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…]

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

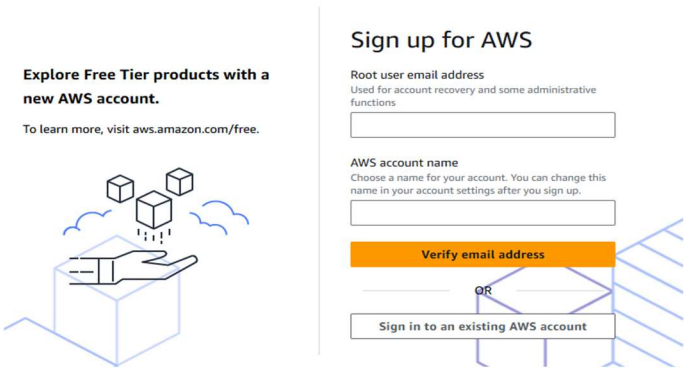
9) **AI/ML as a Service**
Google AI Platform
AWS SageMaker
Microsoft Azure Machine Learning
IBM Watson

10) **Backup and Disaster Recovery as a Service (BaaS & DRAAS)**
Veeam Cloud Connect
AWS Backup
Azure Site Recovery
Acronis Cloud Backup

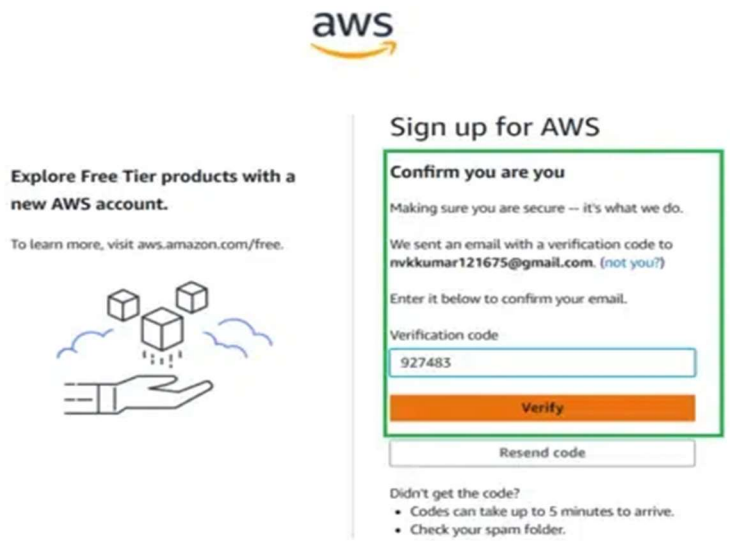
11) **Cloud Security as a Service (SECAAS)**
AWS Identity and Access Management (IAM)
Azure Security Center

AWS Account Creation:

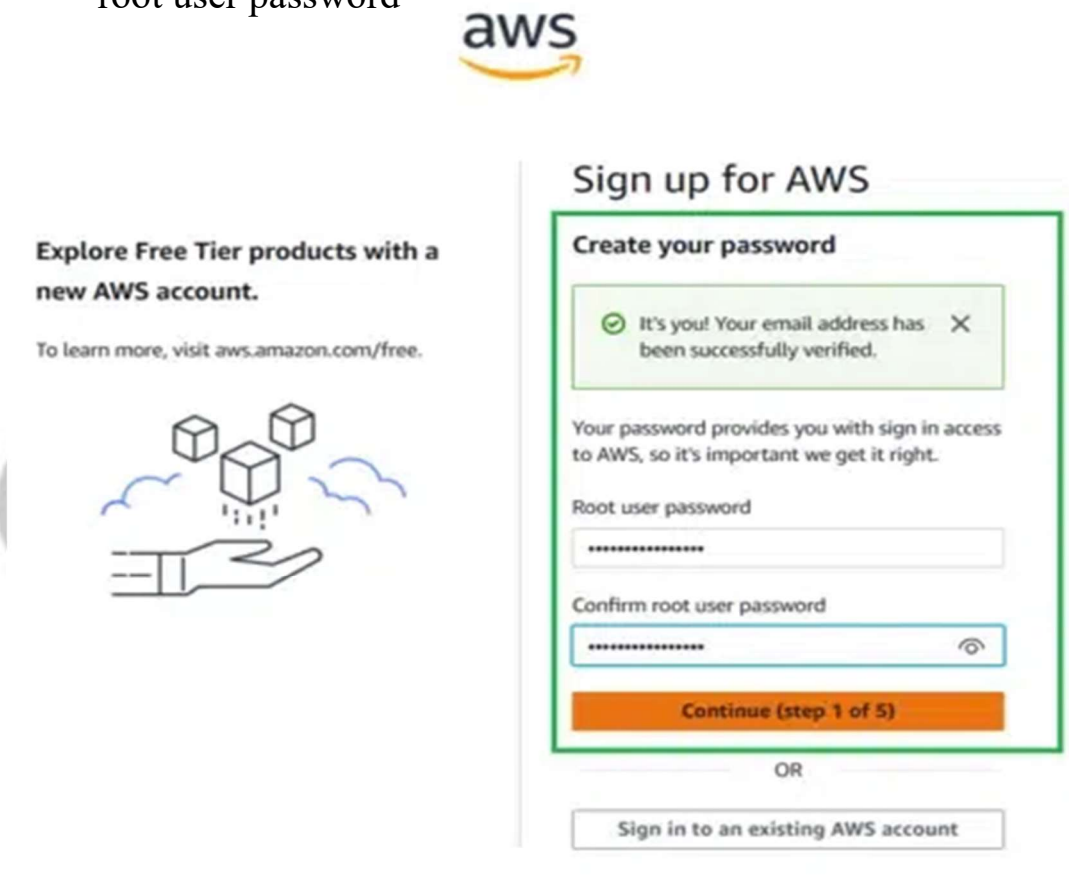
Step 01: Open AWS register console page
https://signin.aws.amazon.com/signup?request_type=register



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])



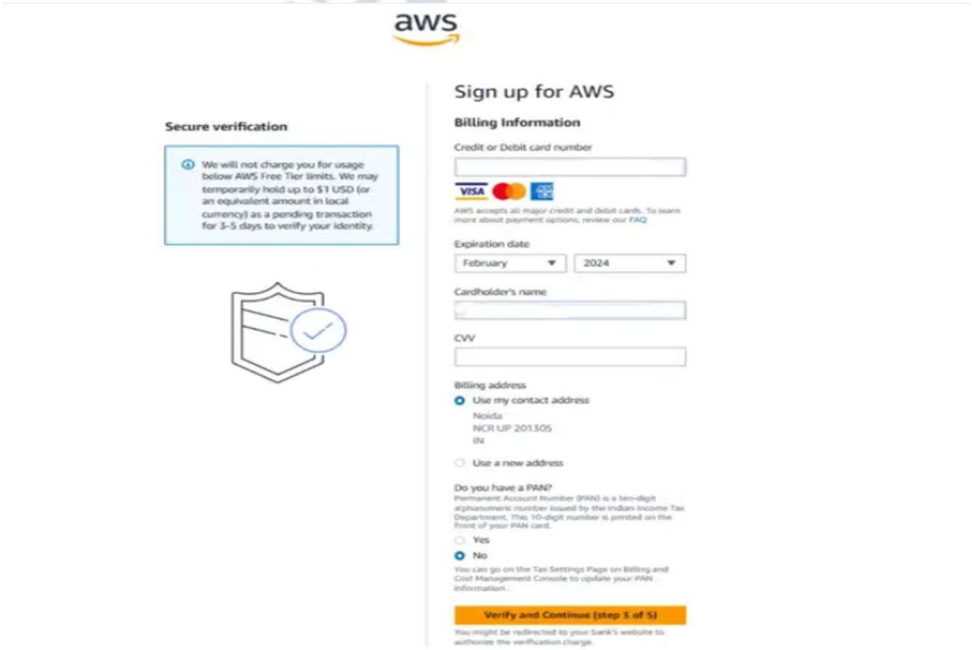
Step 02: **Setting password** After verification It will redirect you to set the root user password



