

DevOps with GCP Course Content

1. DevOps Fundamentals
2. Version Control (Hands on)
3. GCP Core Services (Hands on)
4. CI/CD on GCP (Hands on)
5. Containers and Orchestration (Hands on)
6. Infrastructure as Code (Hands on)
7. Configuration Management
8. Monitoring, Logging and Security
9. SRE and Advanced Topics
10. Capstone Projects

DevOps Fundamentals

- DevOps Culture, SDLC, Agile, CI/CD Concepts
- Linux Administration, Shell Scripting, Networking Basics

Version Control (Hands on)

- Git: Branching, Merging, Rebasing, Pull Requests
- GitHub, GitLab, and Cloud Source Repositories

GCP Core Services (Hands on)

- Projects, IAM, Service Accounts, Billing
- Compute Engine, VPC, Firewall Rules, Load Balancing
- Cloud Storage, Cloud SQL, Firestore, BigQuery
- Cloud Functions, Cloud Run, Pub/Sub

CI/CD on GCP (Hands on)

- Jenkins Pipelines, GitHub Actions
- Cloud Build, Artifact Registry, Cloud Deploy
- SonarQube and Code Quality Integration

Containers and Orchestration (Hands on)

- Docker: Images, Containers, Volumes, Networks, Compose
- Kubernetes Architecture, Pods, Deployments, Services, Ingress
- Google Kubernetes Engine (GKE), Helm Charts

Infrastructure as Code (Hands on)

- Terraform: Providers, State, Modules, Workspaces
- Infrastructure Manager and Deployment Manager Overview

Configuration Management

- Ansible: Inventory, Playbooks, Roles

Monitoring, Logging and Security

- Cloud Monitoring, Cloud Logging, Cloud Trace
- Prometheus and Grafana
- Secret Manager, Cloud KMS, Security Command Center, DevSecOps Basics

SRE and Advanced Topics

- SRE Principles: SLI, SLO, Error Budgets
- GitOps with ArgoCD, Blue-Green and Canary Deployments
- Cost Optimization and Architecture Framework

Capstone Projects

- End-to-End CI/CD Pipeline on GCP, Portfolio
- Certification Guidance (Cloud Digital Leader, Associate Cloud Engineer, Professional DevOps Engineer)