

AWS (AMAZON WEB SERVICES)

DAY 01

- 1) Cloud Computing Basics
- 2) Getting Start With AWS
- 3) Creating AWS account

Cloud Computing introduction :

- ❖ In cloud computing, cloud is a virtual space used to store, manage, and access data and applications over the internet in a highly efficient and scalable manner and provides security and collaboration.

Strange Words : **Highly efficient** and **Scalable manner**

- As I said, cloud is used to store data.
- If there is any situation like, I need to connect with my cloud and access required data and process it, and again store it back into cloud.
- What would happen if data retrieval and data saving operations take extended periods of time (such as 5 minutes, 10 minutes, or even an hour) ?
 - But these type of issues are too less in real time, Why because, internally cloud platforms are using few approaches like **Caching**, it is one of the most effective ways to speed up data retrieval. Cloud platforms often use **in-memory caching** solutions like **Redis** or **Memcached** to store frequently accessed data in fast-access memory. This reduces the need to fetch data from slower databases or storage systems repeatedly.
 - **Scalability** refers to the ability of a system to handle an increasing amount of work. Cloud platforms **allow** us to expand the volume

based on our data or infrastructure (application), enabling us to easily handle a high volume of work.

- ❖ The term 'computing' in cloud computing, refers to managing data, running applications, and providing computing resources remotely in the form services to clients. So that clients will use those services to manage and maintain their applications virtually.
[services : Servers, Storage, Databases, Networking, Software etc...]
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Cloud Computing

cloud computing is a transformative model that provides scalable, on-demand computing resources over the internet.

Getting Started With AWS :

A global cloud infrastructure platform offering a wide variety of cloud services (compute, storage, database, networking, etc.).

❖ Key Points:

- **On Demand:**
Instant Access to the resources. At any time & At any place
- **Pay-as-you-go:**
Based on Usage of Resources, Bill will be generated.
Hourly Billing or some other approach.
Eg: EC2
- **Pay-as-you-use:**
Based on exact usage of resources (Per Transaction or Per API call)
Eg: Lambda
- **Broad Range of Services: (Security & Compliance)**
AWS offers a vast array of services that cover various aspects of IT infrastructure:

Compute: EC2, Lambda, ECS allows customers to run applications without managing physical hardware.

Storage: S3 and EBS services provide flexible storage Solutions.

Databases: RDS, DynamoDB, Aurora fully scalable Database Systems.

Networking: Route 53, VPC (virtual private cloud), CloudFront

Analytics: RedShift (Warehousing), Athena (Interactive Querying), EMR (Elastic MapReduce)

- ❖ Main Important things is, popular applications like Netflix, Spotify, Zoom, Pinterest, Adobe, BMW, Dropbox, Unilever, GitHub etc...

- ❖ **Types of Services**

Cloud Computing provides wide range of services, typically classified into different categories based on level of abstraction and type of resources or capabilities they offer.

1) Infrastructure as a Service (IAAS)

It provides virtualized computing resources over the internet. It allows business to rent its infrastructures such as servers, Storages, Networking without having to invest in physical hardware.

Example: AWS EC2,
IBM cloud infrastructure,
Google cloud compute Engine,
MS Virtual Machines

2) Platform as a Service (PAAS)

It provides a platform and environment that allows developers to build, deploy, and manage applications without dealing with the underlying infrastructure. It abstracts away the hardware and operating system, offering a complete environment for software development.

Example : Google App Engine
Microsoft Azure App Services
AWS Elastic Beanstalk
Heroku

3) **Software as a Service (SAAS)**

It delivers software applications over the internet, eliminating the need for users to install or manage software locally. These applications are hosted and maintained by a third-party provider.

Example: Zoom, Google Work space, MS Office 365

4) **Function as a Service (FAAS)**

It is a form of serverless computing where developers can run code in response to events without managing servers. The cloud provider automatically handles the infrastructure and scaling based on the workload.

Example: AWS Lambda, Google Cloud Functions
(Event Driven executions

5) **Container as a Service (CAAS)**

It is a container management service that allows developers to deploy and manage containerized applications, typically using Kubernetes or Docker.

Example: Google Kubernetes Engine (GKE)
Amazon Elastic Kubernetes Service (EKS)
Microsoft Azure Kubernetes Service (AKS)
Docker Cloud

6) **Database as a service (DBAAS)**

It provides database management and hosting on the cloud, allowing businesses to use databases without needing to manage hardware, patching, or other maintenance tasks.

