

## [JK-DEV]: DEVOPS ESSENTIAL WITH JENKINS

Length : 2 days  
Delivery Method : Instructor-led (Classroom)

### Course Overview

In the DevOps workflow, system operators work hand-in-hand with developers at every stage, and all team members must be multi-skilled in order to streamline operations and make processes more agile. Project/product managers who are competent in the use of different DevOps tools and technologies are much in demand, as they can design and develop software and services faster, leading to enhanced project success.

Jenkins is a popular tool that helps organisations to increase productivity, speeding up software development processes through continuous integration and improved control of the lifecycle. Jenkins is an open source cross-platform tool which is written in Java, and makes it easier for developers to integrate changes to the project, and for users to obtain a fresh build. This course offers value to all those who wish to work in a DevOps environment, and who wish to effectively use Jenkins to deliver both new features and stability.

Candidates must have a minimum of one year of experience working with any of the programming languages.

### Audience Profile

This course will provide value to professionals who are aspiring to become DevOps engineers or wish to work as service engineers in the field of enterprise infrastructures, including DevOps Engineers, Build and Release Engineers, Sys Admins, Operations Engineers and Automation Engineers, among others.

This course will also be useful for forward-thinking Project Managers, Testing Professionals, Software Developers and Architects, or those connected with IT infrastructure administration or cloud services.

### What you will learn

- Introduction to DevOps objectives and benefits
- DevOps tools and vocabulary
- Learn how to create a high-performing IT organization through DevOps
- Master agile infrastructures
- Ensure high-quality and rapid delivery of software with Continuous Delivery
- Learn about the basics of continuous inspection, continuous integration, and continuous deployment
- Learn to build automated integrated pipeline using Jenkins
- Use Jenkins effectively to build, test, analyze and deploy Java projects

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- Apply tools and techniques to implement Jenkins
- Learn about Automation Maven test, sonarqube and Nexus

### You will also get

- 16 hours of training
- Hands-on lab assignments for thorough understanding of concepts
- Doubts cleared by industry expert trainer
- Downloadable e-book

### Course Outline

#### Module 1: Course Overview

##### Lessons

- Introduction to the course

#### Module 2: Devops Big Picture

##### Lessons

- Waterfall Model overview and challenges
- Agile framework overview
- Difference between Agile and waterfall approach
- What and Why of Devops
- Seven Habits of Highly effective Devops
- Before and After Devops
- 5 set of Devops Tools
- Version control Tools
- Continuous Integration Tools
- Continuous Deployment Tools
- Continuous Inspection Tools
- Continuous Testing Tools
- Containerization overview
- Configuration Management Tools

#### Module 3: Setup your VM infrastructure

##### Lessons

- Module Introduction
- System Requirements
- Launch AWS EC2 VM for Jenkins Master and Slave Node
- Launch AWS EC2 VM for Sonarqube & Nexus
- Connecting to EC2 Instances
- Create VM and install Ubuntu server

#### Module 4: Manually Compile, package and deploy webapp

##### Lessons

- Module Introduction

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- Install pre-requisite Softwares on jenkins master
- Maven compile and package
- Deploy webapp on tomcat7

## Module 5: Github

### Lessons

- Module Introduction
- Create Github account
- Create your First repository
- Fork CloudEnabledwebapp to your account

## Module 6: Install jenkins

### Lessons

- Module Introduction
- Install Jenkins on Ubuntu Server 16.04
- Setup jenkins server and admin account
- Jenkins Dashboard overview

## Module 7: Jenkins-Freestyle Project

### Lessons

- Module Introduction
- Create a freestyle project
- Add Git clone step and build
- Add mvn compile step and build
- Add mvn package step and build
- Add mvn clean package
- Add archive artifacts and build
- Deploy .war file
- Make changes on Github repo and Build
- Automating the build creation with Poll SCM
- Add new feature to your webapp

## Module 8: Jenkins Pipeline Project

### Lessons

- Module Introduction
- Clean up old project and webapp from jenkins master
- Create a Pipeline project
- Add Git clone step and build
- define a node in pipeline script
- Add mvn clean & package step and build
- Add archive artifacts and build
- Add Deploy .war file step and build
- Add stages to pipeline script
- Automating the build creation with Poll SCM
- Remove feature from your webapp

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## Module 9: Add a jenkins slave node

### Lessons

- Module introduction
- Role of slave nodes in Jenkins environment
- Launch a ubuntu 16.04 server
- SSH and Install pre-requisites on slave node
- Add the slave node
- Create a new job
- Define slave node in pipeline script
- Build and fix Maven errors
- Build and fix dependency error
- Build and deploy webapp on slave

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