

# Cloud Internship Program



# 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.

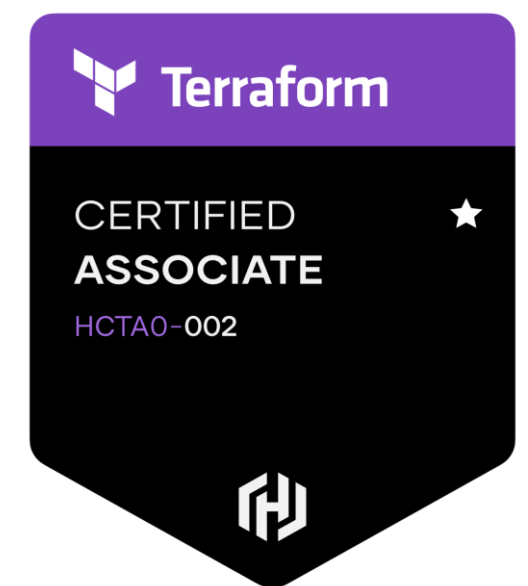
**Our Vision** is to transform the data ecosystem by cultivating top-tier professionals and Bridging the gap between real-world demands and academic learning. We aspire to become the Gold Standard in providing innovative data solutions, consulting, and training. Our goal is to pioneer a future where 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 specializes in delivering customized trainings based on customer and business needs. She also has experience in delivering online and classroom training. Shivani has mentored many students for their final year projects. She has experience in delivering training for participants from Mumbai, Hyderabad, Pune, and Bengaluru.

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# **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

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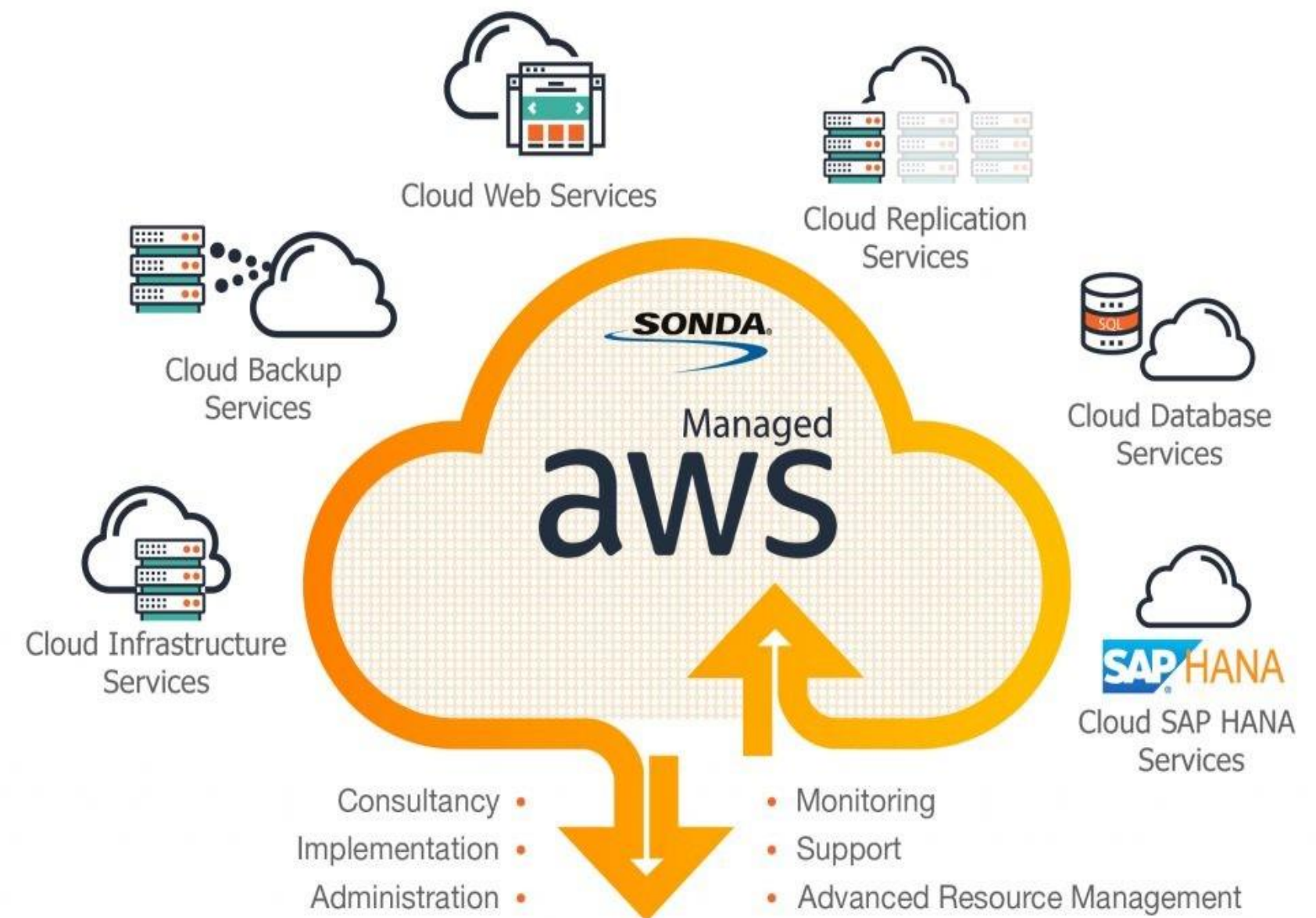
# Introduction to AWS

