About This Course

DevOps (Development and Operations) is a software development methodology that combines software development (Dev) with information technology operations (Ops). DevOps aims to shorten the systems development life cycle while also delivering features, fixes, and updates frequently in close alignment with business objectives. The DevOps approach is to include automation and event monitoring at all steps of the software build.

1. About this course

General Information
Prerequisites
Syllabus
Grading Scheme
Copyrights and Trademarks

Module1: DevOps Fundamentals

Introduction To DevOps
How is DevOps Different From Traditional IT ?
Recognizing the Business Value of DevOps
Introduction to Continuous Integration / Continuous Delivery / Continuous Deployment
Introduction to DevOps Tools
Exercise 1: Git Server installation
Exercise 2: Git Client Installation
Exercise 3: Git Exercise
Build Automation – Maven
Exercise 4: ECLIPSE IDE Installation
Exercise 5: Maven Installation
Configuration Management – Puppet
Exercise 6: Installing Puppet on Ubuntu
Exercise 7: Puppet Exercise
Containerization With Docker
Exercise 8: Installing Docker on Ubuntu
Exercise 9: Create Docker images
Continuous Deployment – Jenkins & Exercise 10: Installation of Jenkins on Ubuntu
Continuous Integration – Jenkins
Continuous Testing – Junit
Continuous Monitoring - Nagios
Exercise 12: Nagios Installation
Continuous Monitoring – Graphite & Grafana - Exercise 13: Graphite & Grafana Installation

Module 2: DevOps Usecase

DevOps Use Case & Setup
Exercise 1 - Set Up a CI/CD Pipeline from Scratch

Solving Problems with DevOps
DevOps in eCommerce
DevOps in Internet of Things
DevOps in Data Science & Data Engineering

Module 3: Advanced DevOps

Introduction to Advanced DevOps Concepts
Automatic Provisioning
Exercise 1 - Automatic Rollback
Infrastructure as Code (IaC) - a key DevOps practice
Scalability
Clustering

Module 4: Introduction to DevOps on IBM Cloud

Introduction to Cloud
DevOps on IBM Cloud