWS Free Tier Sign Up
5. AWS Management Console
6. AWS Service Domains

Introduction to AWS

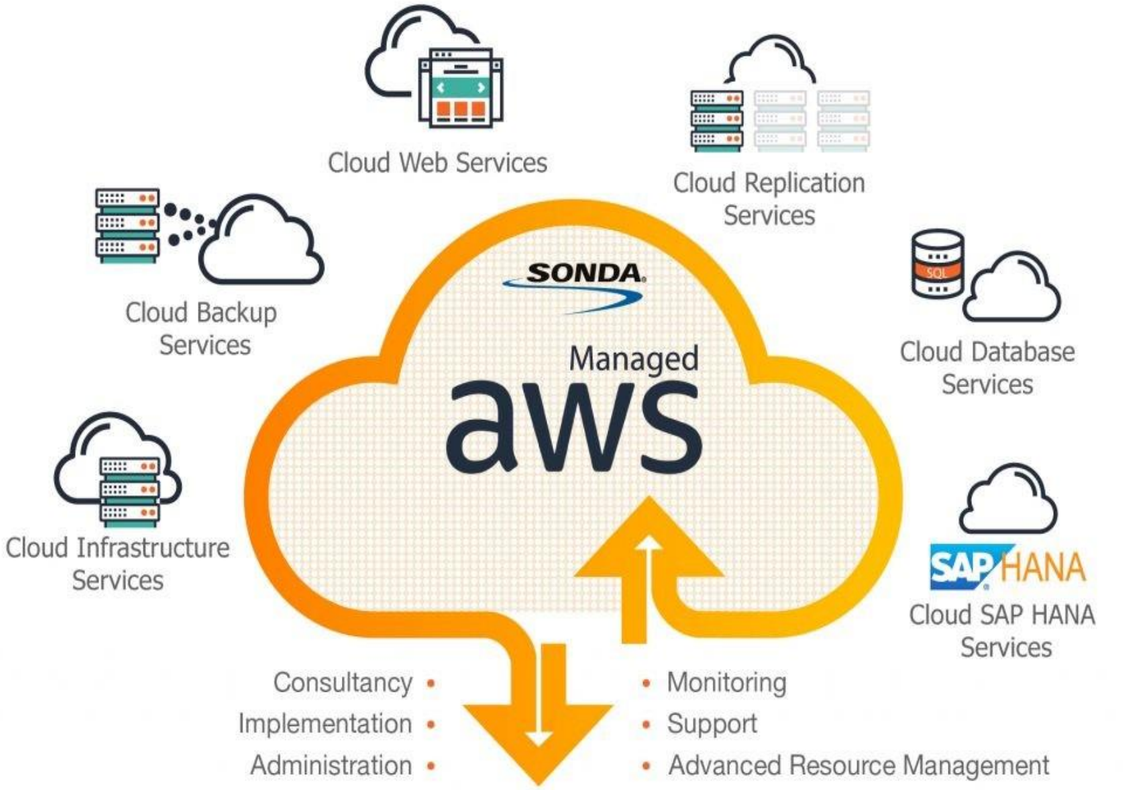
Introduction to AWS

What Is AWS?

Definition:

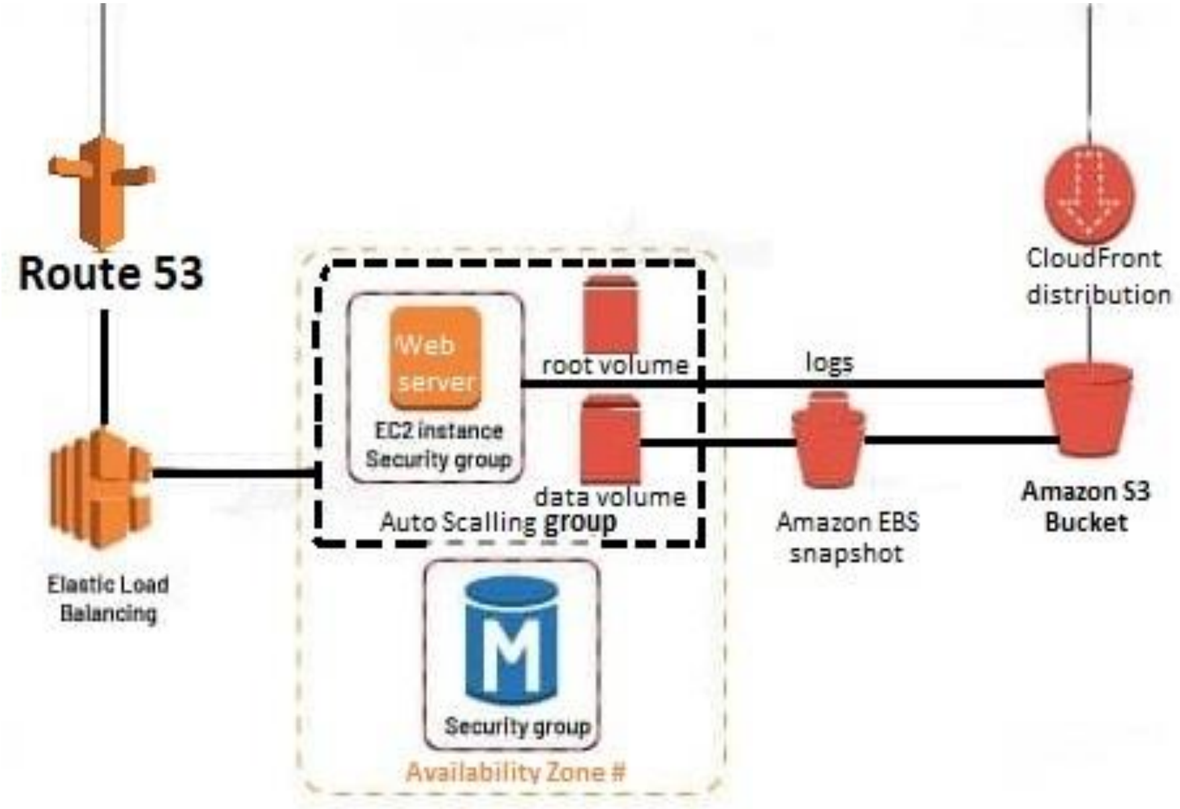
Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.