## What Is AWS?

### Definition:

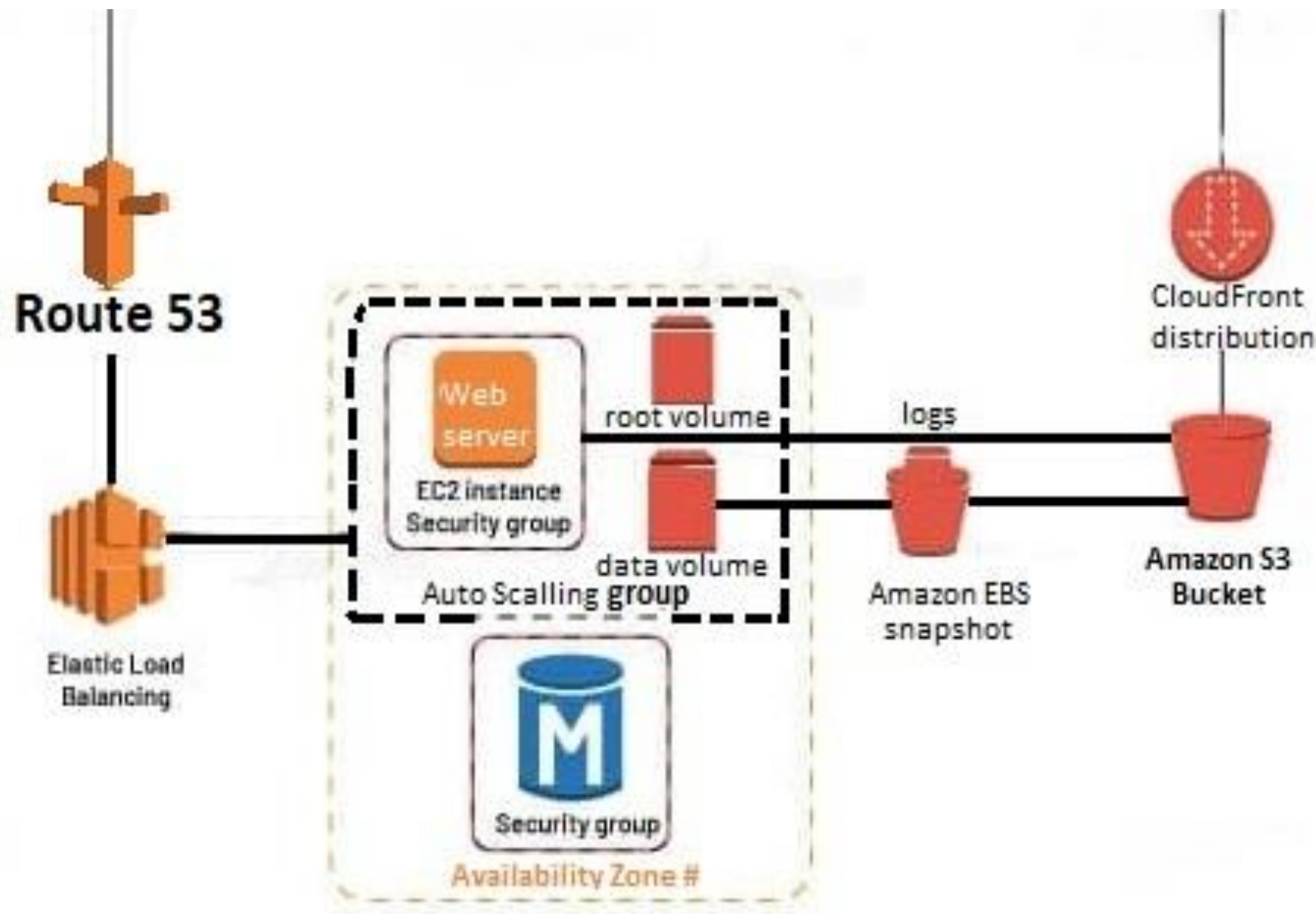
Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs,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

