

## DevOps: CI & CD

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### Course Summary

#### Description

This course will help you to learn about DevOps, which is the most widely used software engineering culture and practice that aims at software development and operation.

#### Objectives

At the end of this course, students will be able to:

- Get familiar with life cycle models, maturity states, progression and best practices of DevOps frameworks
- Learn to set up Jenkins and integrate it with Git
- Know how to build jobs and perform testing with Jenkins
- Implement infrastructure automation (Infrastructure as Code) with tools such as Chef and Ansible
- Understand continuous monitoring process with tools such as Splunk and Nagios
- Learn how Splunk improves the code quality

#### Topics

- Introduction to DevOps
- DevOps Framework
- DevOps – Continuous Integration and Delivery
- DevOps Continuous Deployment

#### Audience

The targeted audience for this course is engineers, architects, and developers, who wish to learn the core strategies of DevOps.

#### Prerequisites

Students should have familiar with configuration and understanding Tools and Technologies.

#### Duration

Two days

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### Course Outline

#### *I. Introduction to DevOps*

- A. Introduction to DevOps
- B. DevOps application - business scenarios
- C. Business drivers for DevOps adoption to big data
- D. Planning the DevOps strategy
- E. Benefits of DevOps
- F. Summary

#### *II. DevOps Framework*

- A. DevOps Framework
- B. DevOps Process
- C. DevOps Best Practices
- D. DevOps Frameworks
- E. Summary

#### *III. DevOps – Continuous Integration and Delivery*

- A. DevOps – Continuous Integration and Delivery
- B. Best Practices for CI/CD
- C. Jenkins Setup
- D. Git (SCM) Integration with Jenkins
- E. Maven (Build) Tool Integration with Jenkins
- F. Building Jobs with Jenkins
- G. Source Code Review – Gerrit
- H. Installation of Gerrit
- I. Repository Management
- J. Testing with Jenkins
- K. Continuous Delivery- Build Pipeline
- L. Jenkins Features
- M. Summary

#### *IV. DevOps Continuous Deployment*

- A. DevOps – Continuous Integration and Delivery
- B. Best Practices for CI/CD
- C. Jenkins Setup
- D. Git (SCM) Integration with Jenkins
- E. Maven (Build) Tool Integration with Jenkins
- F. Building Jobs with Jenkins
- G. Source Code Review – Gerrit
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