- Most functionality
- Largest community of customers and partners
- Most secure
- Fastest pace of innovation
- Most proven operational expertise



AWS Cloud Architecture

Introduction

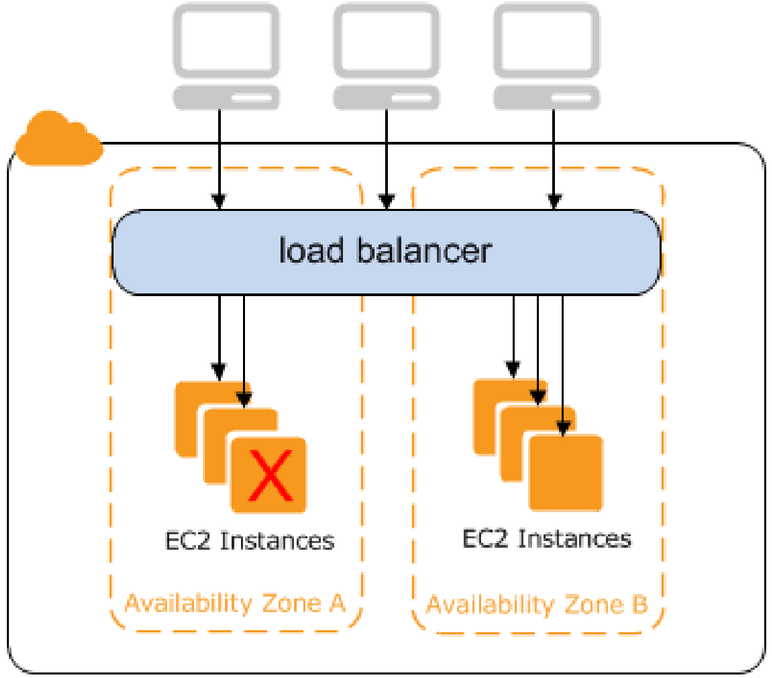


AWS Cloud Architecture refers to the design and layout of the various AWS services and resources that work together to meet specific business requirements. It typically involves the use of services like Amazon EC2 (Elastic Compute Cloud) for computing power, Amazon S3 (Simple Storage Service) for storage, Amazon RDS (Relational Database Service) for databases, and other AWS components that help create scalable, flexible, and reliable solutions.

Key Components of AWS Architecture

Load Balancing :

The load balancing component of AWS architecture facilitates the enhancement of the application and the efficiency of the server. The hardware load balancer is generally used as a common network appliance in the architecture of traditional web applications to perform load balancing. But with AWS Elastic Load Balancer, the delivery of load balancing has become more efficient. Traffic is easily distributed to EC2 instances across various availability zones in AWS. The traffic is distributed to dynamic additions as well.



Key Components of AWS Architecture

Elastic Load Balancer :

ELB components become handy when the required traffic to the web servers needs to be delivered. It increases the performance greatly. Dynamic growth can be easily achieved through an Elastic Load Balancer. Based on various traffic conditions, its capacity can be adjusted.

Key Components of AWS Architecture

Amazon CloudFront :

This component is mainly used for the delivery of the content on the website. The content can be of many types, such as streaming content, static or dynamic that are stored in global network locations. Users can request the content from any closest location in an automatic way, which ultimately enhances the performance.

Key Components of AWS Architecture

Security Management :

AWS is mainly known for its secure environment where users can deploy their work without a doubt. It provides a security grouping feature. This is very similar to inbound network firewalls and ports, source IP ranges, and protocols that need to be specified to reach EC2 instances.

Key Components of AWS Architecture

ElastiCache:

This tool is very handy in AWS when the memory cache needs to be managed in the cloud. In memory management, clearing cache plays a big role to help reduce the load on the server. Frequently used information is easily cached to increase scalability, reliability, and performance.

Key Components of AWS Architecture

Amazon RDS :

RDS stands for Relational Database. It offers services very similar to MySQL and Microsoft SQL Server and is very user-friendly and easily accessible.

Key Components of AWS Architecture

Amazon S3 :

Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance.

AWS Global Infrastructure

The AWS Global Infrastructure gives you the flexibility of choosing how and where you want to run your workloads, and when you do you are using the same network, control plane, API's, and AWS services. If you would like to run your applications globally you can choose from any of the AWS Regions and AZ's

The AWS Global infrastructure is built around **Regions** and **Availability Zones** (AZs):

