Exp.No.	**01**	**Cloud Account Setup and Services Overview**	**Year/Sem**	2/IV
Date	08/03/2025		**Branch**	CSE

Aim:

To create an AWS cloud account and explore its various services.

Procedure:

1. Create an AWS Account

   - Go to AWS Official Website.
   - Click on "Create an AWS Account" and enter the required details (email, password, account name).
   - Choose "Personal" or "Business" account type and provide billing information.
   - Complete identity verification using a phone number.
   - Select a support plan (Free Tier recommended for beginners).
   - Log in to the AWS Management Console.

2. Exploring AWS Services

   - Navigate through the AWS Management Console to explore services.
   - Access different categories such as Compute, Storage, Database, Networking, and Security.
   - Experiment with services like EC2 (Elastic Compute Cloud), S3 (Simple Storage Service), and RDS (Relational Database Service) using Free Tier options.

AWS:

Amazon Web Services (AWS) is a cloud computing platform that provides on-demand computing power, storage, and various services for businesses and developers.

Services in AWS:

Compute

EC2
Lightsail
Lambda
Batch
Elastic Beanstalk
Serverless Application Repository
AWS Outposts
EC2 Image Builder
AWS App Runner
AWS SimSpace Weaver
EC2 Global View
Parallel Computing Service

Containers

Elastic Container Service
Elastic Kubernetes Service
Red Hat OpenShift Service on AWS
Elastic Container Registry

Storage

S3
EFS
FSx
S3 Glacier
Storage Gateway
AWS Backup
AWS Elastic Disaster Recovery

Database

Aurora and RDS
ElastiCache
Neptune
Amazon QLDB
Amazon DocumentDB
Amazon Keyspaces
Amazon Timestream
DynamoDB
Amazon MemoryDB
Amazon Aurora DSQL
Oracle Database@AWS

Migration & Transfer

AWS Migration Hub
AWS Application Migration Service
Application Discovery Service
Database Migration Service
AWS Transfer Family
AWS Snow Family
DataSync
AWS Mainframe Modernization
Amazon Elastic VMware Service (Preview)

Networking & Content Delivery

VPC
CloudFront
API Gateway
Direct Connect
AWS App Mesh
Global Accelerator
AWS Cloud Map
Amazon Application Recovery Controller
AWS Private 5G
Route 53
AWS Data Transfer Terminal

Developer Tools

CodeCommit
CodeBuild
CodeDeploy
CodePipeline
Cloud9
CloudShell
X-Ray
AWS FIS
CodeArtifact
Amazon CodeCatalyst
AWS AppConfig
Amazon Q Developer (Including Amazon CodeWhisperer)
Infrastructure Composer
AWS App Studio

Customer Enablement

AWS IQ
Managed Services
Activate for Startups
Support
AWS re:Post Private

Robotics

AWS RoboMaker

Blockchain

Amazon Managed Blockchain

Satellite

Ground Station

Quantum Technologies

Amazon Braket

Management & Governance

AWS Organizations
CloudWatch
AWS Auto Scaling
CloudFormation
AWS Config
OpsWorks
Service Catalog
Systems Manager
Trusted Advisor
Control Tower
AWS Well-Architected Tool
Amazon Q Developer in chat applications (previously AWS Chatbot)
Launch Wizard
AWS Compute Optimizer
Resource Groups & Tag Editor
Amazon Grafana
Amazon Prometheus
AWS Resilience Hub
Incident Manager
AWS License Manager
Service Quotas
AWS Proton
CloudTrail
AWS Resource Explorer
AWS User Notifications
AWS Health Dashboard
AWS Telco Network Builder

Media Services

Kinesis Video Streams
MediaConvert
MediaLive
MediaPackage
MediaStore
MediaTailor
Elemental Appliances & Software
Elastic Transcoder
MediaConnect
Amazon Interactive Video Service
AWS Deadline Cloud