Example: Amazon RDS (Relational Database Service)
Google Cloud SQL
Microsoft Azure SQL Database
MongoDB Atlas (NoSQL)
Firebase Realtime Database

7) **Storage as a Service (STAAS)**

It refers to cloud-based storage solutions where data is stored on

remote servers managed by a third-party provider.

Example: AWS S3

Google Cloud Storage

MS Azure Blob storage

8) Network as a Services (NTAAS)

AWS Virtual Private Cloud (VPC)

Google Cloud Virtual Network

Azure Virtual Network

Cloudflare CDN

9) AI/ML as a Service

Google AI Platform

AWS SageMaker

Microsoft Azure Machine Learning

IBM Watson

10) Backup and Disaster Recovery as a Service (BaaS & DRAAS)

Veeam Cloud Connect

AWS Backup

Azure Site Recovery

Acronis Cloud Backup

11) Cloud Security as a Service (SECAAS)

AWS Identity and Access Management (IAM)

Azure Security Center

AWS Account Creation:

Step 01: Open AWS register console page

https://signin.aws.amazon.com/signup?request_type=register



Explore Free Tier products with a new AWS account.

To learn more, visit aws.amazon.com/free.



Sign up for AWS

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

AWS account name

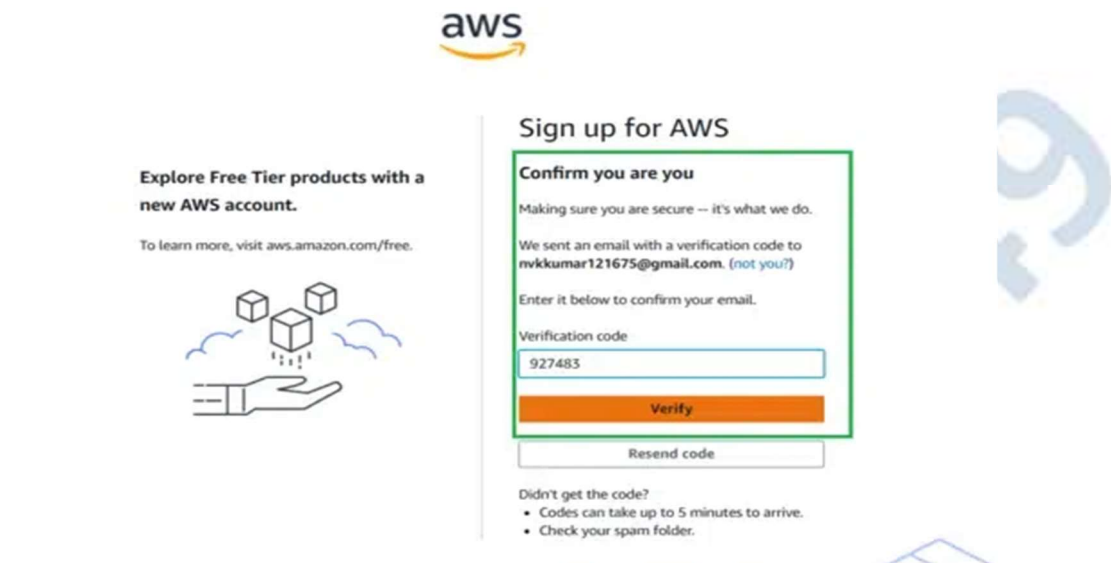
Choose a name for your account. You can change this name in your account settings after you sign up.

Verify email address

OR

Sign in to an existing AWS account

Enter the valid email Id and Account Name then click on verify email Address. Shortly AWS will send verification code to give email id (Please update G-Mail app in your smart phone [Delay issue])



The image shows the AWS sign-up page for confirming an email address. On the left, there is a promotional banner for the Free Tier. The main content area is titled "Sign up for AWS" and "Confirm you are you". It states that a verification code has been sent to the email address "rvkkumar121675@gmail.com". A text input field contains the verification code "927483", and a green "Verify" button is below it. A "Resend code" button is also present. At the bottom, there is a link for "Didn't get the code?" with instructions that codes can take up to 5 minutes to arrive and to check the spam folder.

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Explore Free Tier products with a new AWS account.

To learn more, visit aws.amazon.com/free.

Sign up for AWS

Confirm you are you

Making sure you are secure — it's what we do.

We sent an email with a verification code to rvkkumar121675@gmail.com. (not you?)

