

GITLAB and GitOps

Duration: 5 Days (8 hours/Day)

Hands-On Format: This hands-on class is approximately 80/20 lab to lecture ratio, combining engaging lecture, demos, group activities and discussions with comprehensive machine-based practical programming labs and project work.

Module 1 – Introduction to CICD and GitLab

What is CI/CD?

What is GitLab

GitLab Features

GitLab Architecture

Module 2 – Creating Projects

Creating a New Project

Building the Project Locally

Short Introduction to Images and Docker

Building the Project using GitLab CI

Adding a Test Stage

Running a Jobs in Parallel

Running Jobs in the

Background

Using Environment Variables for Managing Secrets

Deploying the Project using GitLab CI

Module 3 – Variables in GitLab

CI/CD What are GitLab CI/CD

Variables?

Predefined GitLab

Variables Create Custom

Variables Secret

Variables in GitLab

Module 4 – Integrating Docker and Kubernetes

with GitLab Build Docker Image with GitLab

Push Image to Central Image Registry

Integrating Kubernetes and GitLab CI

Automatic Deploy Application to Kubernetes

Module 5 – Artifacts

Defining Artifacts

Using Artifacts in Future Stages

Module 6 – GitLab Monitoring

Integrate Prometheus with

GitLab Check Metrics of GitLab

Runners

Module 7 – GitOps ArgoCD

Introduction to GitOps

Integration of GitLab and ArgoCD Archicture

Installing ArgoCD

Configuring ArgoCD to Connect with GitLab

Managing Secrets with GitOps and Kubernetes

Auto build image with the help of GitLab and Deploy application to Kubernetes with ArgoCD