



JENKINS

EESTYLE . PIPELINE . MULTIB
AGENTS . CREDENTIALS . AP
ALITY GATES . DEPLOYMENT

DURATION	LEVEL	MODULES	MODE
30 Hours	Intermediate	8	Classroom · Online · Hybrid

01 COURSE OVERVIEW

A Jenkins course on building continuous integration and delivery pipelines that teams can maintain. Pipelines are written as code from the second module onward, with shared libraries, parallel stages, credentials handling and approval gates. Build agents, artifact management and integration with test and security tools are covered in depth.

The course delivers a pipeline that builds, tests, scans and deploys a containerised application.

WHO IT IS FOR

- DevOps and build engineers
- Developers owning their pipelines
- QA engineers automating test runs
- System administrators maintaining CI servers

PREREQUISITES

Git fundamentals, basic Linux and familiarity with one build tool.

02 LEARNING OUTCOMES

01 Install and secure a Jenkins controller and agents.

03 Manage credentials and secrets safely.

05 Publish artifacts and test reports.

07 Deploy to staging and production with approvals.

02 Write declarative pipelines as code.

04 Run stages in parallel and across agents.

06 Add quality and security gates to a pipeline.

03 MODULE STRUCTURE

8 MODULES

01 JENKINS SETUP

Architecture

Plugins

Backup

Installation

Users and security

Controller sizing

LAB

SECURED JENKINS INSTANCE

02 JOBS AND BUILDS

Freestyle jobs

Build triggers

Workspaces

SCM polling and webhooks

Parameters

Console diagnostics

03 DECLARATIVE PIPELINES

Jenkinsfile structure

Environment

post blocks

Stages and steps

when conditions

Error handling

LAB

BUILD AND TEST PIPELINE

04 AGENTS AND SCALING

Static agents

Kubernetes plugin

Concurrency

Docker agents

Labels

Executor tuning

LAB

CONTAINERISED BUILD AGENT

05 CREDENTIALS AND ARTIFACTS

Credential types

Vault integration

Nexus and Artifactory basics

Binding

Artifact archiving

Versioning

06 TESTING AND QUALITY GATES

Unit and integration test stages

Coverage

Trivy scan

JUnit reports

SonarQube gate

Failure policy

LAB

PIPELINE WITH QUALITY GATES

07 DELIVERY AND DEPLOYMENT

Multibranch pipelines

Approvals

Rollback

Shared libraries

Blue-green and canary basics

LAB

DEPLOY TO STAGING

08 OPERATIONS

Pipeline as code review

Notifications

Disaster recovery

Monitoring builds

Housekeeping

PROJECT

END-TO-END CI/CD PIPELINE

04 ASSESSMENT & CERTIFICATION

Module assignments and labs	25%
Mini projects	20%
Internal assessments	15%
Final project and review	40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

CI/CD ENGINEER

DEVOPS ENGINEER

BUILD AND RELEASE ENGINEER

AUTOMATION ENGINEER

PLATFORM ENGINEER

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