Title: DevOps Knowledge Base

Section 1: Kubernetes

Kubernetes is an open-source container orchestration system used to automate deployment, scaling, and management of containerized applications.

Key components:

- Pod: Smallest deployable unit

- Node: Worker machine

- Cluster: Group of nodes

- Deployment: Manages replicas of pods

Section 2: Docker

Docker is a platform for packaging applications into containers.

Key concepts:

- Image: A snapshot of an application

- Container: A running instance of an image

- Dockerfile: Script to build an image

Section 3: CI/CD

CI/CD automates code integration and deployment.

CI: Continuous Integration

CD: Continuous Delivery / Deployment

Common tools:

- GitHub Actions

- Jenkins

- GitLab CI

Section 4: Terraform

Terraform is an Infrastructure as Code tool.

It allows you to define infrastructure using configuration files and manage it safely and predictably.