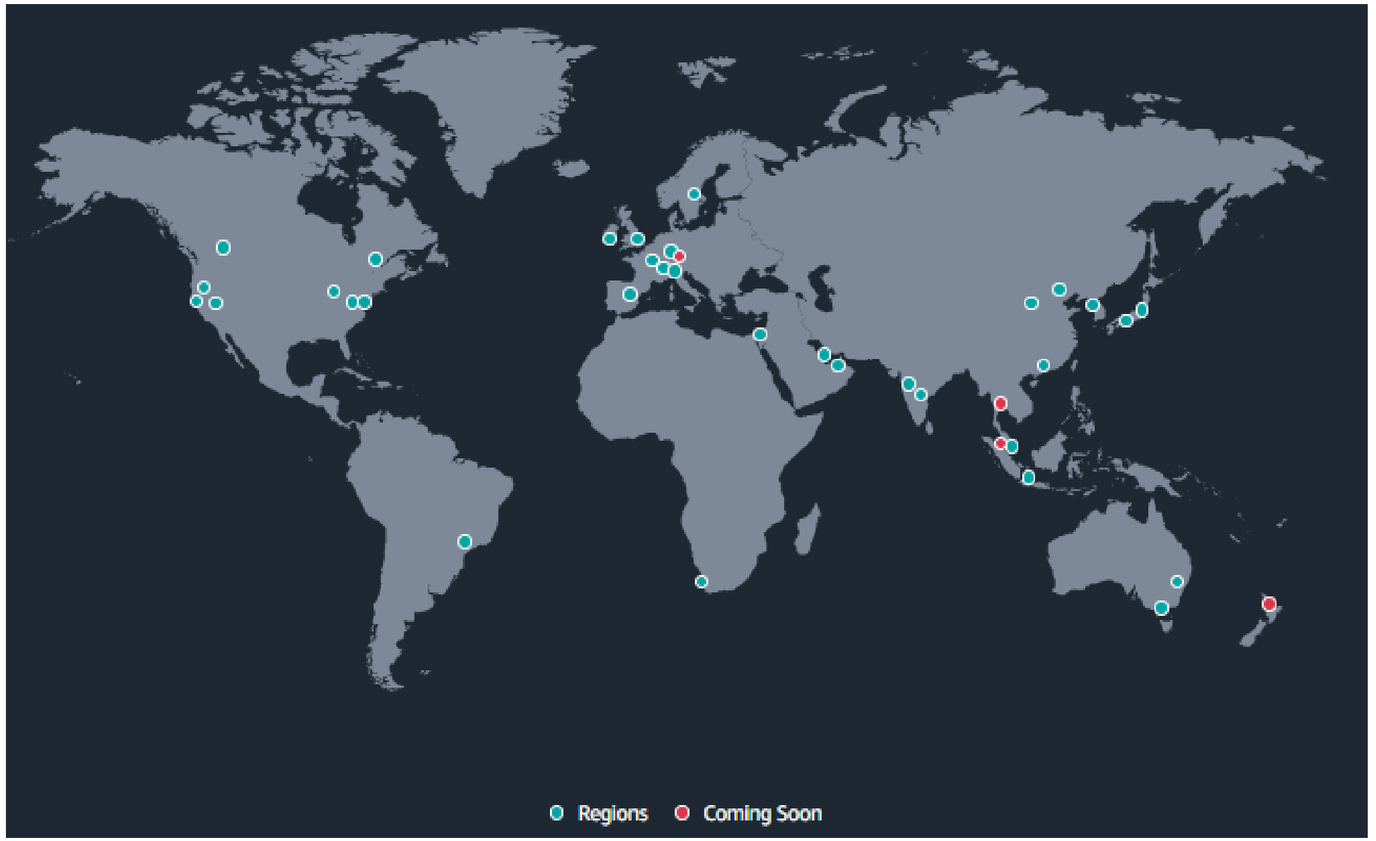
31 Launched Regions

Each with multiple Availability Zones (AZs)

99 Availability Zones

450+ Points of Presence

400+ Edge Locations and 13 Regional Edge Caches



AWS Free Tier Sign Up

AWS Trail Subscription

Explore more than 100 products and start building on AWS using the Free Tier. Three different types of free offers are available depending on the product used. See below for details on each product.

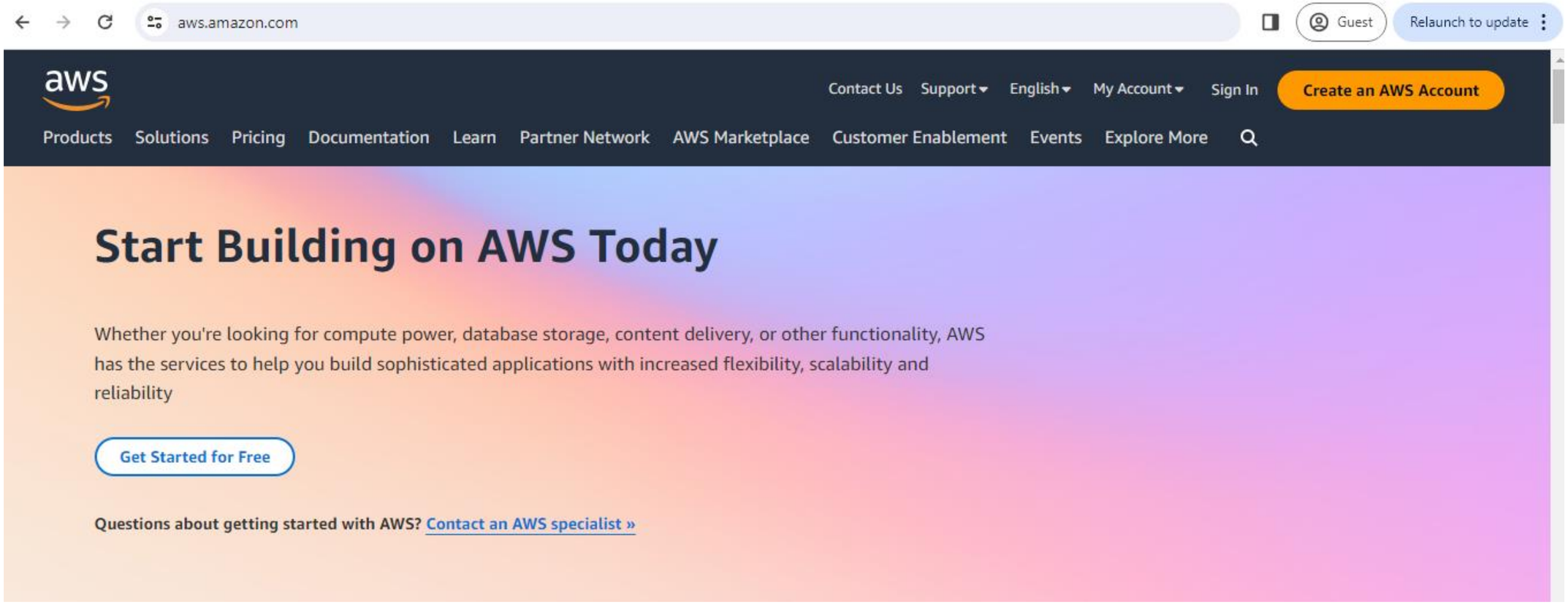
12-Months Free: These free tier offers are only available to new AWS customers, and are available for 12 months following your AWS sign-up date. When your 12 months free usage term expires or if your application use exceeds the tiers, you simply pay standard, pay-as-you-go service rates (see each service page for full pricing details). Restrictions apply; see offer terms for more details.

Always Free: These free tier offers do not automatically expire at the end of your 12 months AWS Free Tier term, but are available to both existing and new AWS customers indefinitely. Trials: These free tier offers are short term trial offers that start from the time of first usage begins. Once the trial period expires you simply pay standard, pay-as-you-go service rates (see each service page for full pricing details).

