Day 1: Introduction to AWS

Overview of AWS Services

AWS Global Infrastructure

- **Regions**: Large geographic areas (e.g., **US East**, **EU West**). Think of them as big zones like countries.

- **Availability Zones (AZs)**: Multiple **data centers** within each region that work together.

- **Edge Locations**: Deliver content faster by being closer to users.
  Used by **Amazon CloudFront** for **low-latency content delivery**.

  Think of AWS like a **giant network of computers all over the world**.

AWS Free Tier & Account Setup

- **Always Free**: Services like **Lambda**, **S3** (with monthly limits).

- **12-Month Free Tier**: Try tools like **EC2**, **RDS**, etc., for one year with usage limits.

Account Creation

1. Go to **aws.amazon.com**

2. Sign up using your **email**

3. Set up **billing information**

AWS Pricing Models

- **Pay-as-you-go**: Pay only when you use a service – like buying snacks.

- **Save with Commitments**: Long-term savings – like a monthly bus pass.

- **Use More, Pay Less**: Higher usage leads to lower unit prices.
  Example: Start with pay-as-you-go, then switch to a cheaper plan as usage increases.

Cloud vs. On-Premises vs. Hybrid

- **On-Premises**: You **own and manage** all hardware.

- **Cloud**: You **rent resources** from AWS – AWS manages them.

- **Hybrid**: Use **both** your own infrastructure and AWS.

Example: A school might use its own **server** (on-premises) and **AWS** for backup (cloud).

IaaS, PaaS, SaaS

- **IaaS (Infrastructure as a Service)**:
  Like renting a house – raw infrastructure (e.g., **EC2**, **S3**).

- **PaaS (Platform as a Service)**:
  Like staying in a hotel – AWS handles the setup.
  Example: **AWS Elastic Beanstalk** – just deploy your code.

- **SaaS (Software as a Service)**:
  Like ordering pizza – everything is ready.
  Examples: **Gmail**, **Dropbox**, **Google Drive**.

  Use **IaaS** for full control, **PaaS** to focus on coding, **SaaS** for ready-made tools.

AWS Access Methods

- **Console**: Web-based UI – click and manage services.

- **CLI (Command Line Interface)**: Type commands – faster for repetitive tasks.

- **SDK (Software Development Kit)**: Use AWS services directly in code (e.g., **Python**, **Java**).

  Begin with **Console**, learn **CLI** for speed, and use **SDK** to build apps.