

Course Name: CI/CD with Jenkins

Mode: Classroom

Duration: 2 days (16 hrs)

Training Audience

- Developers, software engineers, and programmers.
- IT professions looking to implement continuous inspection through continuous deployment at their company
- IT management that wants to have a deeper understanding of Jenkins and other DevOps concepts
- DevOps (Development/Operations) professional looking at Jenkins as a build tool or as part of a larger software delivery pipeline

Prerequisites

Have experience in the IT industry.

Participants background: Basics of DevOps and Linux

Objectives

After the training, the trainees will be able to understand:

- The concepts of continuous integration, continuous delivery, continuous inspection and differences between them.
- Understand the Master/Slave Topologies
- Configure and build basic Tools/Plugins
- Building an automated continuous deployment pipeline to build, test, analyze and deploy applications with Jenkins.

Day 1:

Basic Level:

Module 1: Introduction to CI/CD

- What is CI?
- What is CD?
- Drill down into CI/CD
- CI/CD Use Cases
- Comparison of CI/CD tools in the market

Module 2: What is Jenkins?

- Overview of Jenkins
- Jenkins Architecture
- Jenkins terms
- Benefits of Jenkins
- Jenkins Use-Cases

- Jenkins Lifecycle Management

Module 3: Installing & Configuring Jenkins

- Installing Jenkins
- Installing plugins for Jenkins
- Overview of Jenkins Dashboard and Workspace

Intermediate Level :

Module 4: Continuous Integration with Jenkins

- Introduction to Jenkins Build
- Configuring Master Jenkins Node
- Configuring Jenkins Slave
- Managing Nodes and running jobs on it
- **Distributed Builds**
- **Advanced Build – Parameterized Build Jobs & Triggers**
- Running script commands
- Scheduling jobs
- Support for other build tools (Gradle, Ant, etc)
- **Generating Maven Build Jobs Automatically**

Day 2:

Module 5: Continuous Inspection with Jenkins

- Overview of continuous inspection techniques
- Static analysis (PMD, Checkstyle, etc)
- Unit testing
- **Automated Testing with Jenkins**
- Enforcing quality
- Improving code quality
- **Advanced Notifications**

Advance Level:

Module 6: Continuous Delivery using Pipelines

- Overview of Jenkins Pipeline as code
- Overview of Pipeline Plugin
- Automating pipelines
- Building Pipelines using Build Pipeline plugin
- Working with Docker Plugins
- **Build Docker Image using Jenkins Pipeline**
- **Working with Jenkins Promotions**

Module 7: Security with Jenkins

- Security overview
- Enable security and login
- Role strategy plugin
- Adding users and roles
- Adding project roles