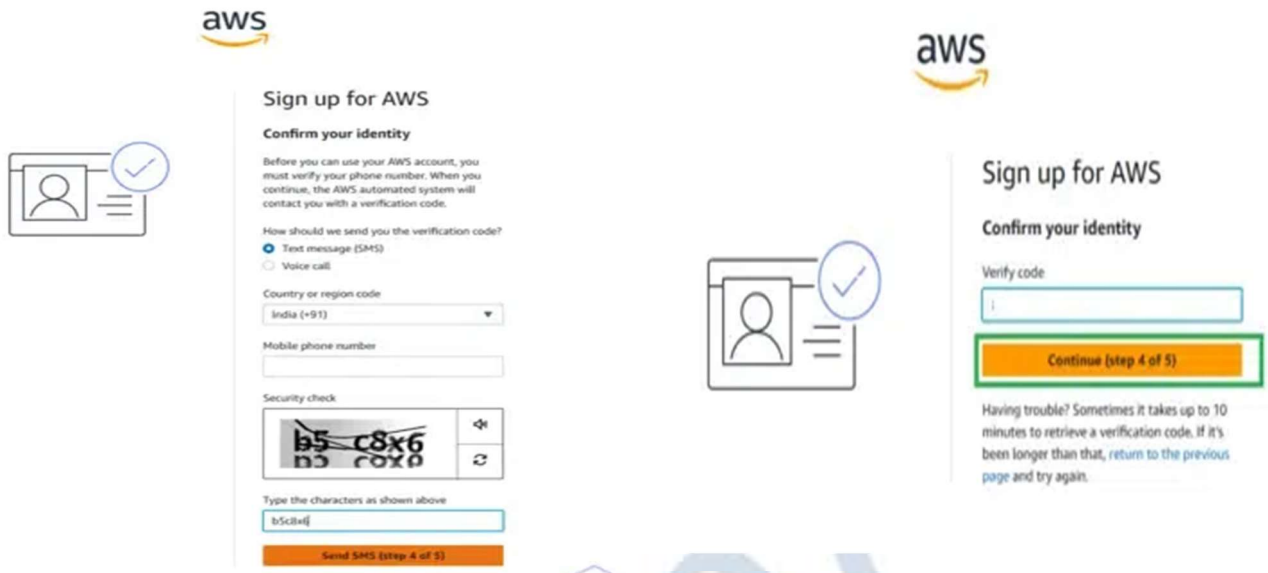
Step 03 : Adding contact information

Step 04: Payment related details

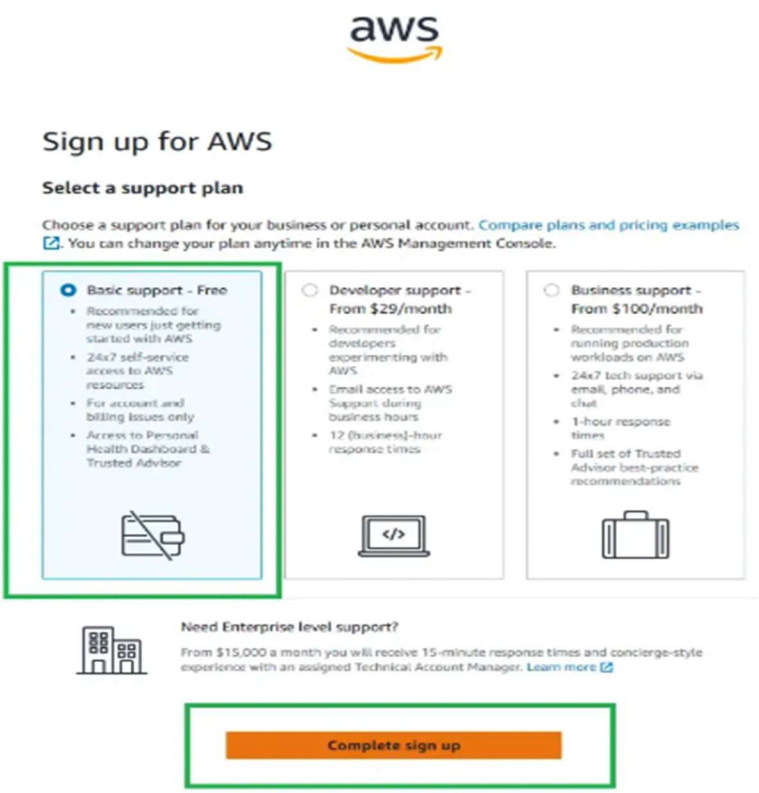
We must provide the credit/debit card information in this step.
(Only few Card are accepted [Payment Failure error])



Step 05: Identification verification



Step 06: Selecting the plan



Contact : VK.PRIORITYALERTS@GMAIL.COM

After Account creation, Please login with your login credentials

(Recommended to save AWS login credentials in a text file (**IAM**))

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