

# Jenkins

**Course Duration: 16 Hours (2 Days)**

## Overview

The Jenkins course is designed to equip learners with a comprehensive understanding of Jenkins, a leading automation server used for Continuous Integration and Continuous Deployment (CI/CD). This course walks through the basics of CI/CD, the reasons for choosing Jenkins, and provides practical steps for getting started with Jenkins. As learners progress through the modules, they will dive into the installation process, Jenkins command-line interface (CLI), and learn how to manage Jenkins plugins and integrations. The course offers a detailed exploration of the Jenkins User Interface (UI), focusing on visuals, user and team management, and system credentials. Moreover, it covers system administration tasks such as backup, restore, and monitoring, including an introduction to Prometheus. Learners will gain hands-on experience with Jenkins pipelines, Build agents, and the intuitive Blue Ocean interface. The course also emphasizes securing Jenkins, managing access, and applying security best practices. By completing this Jenkins boot camp, participants can aim for Jenkins certification, demonstrating their expertise in managing Jenkins environments effectively and securing a competitive edge in the DevOps field.

## Audience Profile

Koenig Solutions' Jenkins course provides comprehensive training in CI/CD using Jenkins, designed for IT professionals involved in software development and deployment.

- DevOps Engineers
- Software Developers
- Build and Release Engineers
- Automation Engineers
- System Administrators involved in CI/CD processes
- IT Professionals working in software integration
- Quality Assurance (QA) Engineers
- Technical Project Managers
- Technical Leads and Architects involved in software delivery
- Operations Team Members supporting build and deployment environments
- IT Graduates and Professionals seeking to upskill in automation and DevOps practices

## Course Syllabus

### Module 1 – Introduction

- What is CI/CD?
- Why Jenkins?

- Getting Started with Jenkins

## **Module 2 – Installing Jenkins**

- Installing Jenkins
- Installing Jenkins on a VM
- Jenkins CLI
- Using Jenkins CLI

## **Module 3 – Jenkins Plugins and Integration**

- What are Plugins?
- Searching for Plugins
- Installing a Plugin
- Restarting Jenkins for Plugins that Require Restarts
- Jenkins Steps and Plugins

## **Module 4 – Exploring the Jenkins UI**

- Jenkins Visuals
- Signing in and Navigating the Interface
- Managing Users and Teams
- Managing the System and Credentials
- Build History and CI/CD Visuals

## **Module 5 – System Administration with Jenkins**

- Administering Jenkins
- Backup and Restore Jenkins
- Backing up Jenkins
- Restoring Jenkins
- Monitoring Jenkins
- Prometheus Integration

## **Module 6 – Pipelines**

- What is a Jenkinsfile?
- Creating a Jenkinsfile
- Running a Simple Pipeline
- Building a Multistage Pipeline
- Creating a CI Pipeline
- Building a CD Pipeline
- Full Pipeline Deployment

## **Module 7 – Build Agents**

- What are Build Agents?
- Using CentOS as a Build Agent
- Adding a New Build Agent for a CI/CD Pipeline
- Using Container-Based Build Agents

## **Module 8 – Blue Ocean**

- What is Blue Ocean?
- Installing Blue Ocean
- Creating a Pipeline with Blue Ocean
- Blue Ocean Dashboard

## **Module 9 – Securing Jenkins**

- Jenkins Security Best Practices
- Managing and Enabling Security
- Access Control for Builds
- Security Pipeline Matrix