**DevOps**

**Month 1: Introduction to DevOps Principles and Practices**

Week 1: Introduction to DevOps

* Definition and goals of DevOps
* Evolution and importance in modern software development
* Key principles and cultural aspects

Week 2-3: Continuous Integration and Continuous Deployment (CI/CD)

* CI/CD concepts and benefits
* Jenkins and other CI/CD tools
* Building and deploying a simple pipeline

Week 4-5: Infrastructure as Code (IaC)

* Introduction to IaC principles
* Tools like Terraform or AWS CloudFormation
* Creating and managing infrastructure using IaC

Week 6: Configuration Management and Orchestration

* Introduction to configuration management (e.g., Ansible, Puppet)
* Basics of container orchestration (e.g., Docker, Kubernetes)
* Building scalable and automated environments

**Month 2: Advanced DevOps Concepts and Tools**

Week 1-2: Monitoring and Logging

* Importance of monitoring in DevOps
* Tools like Prometheus, Grafana, ELK stack
* Implementing effective logging practices

Week 3-4: DevOps in Cloud Environments

* Leveraging cloud services for DevOps (e.g., AWS, Azure, Google Cloud)
* Cloud-native development and deployment
* Managing infrastructure and applications in the cloud

Week 5-6: Security in DevOps and Final Project

* Integrating security into the DevOps lifecycle
* Automated security testing
* Final project: Real-world DevOps implementation