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





## Introduction

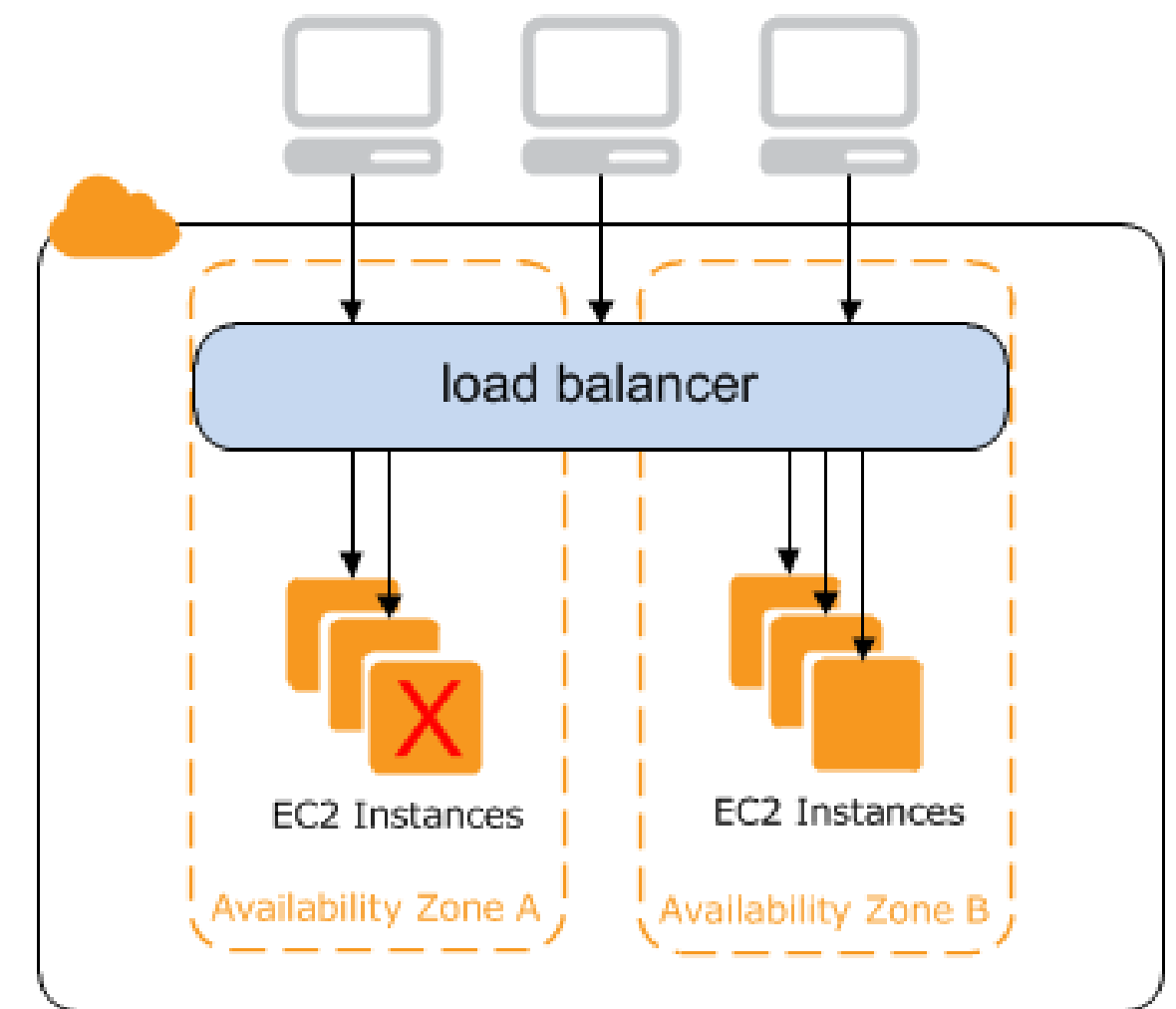


AWS Cloud Architecture refers to the design and layout of the various AWS services and resources that work together to meet specific business requirements. It typically involves the use of services like Amazon EC2 (Elastic Compute Cloud) for computing power, Amazon S3 (Simple Storage Service) for storage, 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 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)**:

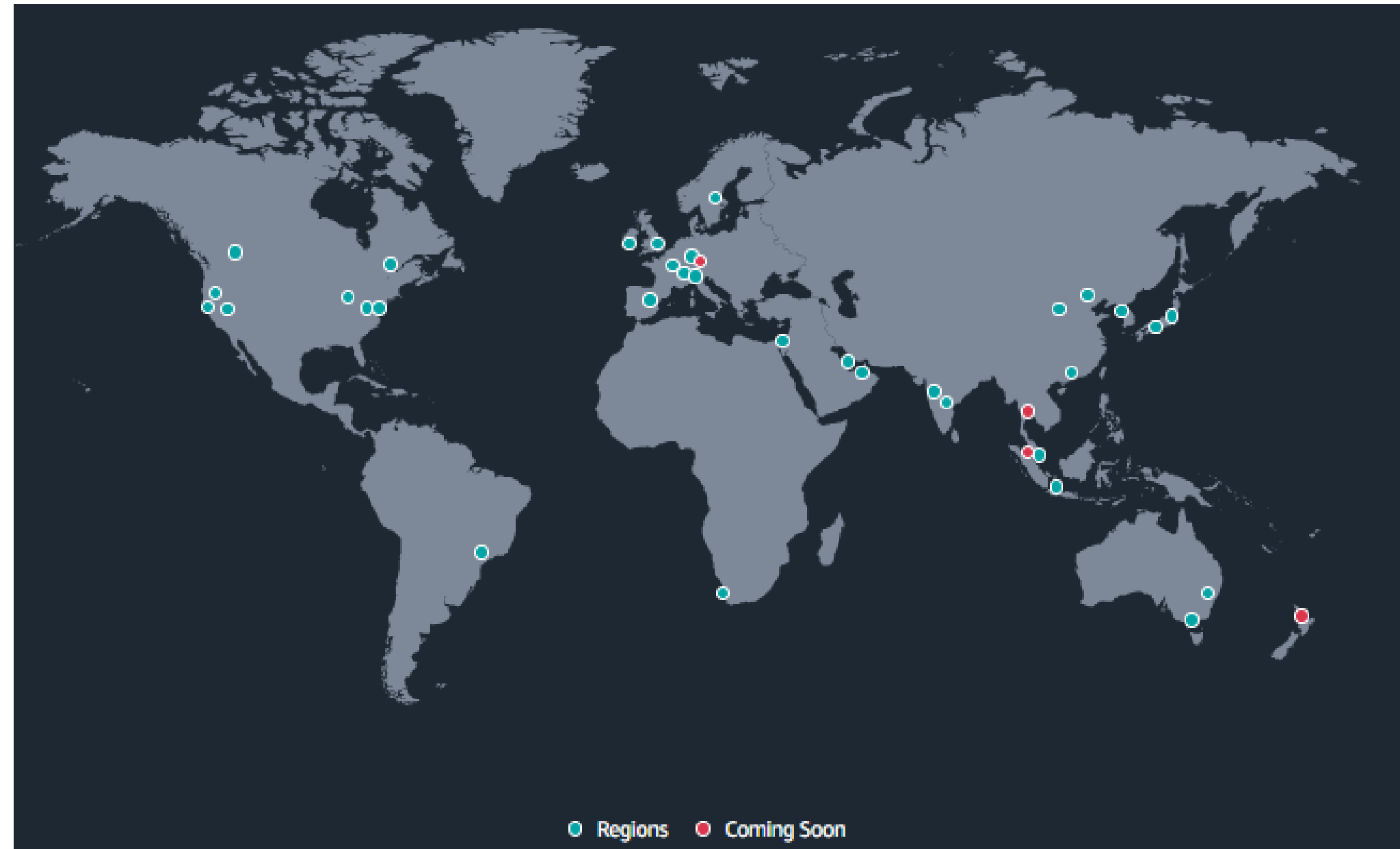
31 Launched Regions

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.