Enter it below to confirm your email.

Verification code

927483

Verify

Resend code

Didn't get the code?

- Codes can take up to 5 minutes to arrive.
- Check your spam folder.

Step 02: Setting password After verification It will redirect you to set the root user password



The image shows the AWS sign-up page for creating a password. On the left, there is a promotional banner for the Free Tier. The main content area is titled "Sign up for AWS" and "Create your password". It shows a green success message: "It's you! Your email address has been successfully verified." Below this, it states that the password provides sign-in access to AWS. There are two text input fields for "Root user password" and "Confirm root user password", both containing masked characters. A green "Continue (step 1 of 5)" button is below the fields. At the bottom, there is a link for "Sign in to an existing AWS account".

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Explore Free Tier products with a new AWS account.

To learn more, visit aws.amazon.com/free.

Sign up for AWS

Create your password

It's you! Your email address has been successfully verified.

Your password provides you with sign in access to AWS, so it's important we get it right.

Root user password

Confirm root user password

Continue (step 1 of 5)

OR

Sign in to an existing AWS account

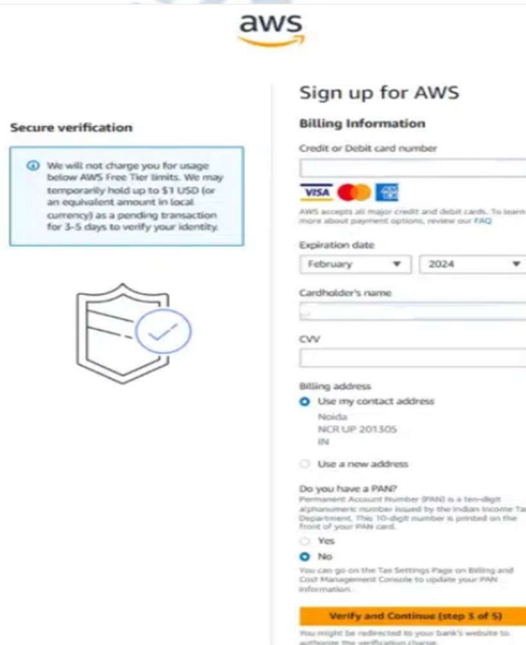
Step 03 : Adding contact information



The screenshot shows the 'Sign up for AWS' page, specifically the 'Contact Information' section. On the left, there are 'Free Tier offers' listed: 'Always free' (Never expires), '12 months free' (Start from initial sign-up date), and 'Trials' (Start from service activation date). The main form on the right includes fields for 'Full Name' (Geeksforgeeks), 'Phone Number' (+91), 'Country or Region' (India), 'Address' (Noida, Sector -136), 'City' (NCR), 'State, Province, or Region' (UP), and 'Postal Code' (201305). There is a checkbox for 'I have read and agree to the terms of the AWS Customer Agreement' and a 'Continue (step 2 of 5)' button.

