

CI/CD with Jenkins using Pipelines and Docker

Duration: 3 Days

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 Jenkins

Introduction to Jenkins
Jenkins Installation
Introduction to Docker
Introduction to Infrastructure as Code and Automation

Module 2 – Building a NodeJS app

Why a NodeJS application?
How to build and deploy a NodeJS app with Docker

Module 3 – Jenkins Job DSL

Introduction to Jenkins Job DSL
Jenkins Job DSL with NodeJS Application
Jenkins Job DSL with Docker Build and Publish

Module 4 – Jenkins Pipelines

Jenkins Pipelines Introduction
Jenkins Pipelines vs Jenkins Job DSL
Jenkins Pipeline Example
Jenkins Pipelines with NodeJS and Docker
Build, Test and Run everything in Docker Containers

Module 5 – Jenkins Integrations

Email Integration
Email Integration using Jenkins Pipelines
Slack Integration
GitHub and BitBucket Integration
GitHub Integration with a Gradle + Java Project
JFrog Artifactory Integration
SonarQube Integration
SonarQube Installation with docker-compose
SonarQube Integration within Jenkins Pipelines

Module 5 – Advanced Jenkins Usage

Introduction to Jenkins Slaves
Jenkins Slaves Benefits and Best Practices
Jenkins Slave using SSH
SSH Agent
Security Best Practices