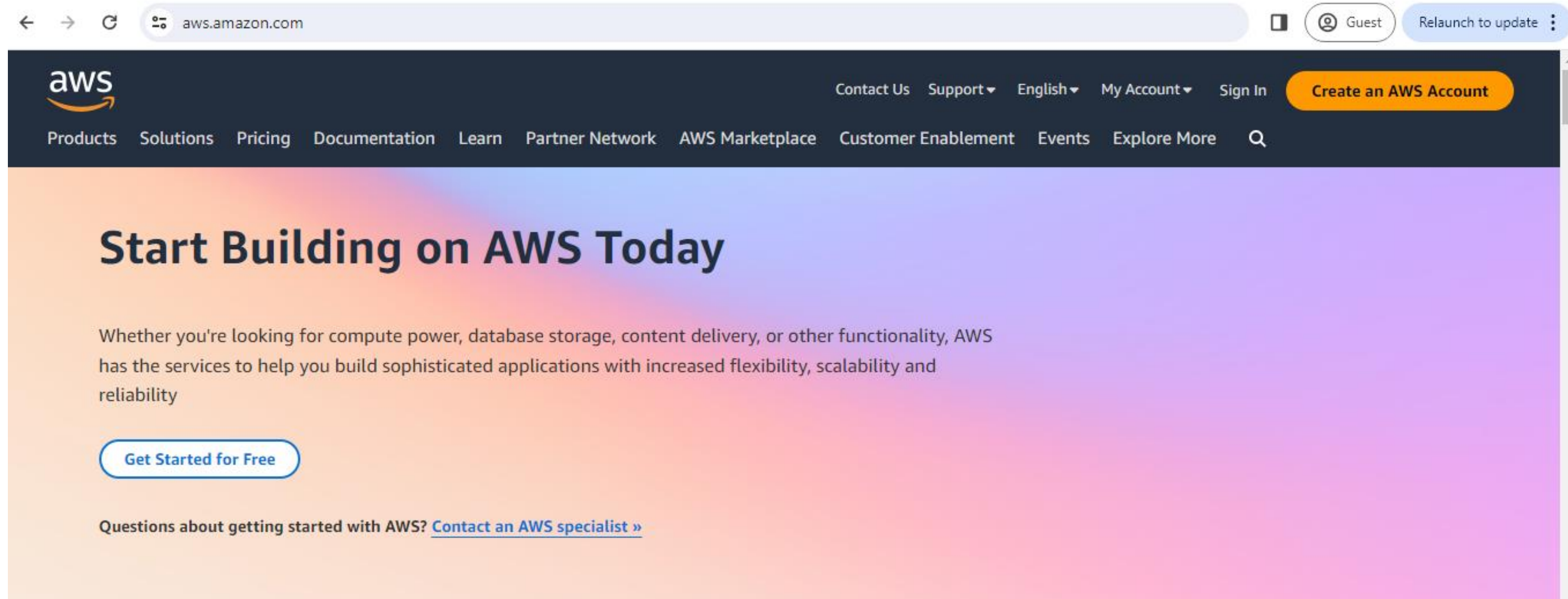
**12-Months Free:** These free tier offers are only available to new AWS customers, and are available for 12 months following your AWS sign-up date. When your 12 months free usage term expires or if your application use exceeds the tiers, you simply pay standard, pay-as-you-go service rates (see each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



**Explore Free Tier products with a new AWS account.**

To learn more, visit [aws.amazon.com/free](https://aws.amazon.com/free).



### Sign up for AWS

Root user email address

Used for account recovery and some administrative functions

AWS account name

Choose a name for your account. You can change this name in your account settings after you sign up.

Verify email address

OR

Sign in to an existing AWS account



## Step 3



**Explore Free Tier products with a new AWS account.**

To learn more, visit [aws.amazon.com/free](https://aws.amazon.com/free).



### Sign up for AWS

Root user email address  
Used for account recovery and some administrative functions

AWS account name  
Choose a name for your account. You can change this name in your account settings after you sign up.

