



About Codefrux

While the current trends around the world are based on the internet, mobile and its applications, we try to make the most out of it. As for us, we are a well established IT professionals based in Bangalore, constantly coping up with the extensive advancement and adapting to new Technology. Since the start of the company in 2010, our niches are Mobile Application Development, Web Application Development, Staffing Services and Training Programs (includes Corporate Training).

What you will Learn In This Course

- Apply DevOps in your team
- Understand Continuous Delivery
- Automate the Software Development Lifecycle (SDLC)
- Automate the deployment process
- Reduce release time
- Release better software
- Build a highly available and fully scalable application
- Deploy microservices using Docker and Kubernetes
- Automate using Ansible and Chef
- And many more

Who can learn DevOps

There is a huge demand for DevOps professionals in IT industry. Any IT professionals with Prerequisite knowledge of software development, preferably in Java, and the UNIX/Linux can do this course.



1. Introduction to DevOps

Topics

- Introduction to the definition, value, history, building blocks.
- Introduction to how Agile software development process applies to DevOps
- Technical challenges in DevOps, security issues
- Difference between requirements and architecture
- The importance of integrating source control in DevOps
- writing UAT test cases
- How automation is applied to DevOps
- Quiz
- Summary

Hands on /Tools used

- Setup of the cloud environment
- Tools: GCP/AWS/Azure

2. How to choose the right DevOps tools

Topics

- Plan, Build, Continuous integration, Deploy, Operate, Continuous feedback
- Overview of popular tools: CVS, SVN, and Git
- Eclipse editor, Advantages of the Eclipse editor
- Manage change by setting up and using a source control system
- Automate the process of assembling software components with build tools
- Automate the building of the whole system with continuous integration tools
- Ticketing, Subversion, Using GIT, Java Profiling, Jenkins and Git
- Quiz
- Summary

Hands on /Tools used

- Setup of Java sample program, Maven, path setup, Run Maven goals, Eclipse
- Tools: SCCS and CVS, Subversion, Git, Maven, Make, JaCoCo, Ant, junit for Unit test, SonarQube, Sqale, Structure 101

3. Test automatically before and during production

Topics

- Describe why automated testing should be used in a DevOps organization and how it can improve the delivery of value to a customer.
- Differentiate types of testing (both automated and manual) and determine where testing belongs in DevOps.
- Identify various unit testing frameworks which can be used to support automated testing.
- Demonstrate how to use various automated testing techniques such as unit testing and integration testing to improve the quality of your software.
- Describe Test-Driven Development and how it can be used in a healthy development organization.

- f. What is Code quality
- g. How to utilize code quality analysis tools
- h. TDD Origins, IDEs, TDD, Approach, Behavior Driven Development, Code Quality Principles, Code Analysis Tools
- i. Quiz
- j. Summary

Hands on /Tools used

- a. Complete setup of the automated test environment and running it
- b. Tools: Eclipse, IntelliJ, Visual Studio, Xcode, xUnit, SQALE, SonarQube, JaCoCo

4. Containerization using Docker

Topics

- a. What and Why of Containers?
- b. Introduction to Docker?
- c. Image distribution and Docker containers?
- d. Creating and managing remote docker instances?
- e. Understanding Docker Networking, Volumes and Files
- f. Docker containers, image creation and docker instance handling, Docker networking, volumes and files
- g. Quiz
- h. Summary

Hands on /Tools used

- a. Working on Docker containers, images, and registry
- b. Tools: Docker

5. Continuous integration

Topics

- a. Continuous integration with Teamcity
- b. Integration of Eclipse with Teamcity
- c. Continuous integration with Jenkins
- d. Quiz
- e. Summary

Hands on /Tools used

- a. Complete setup of the CI pipeline and flow
- b. Tools: Jenkins, Teamcity, Eclipse, Logback/ SLF4J for Logging

6. Configuration Management

Topics

- a. Puppet Introduction and Architecture
- b. Puppet Terminologies and Language Constructs
- c. Puppet Modules and Classification
- d. Puppet Environment, Classes, and Template
- e. Introduction to Chef, Ansible, Salt
- f. Quiz
- g. Summary



Hands on /Tools used

- a. Puppet setup and usage. Overview of Chef and its usage
- b. Tools: Puppet, Chef, Ansible, Salt

7. Build and deploy automatically to production often and consistently

Topics

- a. Describe why automated build and deployment should be used in a DevOps organization and how it can improve the delivery of value to a customer.
- b. Identify various tools which can be used to support automated build and deployment.
- c. Demonstrate how to use automated build and deployment to improve the delivery of value to the customer.
- d. Monitor production systems
- e. Test for performance
- f. Optimize code
- g. Schedule production tasks
- h. Perform a DevOps project
- i. Scheduling, Monitoring, Performance, Combining Jenkins, Docker and Puppet, Introduction to Nagios, Nagios Plugins, Nagios
- j. Objects, Nagios Commands
- k. Quiz
- l. Summary

Hands on /Tools used

- a. Setup of the monitoring sub system and usage of Nagios to trigger alerts/events
- b. Tools: AutoSys/Cron for Scheduling, Geneos/ Nagios for Monitoring



Project Work

After course completion, students will be assigned to work on live project to polish the technology skills you have acquired with us.