AWS Free Tier Sign Up

Step 1

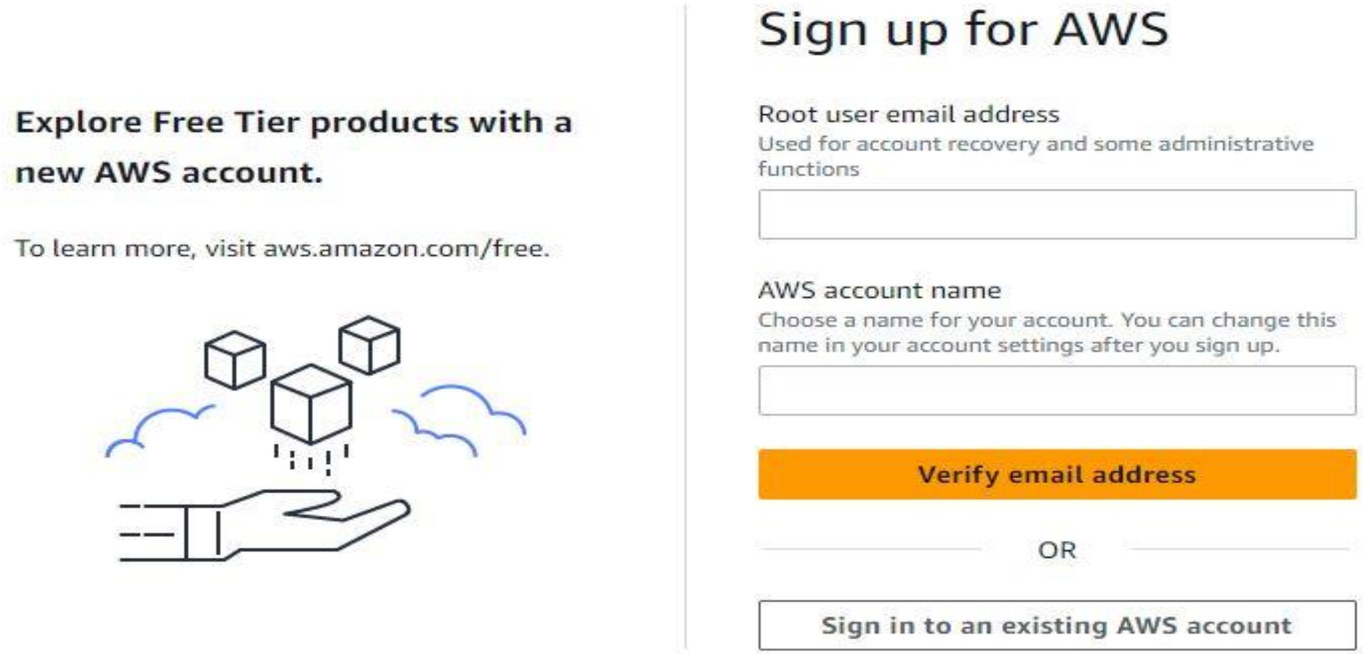
- Open the Browser and type https://aws.amazon.com/
- You will redirect to below page and Click on Create a Free Account