Security check



Type the characters as shown above

Click on Verify email address

## AWS Free Tier Sign Up

### Step 4

- Set your Password by providing valid password

Root user password

Confirm password

Passwords must be at least 8 characters long and contain at least 3 of the following:

- ☒ Uppercase letters
- ☒ Lowercase letters
- ☒ Numbers
- ☒ Non-alphanumeric characters

## AWS Free Tier Sign Up

### 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.

### Step 5

#### Free Tier offers

All AWS accounts can explore 3 different types of free offers, depending on the product used.



**Always free**  
Never expires



**12 months free**  
Start from initial sign-up date



**Trials**  
Start from service activation date

### Sign up for AWS

#### Contact Information

How do you plan to use AWS?

- ☐ Business - for your work, school, or organization
- ☒ Personal - for your own projects

Who should we contact about this account?

Full Name

Sai Sathish

Phone Number

+91

India

Address

Hyderabad

Apartment, suite, unit, building, floor, etc.

City

hyderabad

State, Province, or Region

Hyderabad

Postal Code

500072

Customers with an Indian contact address are served by Amazon Web Services India Private Limited, the local seller for AWS services in India.

☒ I have read and agree to the terms of the AWS Customer Agreement [AWS Customer Agreement](#)

Continue (step 2 of 5)


## 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




#### Secure verification

 We will not charge you for usage below AWS Free Tier limits. We may temporarily hold up to \$1 USD (or an equivalent amount in local currency) as a pending transaction for 3-5 days to verify your identity.



#### Billing Information

Credit or Debit card number

AWS accepts all major credit and debit cards. To learn more about payment options, review our [FAQ](#).

Expiration date  

December ▼

2072 ▼

Cardholder's name

CVV

Billing address  
☒ Use my contact address  
Hyderabad  
hyderabad Hyderabad 500072  
IN

☐ Use a new address

Do you have a PAN?  
Permanent Account Number (PAN) is a ten-digit alphanumeric number issued by the Indian Income Tax Department. This 10-digit number is printed on the front of your PAN card.

☐ Yes  
☒ No

You can go on the [Tax Settings Page](#) on Billing and Cost Management Console to update your PAN information.

[Verify and Continue \(step 3 of 5\)](#)



### 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.

##### Merchant Details

Merchant Name	AMAZON
Date	XXXX XXXX
Card Number	XXXX XXXX XXXX XXXX
Amount	₹2.00

##### Enter OTP

OTP is sent successfully to your registered mobile number XXXXXXXXX and email id saXXXXXXXXXX@gmail.com.

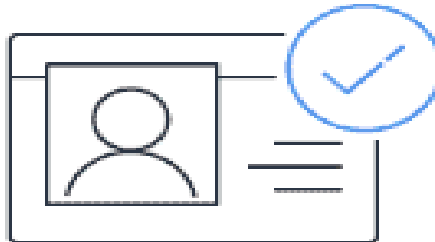

If your mobile number or e-mail id is incorrect, kindly contact bank to update your contact details:  
[Contact customer care](#)

Enter OTP

## Step 8

### Phone verification

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



### Sign up for AWS

**Confirm your identity**

Before you can use your AWS account, you must verify your phone number. When you continue, the AWS automated system will contact you with a verification code.

How should we send you the verification code?

☒ Text message (SMS)

☐ Voice call

Country or region code

India (+91)

Mobile phone number

Security check

hnd23p

Type the characters as shown above

hnd23p

**Send SMS (step 4 of 5)**




## AWS Free Tier Sign Up

### Step 9

Select a plan

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




### Sign up for AWS

Select a support plan

Choose a support plan for your business or personal account. [Compare plans and pricing examples](#). You can change your plan anytime in the [AWS Management Console](#).


☒ **Basic support - Free**

- Recommended for new users just getting started with AWS
- 24x7 self-service access to AWS resources
- For account and billing issues only
- Access to Personal Health Dashboard & Trusted Advisor



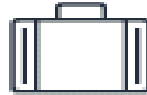
☐ **Developer support - From \$29/month**


- Recommended for developers experimenting with AWS
- Email access to AWS Support during business hours
- 12 (business)-hour response times



☐ **Business support - From \$100/month**

- Recommended for running production workloads on AWS
- 24x7 tech support via email, phone, and chat
- 1-hour response times
- Full set of Trusted Advisor best-practice recommendations





Need Enterprise level support?

From \$15,000 a month you will receive 15-minute response times and concierge-style experience with an assigned Technical Account Manager. [Learn more](#)

[Complete sign up](#)

## AWS Free Tier Sign Up

### Step 10

Registration Confirmation page.

