

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).