AWS Free Tier Sign Up

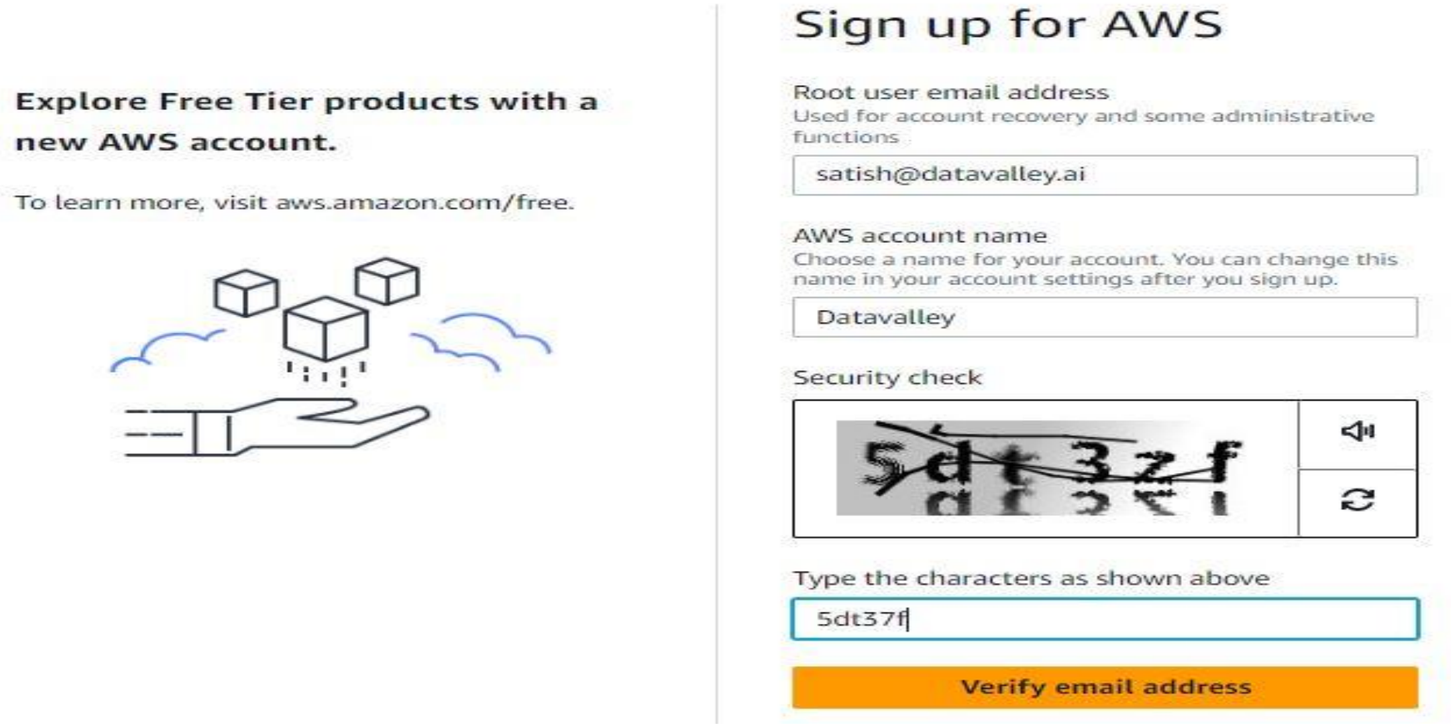
Step 2

Enter the details which you want to use to log in to your AWS account



AWS Free Tier Sign Up

Step 3

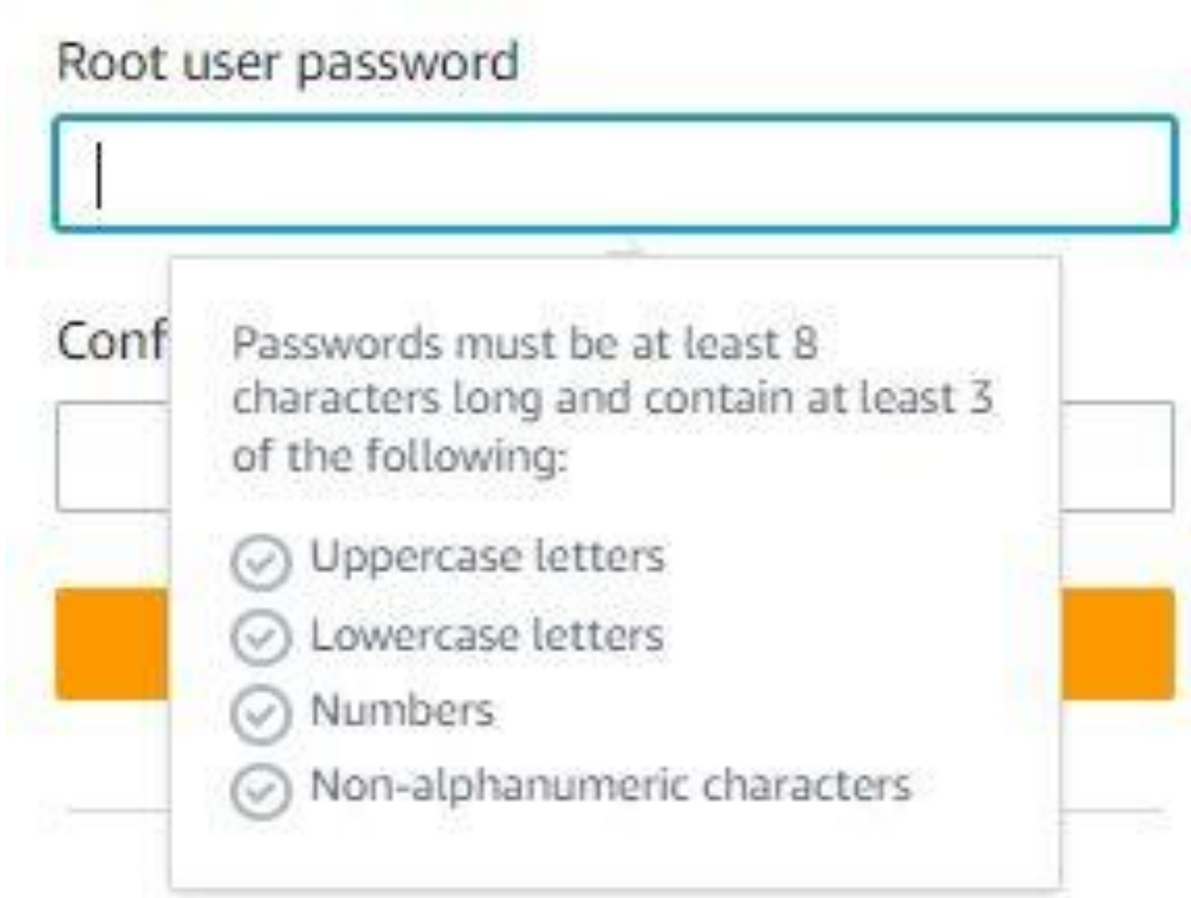


Click on Verify email address

AWS Free Tier Sign Up

Step 4

- Set your Password by providing valid password

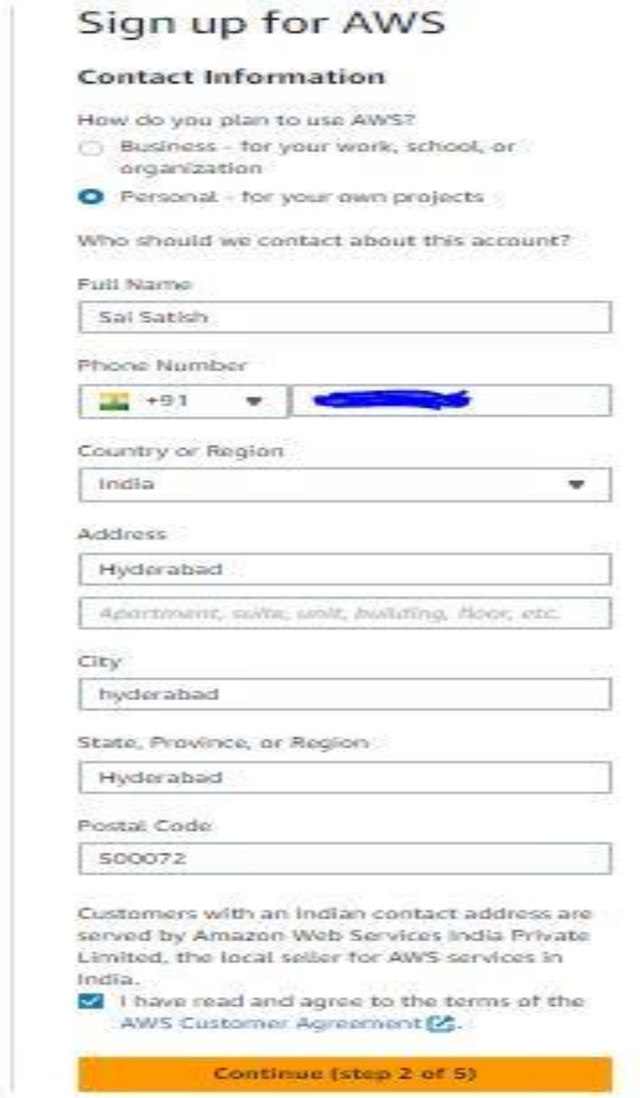


AWS Free Tier Sign Up

Step 5

Contact Information

- Select plan as Personal because we are going to create account for learning purpose but if we are creation account for client then we can select as business.



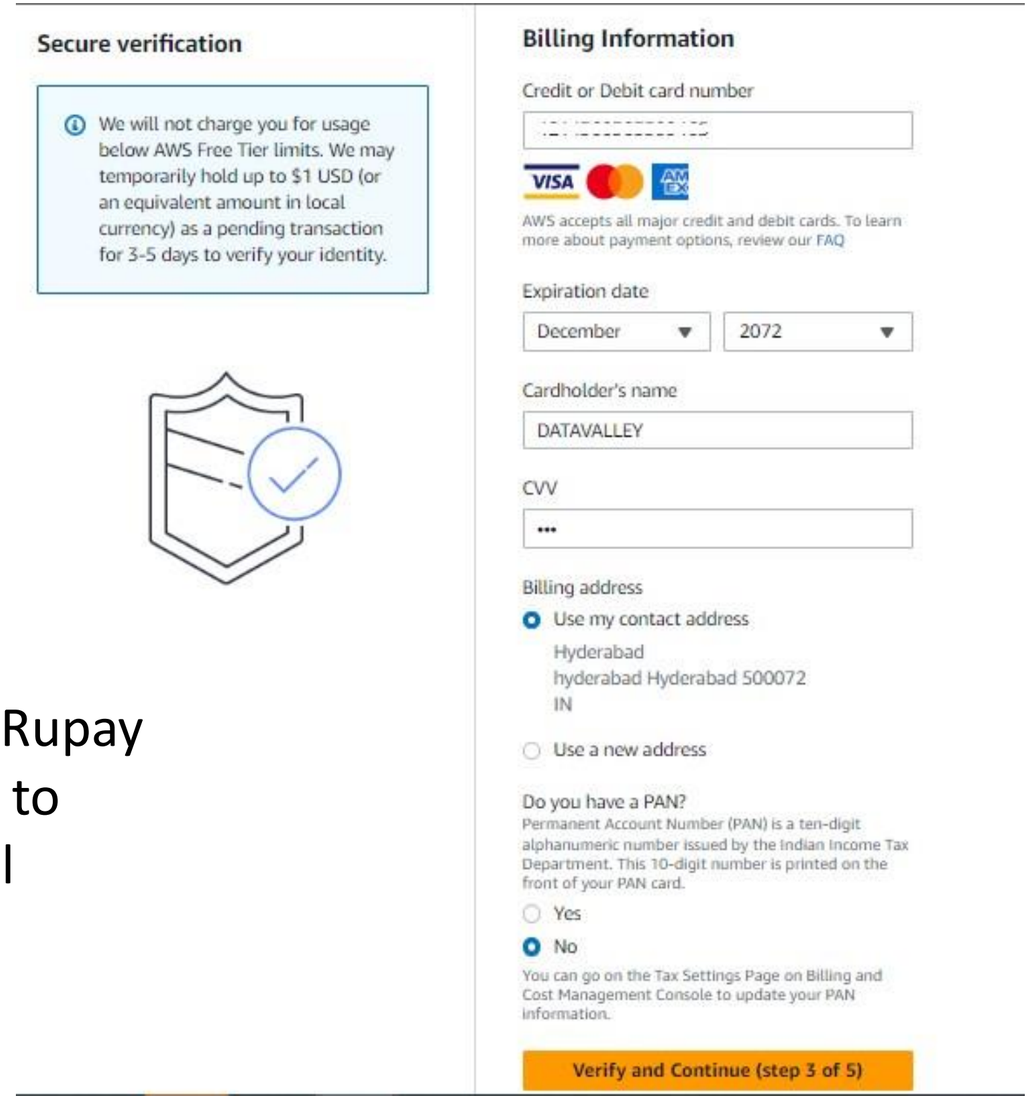
Note: Make sure to provide proper contact details and mobile number to get the Verification code from AWS.

