LFS261 - DevOps Fundamentals: Implementing Continuous Delivery

Modality: On Demand

Duration: 20 Hours

About the Course:

This program includes the CI/CD principles. It's built for Continuous Integration and Continuous Delivery processes and software students the first time. The key CI/CD principles will be explored as a distribution system in the course. Through subject is implemented as phases in the pipeline, beginning with the build stage, then packaging, and then Deployment. The program also covers more technical CI/CD subjects, like automated screening and deployment techniques (such as canary and blue-green deployments).

The labs will use examples of several languages to demonstrate how Continuous Integration and Continuous Delivery pipelines operate. There is an excellent example of using Jenkins and GitHub with basic Ruby code. Using Artifactory, Jenkins, and Java we switch on to more sophisticated labs instead. We also discuss the integration of items such as Ansible, Chef, and Puppet into the pipeline, as well as certain immutable delivery frameworks utilizing Docker. The program begins by reviewing some of the latest CI/CD solutions focused on Software as a service, and the final laboratory will concentrate on the integration of Heroku and Travis CI.

Course Objective:

- Common setup and use of Jenkins for Continuous Integration management.
- Setting up package repository and package artifactory as part of the pipeline of the Continuous Integration and Continuous Delivery process.
- A Docker summary and an overview of an immutable delivery model that uses Docker as part of the Continuous Integration and Continuous Delivery process pipeline.
- Establishment of a Github account and the use of simple git commands.
- Example application pipelines that use the Java and Ruby-based CI/CD method.
- Using Ansible, Chef, and Puppet to have artifact deployment in the pipeline.
- Usage of SaaS-based CI/CD software with a Heroku-based sample framework incorporated with the Travis CI.

Audience:

- Software Developers
- App Developers
- Web Developers

Prerequisite:

- Knowledge of basic Linux and system administration.

Course Outline:

- **Course Introduction**

- **Chapter 1. Introduction to Continuous Delivery**

- **Chapter 2. The Build Phase**

- **Chapter 3. Packages and Package Repository**

- **Chapter 4. Deployment and Operations**

- **Chapter 5. Automated Testing**

- **Chapter 6. Deployment Strategies**

- **Chapter 7. Immutable Delivery**

- **Chapter 8. SaaS-based CI/CD Solutions**