Kafka

Producer: Sends messages to Kafka topics.

Consumer: Reads messages from topics.

Broker: Kafka server that stores data.

Topic: A category to which records are sent.

Zookeeper: Manages metadata.

partition: A partition is a subset of a topic. It provides parallelism.

Offset: offset is a unique identifier for each record within a partition.

replication factor: determines copies of a partition are maintained for fault tolerance.

AWS DevOps

Code Pipeline: Automates CI/CD pipelines.

Code Build: Builds and tests code.

Code Deploy: Automates application deployment.

Code Commit: A source control service for Git repositories.

CloudFormation: Manages infrastructure as code.

Elastic Beanstalk: Deploys and manages applications.

CloudWatch: Monitors resources and logs.

ECS/EKS: Container orchestration services.

Infrastructure as Code: is the practice of managing and provisioning infrastructure using code.

Amazon S3: Stores build artifacts and logs, backups.

AWS Lambda: Used in CI/CD workflows, automation scripts.

Elastic Load Balancers: distribute incoming traffic across multiple targets.

auto-scaling: adjusts the number of EC2 instances based on defined scaling policies.

IAM roles: enable secure access to AWS services without sharing credentials.

Reserved instances: It provides discount for use of specific EC2 resources over a period.

spot instances: Spot instances are spare EC2 capacity offered at a lower price.

Blue/Green Deployments: new environment (green) is deployed

and existing one (blue) for rollbacks.

VPC: A Virtual Private Cloud (VPC) isolates resources, secures applications,

and supports hybrid cloud setups.

Elastic File System (EFS): provides scalable, shared storage for EC2 instances.

Docker

Docker: Docker is a platform that uses containerization to build, and run applications.

Containers: Containers are lightweight, portable units that package an application.

VMs: Include a full Operating system.

Docker image: containing application code, libraries, and dependencies for creating containers.

Hub Docker: is repository where Docker users can share, store, and access container images.

Docker Engine: is service that runs Docker containers.

Docker CLI: is Command-line tool for interacting with Docker.

Docker Daemon: is Background service managing containers.

Docker volume: it allows data to be shared between the host and containers

Docker Compose: running multi-container Docker applications.

Docker Swarm: Orchestration tool that allows managing a cluster of Docker engines.

docker network: It manages how containers communicate with each other and the host system.

GitHub

Git: distributed version control system that tracks changes in source code.

GitHub: is a web-based platform for hosting Git repositories and collaborating on code.

repository: is a directory or storage space for files.

Commit: is a snapshot of changes in the repository.

branch: is a pointer to a specific commit.

staging: space where changes are added before committing them to the repository.

merge conflict: occurs when changes from different branches conflict and

Git cannot automatically resolve them.

fork: A fork is a copy of a repository that allows you to make changes independently from the original repository.

Git tag: A tag marks a specific commit, often used for versioning releases.

Git ignore: species files or directories to ignore in Git repositories.