AWS Free Tier Sign Up

Step 6

Payment and PAN information

- You can Enter your debit card or credit card number.



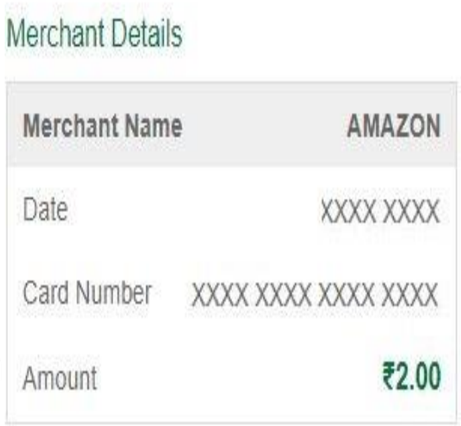
Note: It will not support Rupay Card & Debit card Needs to enable with international transactions

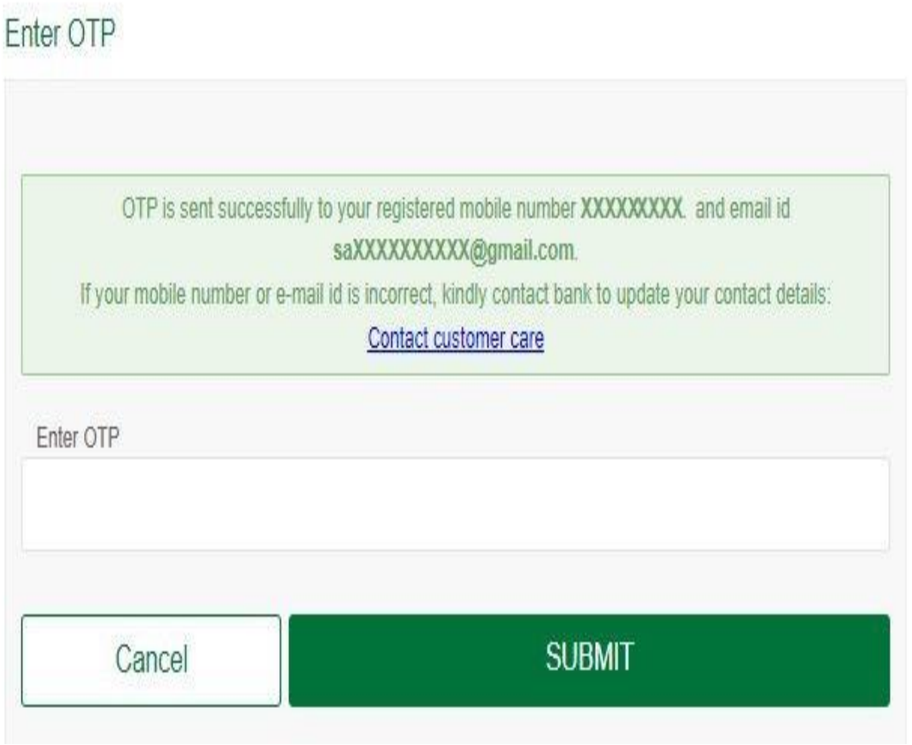
AWS Free Tier Sign Up

Step 7

Payment and PAN information

- In this step, it will take you to the payment gateway to validate your payment information and for your credit/debit card verification.
- Amazon will charge the minimum price based on Country. Here I have provided India, so Amazon charged 2 INR.