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



### Congratulations

Thank you for signing up for AWS.

We are activating your account, which should only take a few minutes. You will receive an email when this is complete.

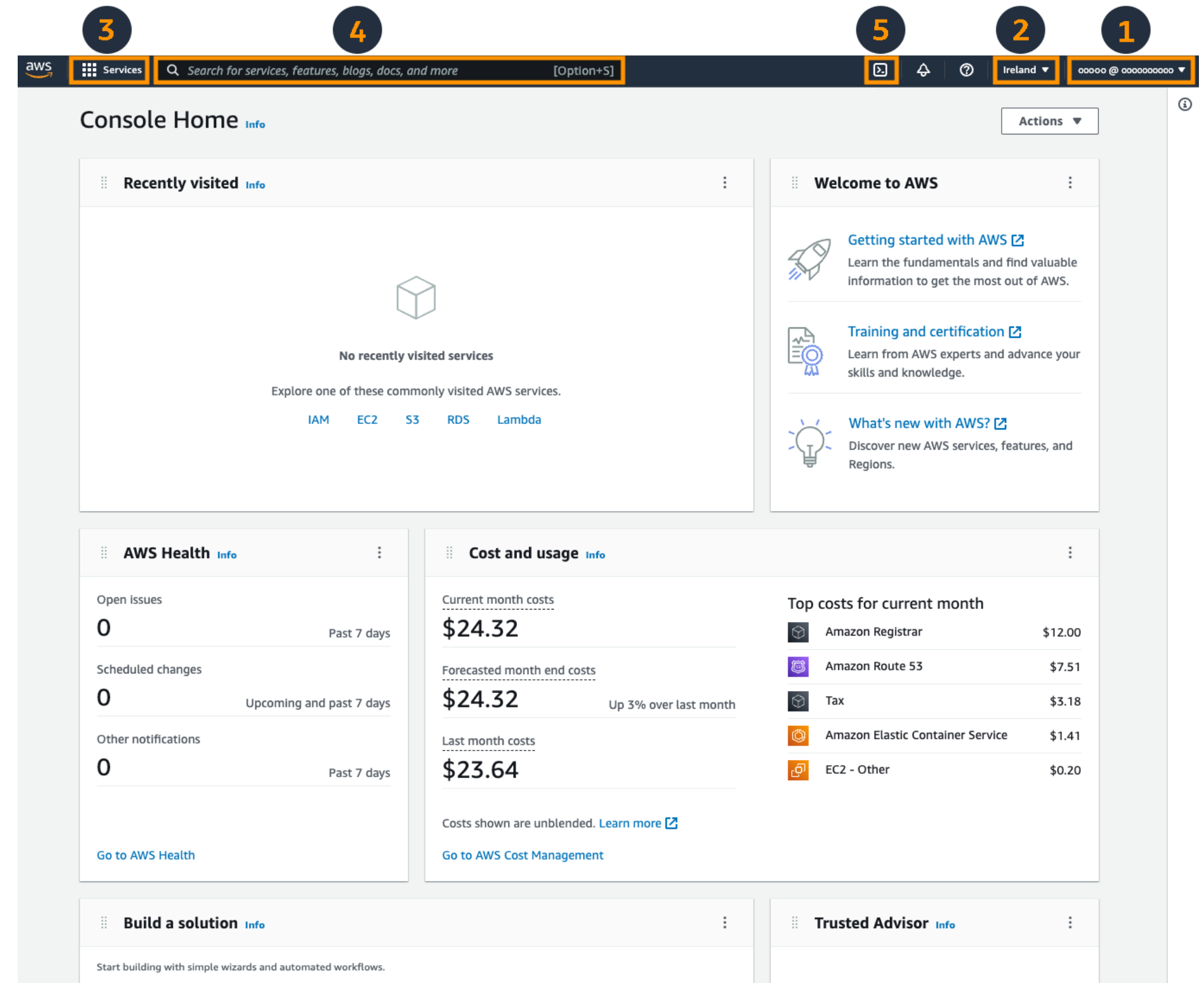
[Go to the AWS Management Console](#)

[Sign up for another account or contact sales.](#)

# 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

Visit: <https://datavalley.ai/>

Join Our Community: <https://community.datavalley.ai/>

News: <https://news.datavalley.ai/>



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