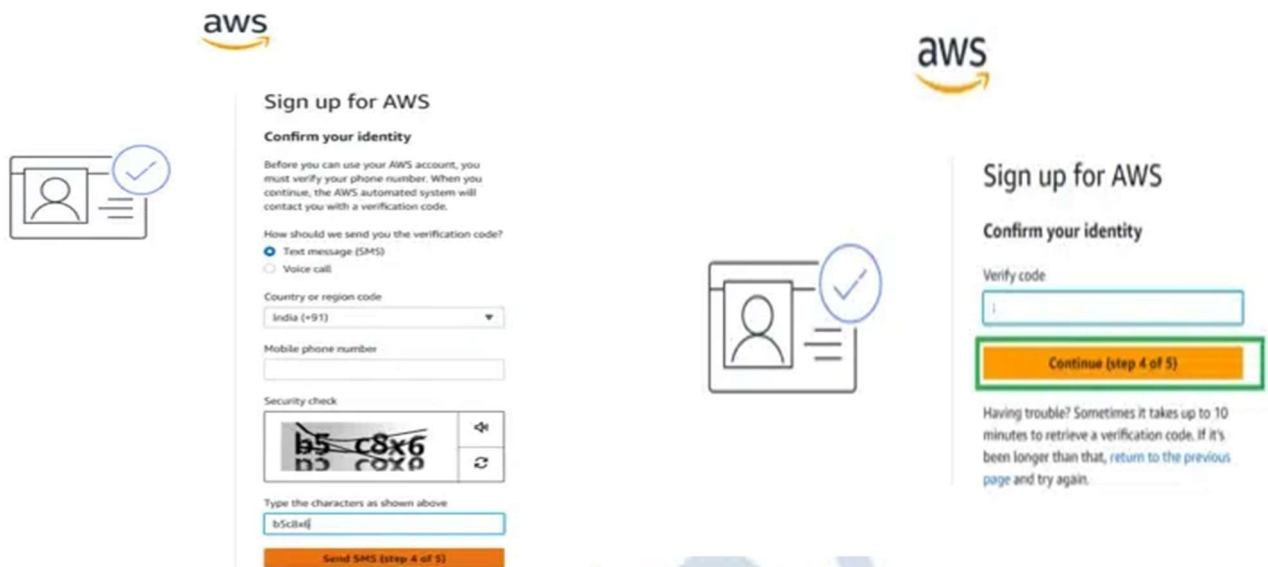
Step 04: Payment related details

We must provide the credit/debit card information in this step.
(Only few Card are accepted [Payment Failure error])



The screenshot shows the 'Sign up for AWS' page, specifically the 'Billing Information' section. On the left, there is a 'Secure verification' box stating: '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.' Below this is a shield icon with a checkmark. The main form on the right includes fields for 'Credit or Debit card number', 'Expiration date' (February 2024), 'Cardholder's name', and 'CVV'. There are also checkboxes for 'Use my contact address' (selected) and 'Use a new address'. A 'Verify and Continue (step 3 of 5)' button is at the bottom.

Step 05: Identification verification



aws

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

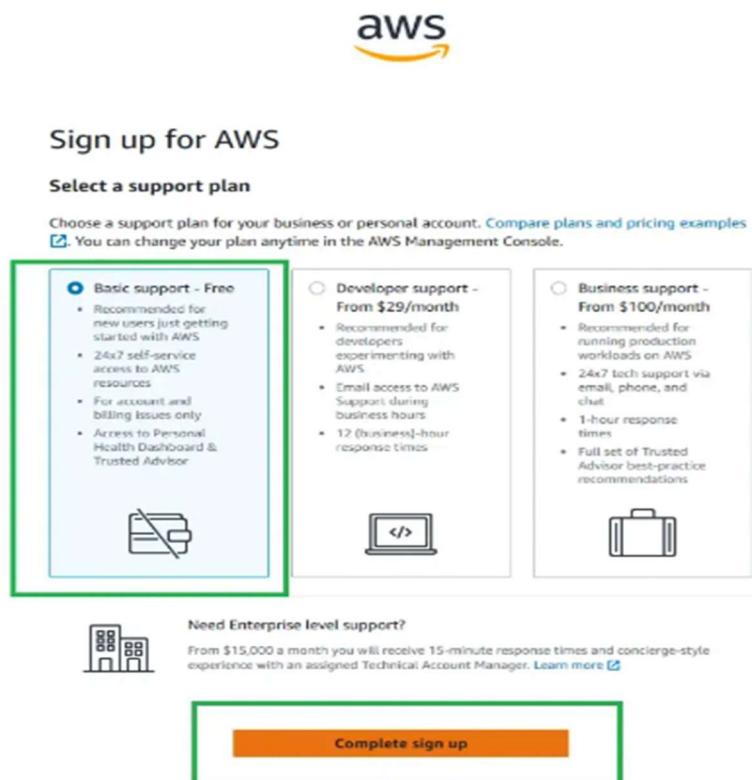
Security check

Type the characters as shown above

Send SMS (step 4 of 5)

Continue (step 4 of 5)

Step 06: Selecting the plan



aws

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.

<ul style="list-style-type: none"><input checked="" type="radio"/> Basic support - FreeRecommended for new users just getting started with AWS24x7 self-service access to AWS resourcesFor account and billing issues onlyAccess to Personal Health Dashboard & Trusted Advisor	<ul style="list-style-type: none"><input type="radio"/> Developer support - From \$29/monthRecommended for developers experimenting with AWSEmail access to AWS Support during business hours12 (business)-hour response times	<ul style="list-style-type: none"><input type="radio"/> Business support - From \$100/monthRecommended for running production workloads on AWS24x7 tech support via email, phone, and chat1-hour response timesFull set of Trusted Advisor best-practice recommendations
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Complete sign up



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.](#)

After Account creation, Please login with your login credentials
(Recommended to save AWS login credentials in a text file (IAM))

