# DevOps

## About

DevOps practitioner course is designed to follow best practices for software development and to make the most efficient use of software tools. You will master Configuration Management, Continuous Integration and Continuous Deployment, Continuous Delivery, Continuous Monitoring using DevOps tools-Git,Docker, Jenkins, Puppet and Nagios to automate multiple steps in software development lifecycle. Container technologies are seen as the way forward. The course makes use of Docker containers to deploy applications in a modular and well-controlled way

## Overview

- What is DevOps?
- Technical Challenges
- Software Tools
- Cloud Computing
- Case study
- Information Security
- Requirements
- Architecture
- User Acceptance Tests

## Virtualization and Lightweight Containers

- Virtualization
- Linux Virtualization
- Docker
- Docker Images
- Registries and Repositories
- Docker Machine

## Data Storage and Access using Docker as container

- Data as a Resource
- Relational Databases
- Docker Data Volumes
- NoSQL and Big Data

## Test Driven Development and Code Quality

- TDD Origins
- IDEs

- TDD Approach
- Behavior Driven Development
- Code Quality Principles
- Code Analysis Tools

## OO Design and Design Patterns

- OO Design Principles
- UML
- Design Patterns
- Enterprise Integration Patterns

## Software Development Tools

- Source Control Systems
- Subversion
- Build tools and dependency resolution
- Continuous Integration Tools

## Integration and Support

- Integration Testing and Mocking
- Docker Networking
- Integration Tools
- Configuration Management
- Docker Compose
- Infrastructure as Code

## Monitoring and Performance

- Scheduling
- Monitoring
- Performance