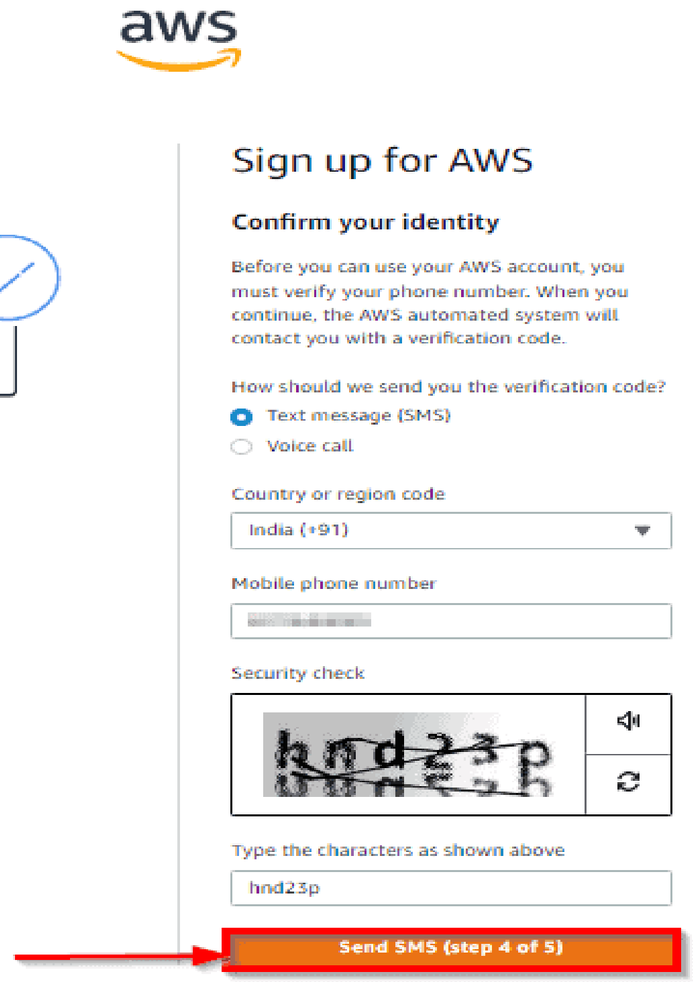


AWS Free Tier Sign Up

Step 8

Phone verification

- After payment it will again ask for mobile number to verify

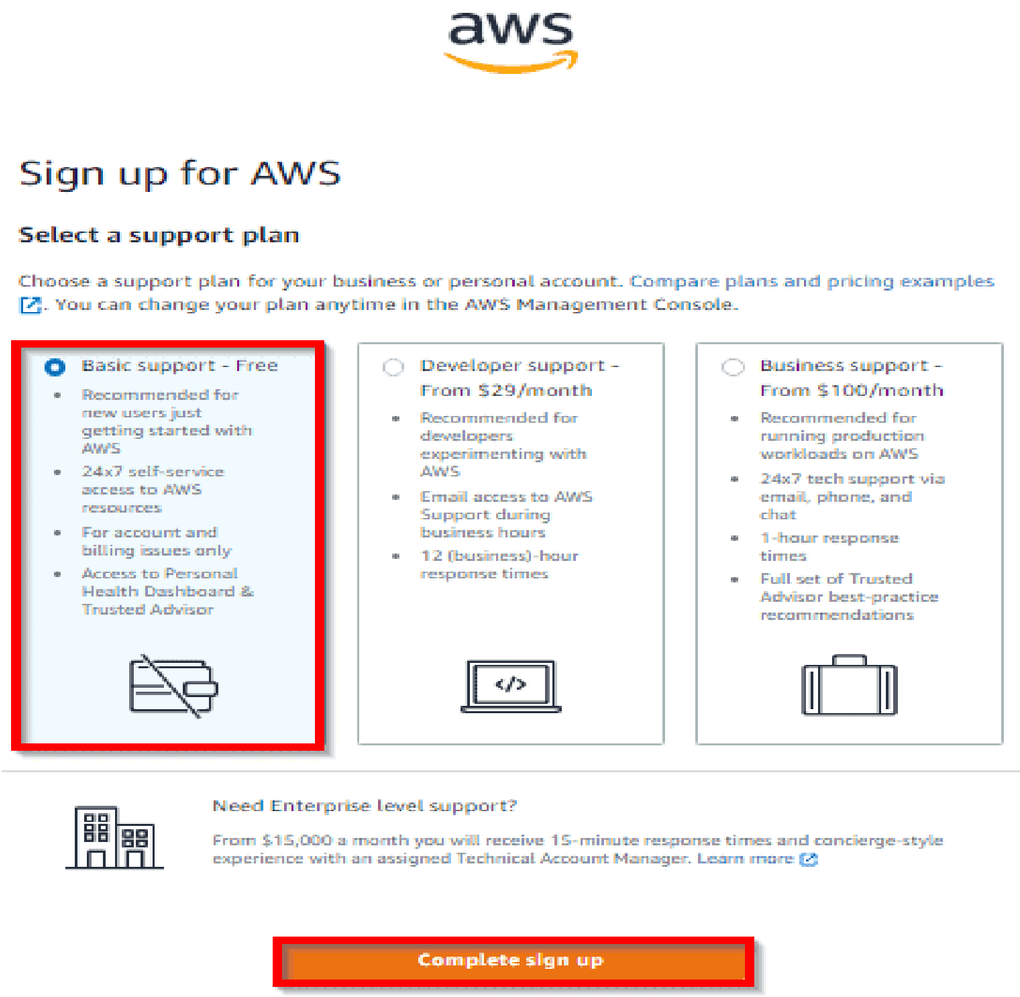


AWS Free Tier Sign Up

Step 9

Select a plan

- Select plan as per our requirement but we will select Basis Support-Free plan.

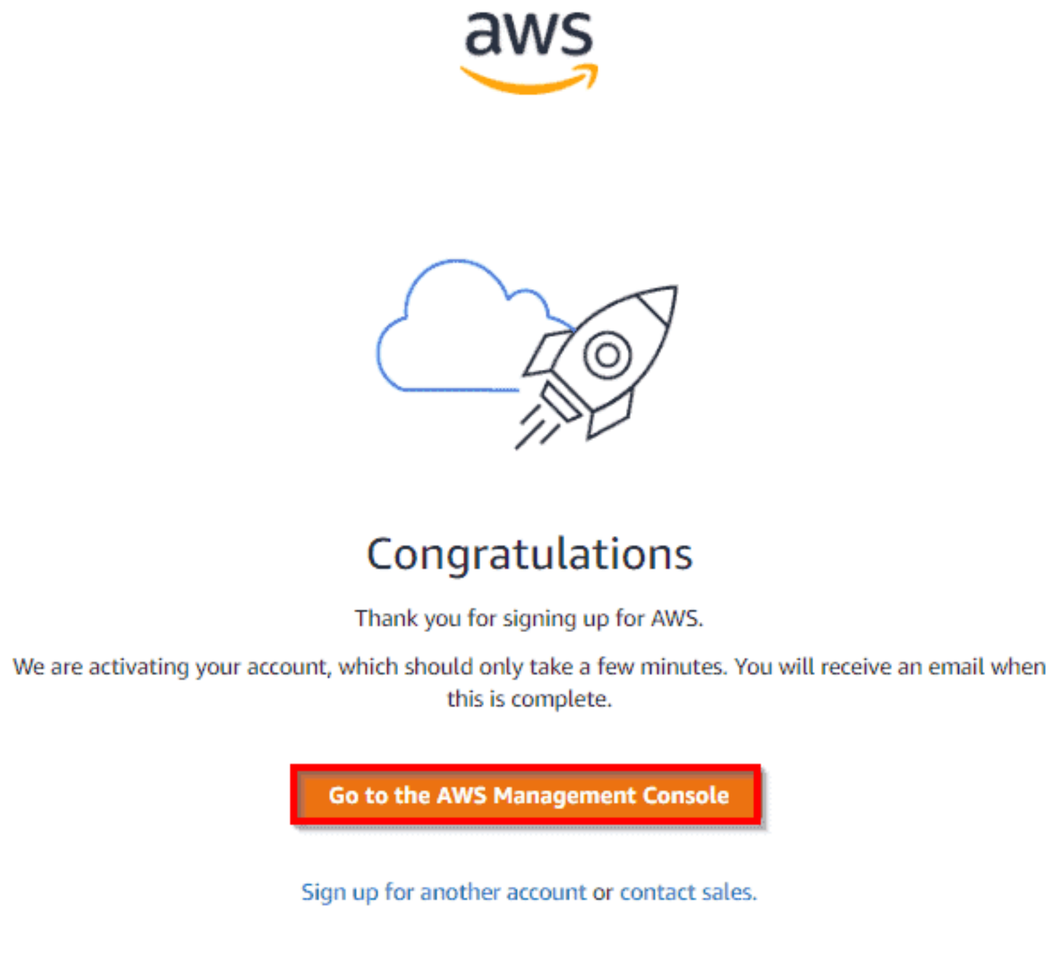


AWS Free Tier Sign Up

Step 10

Registration Confirmation page.