Machine Learning

Amazon SageMaker AI
Amazon Augmented AI
Amazon CodeGuru
Amazon DevOps Guru
Amazon Comprehend
Amazon Forecast
Amazon Fraud Detector
Amazon Kendra
Amazon Personalize
Amazon Polly
Amazon Rekognition
Amazon Textract
Amazon Transcribe
Amazon Translate
AWS DeepComposer
AWS DeepRacer
AWS Panorama
Amazon Monitron
AWS HealthLake
Amazon Lookout for Vision
Amazon Lookout for Equipment
Amazon Lookout for Metrics
Amazon Lex
Amazon Comprehend Medical
AWS HealthOmics
Amazon Bedrock
AWS HealthImaging
Amazon Q
Amazon Q Business

Analytics

Athena
Amazon Redshift
CloudSearch
Amazon OpenSearch Service
Kinesis
QuickSight
AWS Data Exchange
AWS Lake Formation
MSK
AWS Glue DataBrew
Amazon FinSpace
AWS Glue
Amazon Data Firehose
EMR
AWS Clean Rooms
Amazon SageMaker
AWS Entity Resolution
Managed Apache Flink
Amazon DataZone

Security, Identity, & Compliance

Resource Access Manager
Cognito
Secrets Manager
GuardDuty
Amazon Inspector
Amazon Macie
IAM Identity Center
Certificate Manager
Key Management Service
CloudHSM
Directory Service
AWS Firewall Manager
AWS Artifact
Detective
AWS Signer
AWS Private Certificate Authority
Security Hub
AWS Audit Manager
Security Lake
WAF & Shield
Amazon Verified Permissions
AWS Payment Cryptography
AWS Security Incident Response
IAM

Cloud Financial Management

AWS Marketplace
AWS Billing Conductor
Billing and Cost Management

Front-end Web & Mobile

AWS Amplify
AWS AppSync
Device Farm
Amazon Location Service

Application Integration

Step Functions
Amazon AppFlow
Amazon MQ
Simple Notification Service
Simple Queue Service
SWF
Managed Apache Airflow
Amazon EventBridge
AWS B2B Data Interchange

Business Applications

Amazon Connect
Amazon Chime
Amazon Simple Email Service
Amazon WorkDocs
Amazon WorkMail
AWS Supply Chain
AWS AppFabric
AWS Wickr
Amazon Chime SDK
Amazon One Enterprise
Amazon Pinpoint
AWS End User Messaging

End User Computing

WorkSpaces
AppStream 2.0
WorkSpaces Secure Browser
WorkSpaces Thin Client

Internet of Things

IoT Analytics
IoT Device Defender
IoT Device Management
IoT Greengrass
IoT SiteWise
IoT Core
IoT Events
AWS IoT FleetWise
IoT TwinMaker

Game Development

Amazon GameLift Servers
Amazon GameLift Streams

i. Compute & Networking

These services provide cloud computing power and networking capabilities to support scalable applications.

- Amazon EC2 (Elastic Compute Cloud) – Virtual servers in the cloud.
- AWS Lambda – Serverless computing service.
- Amazon VPC (Virtual Private Cloud) – Customizable cloud networks.

ii. Storage & Content Delivery

These services handle scalable storage, data backup, and content delivery.

- Amazon S3 (Simple Storage Service) – Scalable object storage.
- Amazon EBS (Elastic Block Store) – Block storage for EC2.
- Amazon CloudFront – Global content delivery network (CDN).

iii. Database

AWS provides managed databases for different workloads, from relational to NoSQL and data warehousing.

- Amazon RDS (Relational Database Service) – Managed relational databases.
- Amazon DynamoDB – Fully managed NoSQL database.
- Amazon Redshift – Data warehouse for big data analytics.

iv. Deployment & Management

AWS simplifies application deployment and infrastructure management.

