

DEVOPS

Course Id: DEVOPSAF04ENT24DIP**Duration:** 60 Hours**Difficulty:** Easy**Level:** Entry

1. Introduction to DevOps
 - Overview of DevOps principles and practices
 - Understanding the need for DevOps in modern software development
 - Tools and technologies used in DevOps
2. Version Control Systems (VCS)
 - Introduction to Git
 - Basic and advanced Git commands
 - Branching, merging, and resolving conflicts
3. Continuous Integration (CI)
 - Introduction to CI/CD pipelines
 - Setting up Jenkins for CI
 - Building and testing code automatically
4. Infrastructure as Code (IaC)
 - Introduction to Infrastructure as Code concepts
 - Using tools like Terraform for infrastructure provisioning
 - Managing infrastructure in a declarative way
5. Configuration Management
 - Introduction to Configuration Management tools like Ansible
 - Automating server configuration and management tasks
 - Ensuring consistency across environments
6. Containerization and Orchestration
 - Introduction to Docker containers
 - Containerizing applications and services
 - Introduction to Kubernetes for container orchestration

7. Monitoring and Logging

- Importance of monitoring and logging in DevOps
- Tools like Prometheus, Grafana, ELK stack for monitoring and logging
- Implementing alerting and monitoring solutions

8. Security in DevOps

- Understanding security challenges in DevOps
- Implementing security best practices in CI/CD pipelines
- Security scanning tools and technique

9. DevOps Culture and Collaboration

- Building a DevOps culture within the organization
- Effective collaboration between development and operations teams
- Continuous learning and improvement

10. Final Project and Review

- Capstone project to apply DevOps principles and practices
- Reviewing key concepts and learning outcomes
- Presentation and evaluation of the final project