- You Ill receive an email confirmation that your Amazon Cloud Services account has been activated.
- Click on go to the AWS Management Console.

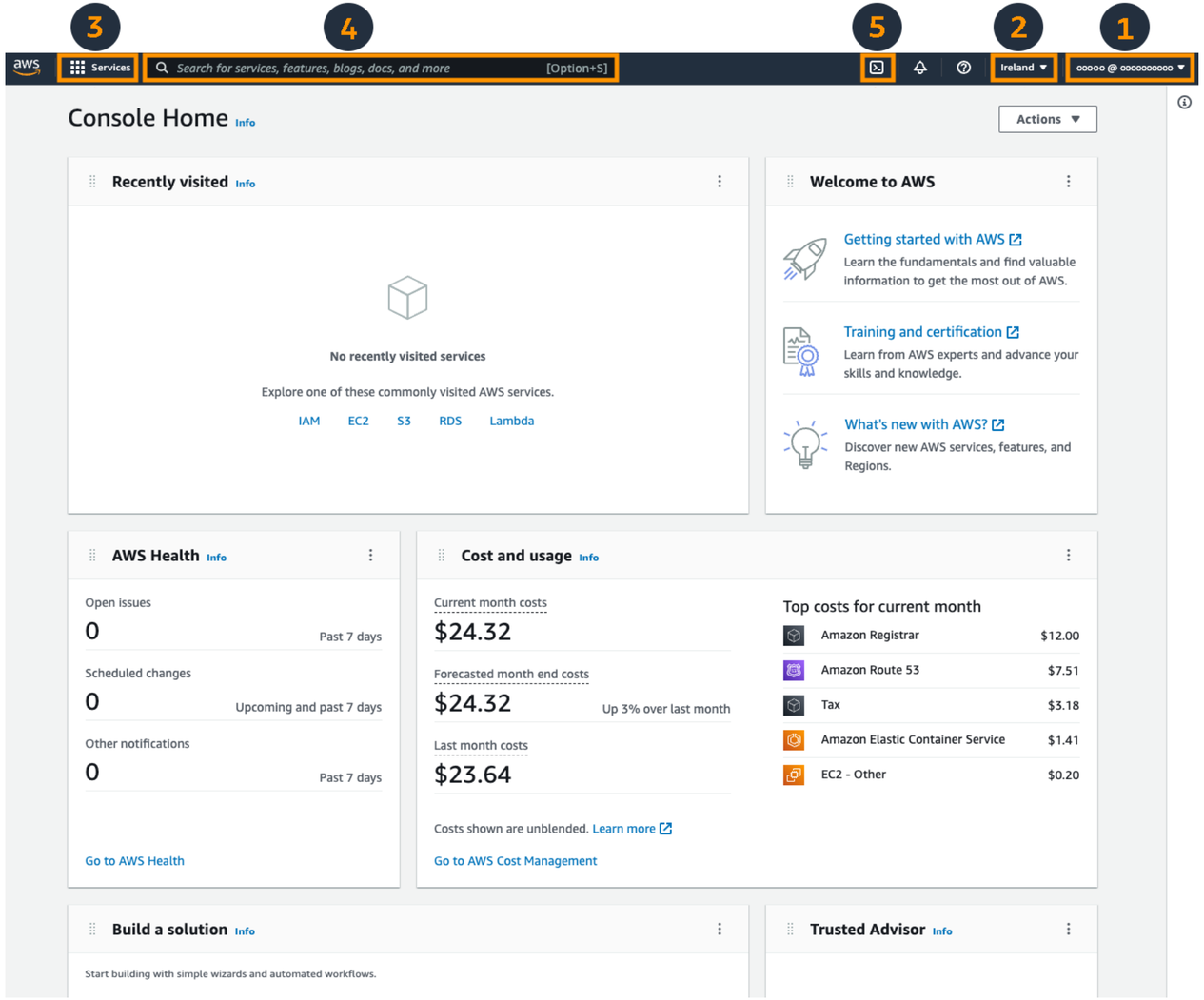


AWS Management Console

What is the AWS Management Console?

- The AWS Management Console is a web application that comprises and refers to a broad collection of service consoles for managing AWS resources.

- When you first sign in, you see the console home page. The home page provides access to each service console and offers a single place to access the information you need to perform your AWS related tasks.



AWS Service Domains

Introduction to Various Service Domains in AWS

The vastness of AWS services can be overwhelming for beginners. To make it easier to grasp, AWS categorizes its services into several domains based on their functionalities.

Core Services :

These services are considered fundamental for building and running applications on AWS. They often serve as the building blocks for various cloud deployments and are widely used across different industries.

- **Compute:** Amazon EC2, Amazon ECS, AWS Lambda
- **Storage:** Amazon S3, Amazon EBS, Amazon RDS
- **Networking & Content Delivery:** Amazon VPC, Amazon API Gateway, Amazon CloudFront
- **Management & Governance:** AWS IAM, AWS CloudTrail, AWS Cost Explorer
- **Database:** Amazon Aurora, Amazon DynamoDB, Amazon Redshift

AWS Service Domains

Introduction to Various Service Domains in AWS

Additional Services :

These services offer more specialized functionalities or cater to specific needs beyond the core functionalities. They are valuable for various use cases but might not be universally used in every deployment.

Analytics: Amazon Kinesis, Amazon Redshift, Amazon QuickSight.

Machine Learning & Artificial Intelligence: Amazon SageMaker, Amazon Rekognition, Amazon Transcribe.

Application Services: Amazon Cognito, Amazon SNS, Amazon SWF.

Security, Identity & Compliance: AWS WAF, AWS GuardDuty, AWS Key Management Service (KMS).

Migration & Transfer: AWS Database Migration Service (DMS), AWS Server Migration Service (SMS).

And more..

Contact Us

More Information

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