- AWS Elastic Beanstalk – Automated deployment service.
- AWS CloudFormation – Infrastructure as code (IaC) service.
- AWS OpsWorks – Configuration management using Chef and Puppet.

v. Analytics & AI

AWS provides powerful analytics tools to process and analyze large datasets.

- AWS Glue – ETL (Extract, Transform, Load) service.
- Amazon Kinesis – Real-time data streaming.
- Amazon QuickSight – Business intelligence and visualization.
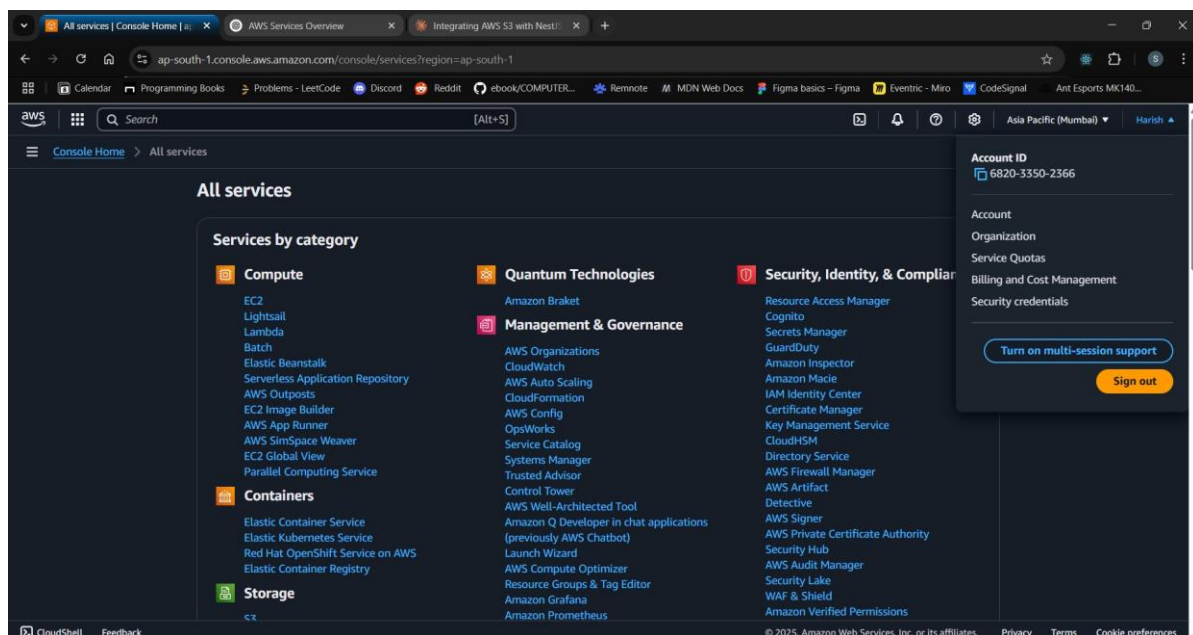
vi. Mobile & Application Services

AWS provides tools to build, deploy, and manage mobile applications.

- AWS Amplify – Full-stack mobile and web app development.
- Amazon Cognito – User authentication and identity management.
- Amazon API Gateway – API management service.

Applications of AWS:

1. Web Hosting – Hosting scalable websites and applications.
2. Big Data Analytics – Processing large datasets for insights.
3. AI & Machine Learning – Training and deploying ML models.
4. IoT (Internet of Things) – Connecting and managing IoT devices.
5. Gaming – Powering multiplayer and cloud gaming applications.
6. Backup & Disaster Recovery – Secure storage and failover solutions.

Output:

Snapshot 1 : cloud account creation in AWS platform.

Conclusion:

AWS provides a wide range of cloud services that enable businesses and developers to build, deploy, and manage applications efficiently. Exploring AWS services gives hands-on experience in cloud computing, storage, networking, and security.

Result:

Successfully created an AWS account and explored various AWS services.