30 Days (Introduction to DevOps)

Objective:

- Understand the basics of DevOps, its lifecycle, and essential tools.

Syllabus:

1. **Week 1:** Introduction to DevOps
    a. Overview of DevOps and its importance in modern development.
    b. DevOps lifecycle: Continuous Integration, Continuous Delivery, and Deployment (CI/CD).
    c. Introduction to Linux basics and shell scripting.
2. **Week 2:** Version Control and Build Automation
    a. Git and GitHub basics: version control, branching, and merging.
    b. Build tools: Maven/Gradle introduction.
3. **Week 3:** Introduction to Containerization
    a. Docker basics: images, containers, and Docker Hub.
    b. Writing Dockerfiles and managing Docker Compose.
4. **Week 4:** CI/CD Basics
    a. Introduction to Jenkins: installation, setup, and pipelines.
    b. Setting up a basic CI/CD pipeline with Jenkins and Docker.

45 Days (Intermediate DevOps Development)

Objective:

- Learn intermediate-level DevOps practices with containerization, orchestration, and automation.

Syllabus:

1. **Week 1-2:** Advanced Git and Build Automation
    a. Git advanced workflows: rebase, stash, and hooks.
    b. Advanced Maven/Gradle for managing dependencies.
2. **Week 3:** Advanced Docker
    a. Multi-stage Docker builds and optimizing Docker images.
    b. Networking in Docker and working with volumes.
3. **Week 4:** Kubernetes Basics
    a. Introduction to Kubernetes: architecture, pods, and deployments.
    b. Setting up a Kubernetes cluster and deploying applications.
4. **Week 5:** Configuration Management

    a. Introduction to Ansible: playbooks, roles, and modules.
    b. Automating infrastructure provisioning with Ansible.

60 Days (Advanced DevOps Practices)

Objective:

- Dive into advanced DevOps tools and concepts for scalable and automated workflows.

Syllabus:

1. **Week 1-2:** Advanced CI/CD
    a. Jenkins advanced: pipelines with Groovy scripting.
    b. Integration with Docker and Kubernetes in pipelines.
2. **Week 3:** Cloud Platforms
    a. Introduction to AWS: EC2, S3, IAM, and networking.
    b. Deploying applications on AWS with Elastic Beanstalk.
3. **Week 4-5:** Kubernetes Advanced
    a. Kubernetes services: Load balancers and ingress controllers.
    b. Helm charts for application deployment.
4. **Week 6:** Monitoring and Logging
    a. Prometheus and Grafana for application monitoring.
    b. Log management with ELK stack (Elasticsearch, Logstash, Kibana).

90 Days (Comprehensive DevOps Development)

Objective:

- Master the DevOps lifecycle with real-world projects and cloud-native tools.

Syllabus:

1. **Week 1-3:** Advanced DevOps Ecosystem
    a. Infrastructure as Code (IaC) with Terraform.
    b. Implementing advanced Ansible roles and playbooks.
2. **Week 4-5:** Microservices and Kubernetes
    a. Designing microservices with Kubernetes and Docker.
    b. Deploying multi-container applications with Kubernetes.
3. **Week 6-7:** Advanced Cloud and Security

    a. AWS advanced topics: RDS, Lambda, and API Gateway.
    b. Security best practices: secrets management and network security.
4. **Week 8-9:** Advanced Monitoring and Scaling
    a. Setting up auto-scaling with Kubernetes and AWS.
    b. End-to-end monitoring of CI/CD pipelines and applications.