DevOps in the Playground

A technical course spread over a duration of three days, helping participants become well acquainted with intricacies involved in adopting and implementing tooling for the DevOps practice.

Using leading tools that can automate just about anything, this course will teach you core and plugin-based capabilities to automate the entire flow of developing and deploying software.

Continuous Integration Continuous Delivery

Do-It-Yourself exercises

Tools to Automate just about anything

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Course Overview

In this three day program:

- Master DevOps tools and automate your SDLC process.
- Gain knowledge in building end to end a Continuous Integration and Continuous Deployment (CI-CD) pipeline.
- Learn about how to scale up delivery pipelines to better fit organisation's business need
- Learn about how to make infrastructure a disposable asset
- Learn commonly used patterns and processes for enabling Continuous Delivery pipelines
- Also learn Web Deployment Automation across multi OS platform such as Ubuntu, Rhel and Windows 2012 server.
- Gain hands on knowledge on DevOps toolset like Jenkins, Github, Sonarqube, Nexus, Docker and Chef Automation.

Email
customer_relations@qaiglobal.com

Phone
1800-3000-9111

What will you be able to do after attending this course?

After completing this course you will be able to

- Deploy Jenkins server
- Github - create and commit changes to repository
- Deploy a complete Continuous Integration and Continuous Deployment pipeline
- Gain elementary knowledge of Docker containerization with hands-on lab
- Automate Common Infrastructure Tasks with Chef
- Write Simple Cookbooks
- Start Managing Nodes in your own infrastructure with Chef

What are the next steps after this course?

After you complete this course you consider following action, possibly in the order specified.

• Start applying knowledge gained to automate your infrastructure

• Start writing your own cookbooks and customizing community ones

• Consider Docker and Chef Advanced Course if required

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Eligibility

Is this for you?

This course is suitable for you if you are a,

- System Administrator, or
- QA Engineer
- Operations Engineer, or
- Build and Release Engineer, or
- Site Reliability Engineer, or
- Automation Engineer, or
- In a similar ops/systems related roles
- And have at least 2 years of experience with either administering IT infrastructure/applications or with automation

What do you need to know before attending?

- Basic understanding of Linux/Unix system concepts
- Familiarity with Command Line Interface (CLI)
- Familiarity with a Text Editor

Got several participants?
Run this course in your company

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Course Outline

Day 01- The Big Picture

Demystifying DevOps (Theory)
- What is DevOps?
- Why DevOps?
- Physical to Virtual Container
- Devops Tools - Introduction of SCM, CI/CD, Configuration Management tools
- Introduction to Docker Engine

Devops Tools Introduction and Live demo
- Before Devops - Manual Process (Git clone, compile, package and deploy java App)
- Create CI/CD Pipeline - Automate (Git clone, Compile, Package and deploy Java App) using Jenkins
- Static code Analysis - Sonarqube
- Docker Demo - Deploy docker and create,

    start, stop and delete containers
- Jenkins with Docker integration
- Configuration management - Automate deploying Web-server on RHEL, Ubuntu and Win 2012 server

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Day 02- DevOps Technical Essentials

- SCM : Live Demo (Hands on Lab by students)
i. Github – Create an account and fork your application code
ii. Git clone the github code , Use maven to compile and package java source code
iii. Deploy jar file manually

- Continuous Integration Tool – (Hands on Lab by students)
i. Jenkins – Deploy Jenkins on Ubuntu 14.04 server (each student will deploy his Jenkins server)
ii. Continuous Integration setup – Jenkins and Github

- Code Packaging automation - (Hands on Lab by students)
i. Automation Maven test, Compile and Package (.jar) using Jenkins

- Static Code Analysis (Hands on Lab by trainer)
i. Understand sonarqube (deployed by trainer)
ii. Students to Integrate Jenkins (CI) server with Sonarqube (lab by students)
iii. Sonarqube –static code analysis and set quality gates

Day 03- DevOps Technical Essentials

- Continuous Deployment - (Hands on Lab by students)
i. Add slave nodes to Jenkins
ii. Automate deployment of your .jar file to server
iii. Building Pipeline scripts and stages in SDLC

- Containers On Ubuntu Docker host - (Hands on Lab by students)
i. Module Introduction
ii. Deploy ,Login, exit container
iii. List, Start, Stop, restart containers
iv. Where containers are stored
v. Working on multiple containers
vi. Container stats and inspect
vii. Deleting containers

- Configuration Management Tool (Hands on Lab by students) Lab 6.1
i. Module Introduction
ii. Create account of hosted chef server
iii. Upload cookbooks to chef server
iv. Register 3 nodes - Win 2012, Ubuntu and RHEL
v. Automate web server deployment on all 3 nodes

Do you have to bring your own laptop to the class?

- Yes. You will need to carry your own laptop to the class.
- We will provide you with all the software required and help you configure it.
- Wifi access will be provided.

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