DevOps Fundamentals

DevOps is a culture and a set of practices that combines Development and Operations to emphasise collaboration and integration. DevOps allows organisations to deliver a product of better quality faster and with less effort. Mastering DevOps capabilities is crucial for an organisation's success in the digital age.

Training Overview

This training will cover key DevOps concepts and practices for a Continuous Integration/ Continuous Delivery pipeline. You will gain a deeper understanding of the challenges that DevOps addresses, DevOps ecosystems, and CICD architecture. This training will provide a solid foundation of the DevOps toolchain and practices with Lab examples.

Training Objectives

The training provides knowledge of the DevOps ecosystem in terms of toolchain, impacting technologies like cloud, alignment with Agile, and DevOps culture. Real examples of technical implementation and adoption will be shared during the training.

At the end of the training, trainees have a clear understanding about the following:

- Benefits of adopting DevOps

- Architecture, value stream, and design of Continuous Integration/Continuous Delivery pipelines

- Considerations of the DevOps ecosystem such as Cloud, Microservices, 12-factors of application development, DevSecOps, DevOps principles (CAMS), and Agile

- DevOps practices and toolchain implementation

- Key design for Continuous Integration with Jenkins Containerization and SonarQube

- Continuous Testing and test strategy

- Continuous Deployment and how to manage infrastructure and environments

- Continuous monitoring for application and platform

- DevOps adoption roadmaps and maturity models to manage DevOps

Target Audience

This training is intended for software architects, developers, testers, team leads, Scrum masters, operation team and anyone who is expected to be part of the development team.

Prerequisites

Participants should have a good knowledge of software design and development.

Training Content

1. DevOps Overview
   - Challenges
   - Why DevOps?
   - DevOps Goals, Principles (CAMS), and Model

2. Overarching Principles of DevOps
   - DevOps architecture & practices
     - Value stream map and streamlet
     - Pipeline design, orchestration, toolchain, stage design and visibility
   - DevOps topologies and anti-types for DevOps structure
   - DevOps ecosystem and other concepts
     - Application development including containerisation, Microservices, 12 factors, security and performance
     - Infrastructure and environments
     - Platforms (OpenShift, K8S, GitLab CI/CD)

WHY ACADEMY!

3. Implementing CI/CD with Lab example

- Continuous Integration
    - Objectives of CI and essential practices
    - Version control with Git/Gitlab
    - Orchestration with Jenkins pipeline
    - Build apps and packaging with JFrog Artifactory
    - Quality visibility with SonarQube
- Continuous deployment
    - Managing data, infrastructure and environments
    - Tools and practices
- Continuous testing
    - Testing strategy
    - Automated tests and tools
- CI/CD Ecosystems
    - Integrating Docker, Ansible, performance tests and security tests in pipeline
- Continuous monitoring
    - Application monitoring and platform monitoring

4. Managing DevOps

- DevOps maturity model and using it for continuous improvements
- Roadmap adoption such as change management plan, DevOps R&R, topologies and impact on existing processes

Training Information

Training will be conducted by an experienced trainer and Agile Coach from why innovation!.

Each training will have a maximum of 12 participants.

Duration: 2 days (16 hours)
Location: Singapore/ Hong Kong/ Shanghai
Price: SGD 1,600/ HKD 9,000/ CNY 6,000
Select more than 1 training to be eligible for a discount.

Related Trainings

1. Kanban & Lean Foundation
2. Scrum Developer with PSD I Certification
3. Agile Testing

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SINGAPORE
#08-06/07 ARC 380, 380 Jalan Besar
Singapore 209000
Tel: +65 6635 6055

HONG KONG
21/F, On Building
162 Queen's Road Central
Tel: +852 3952 7350

SHANGHAI
Suite 20A, Crystal Century Plaza, No. 567 Weihai Road
Jing 'an District, Shanghai, PRC
Tel: +86 21 5404 1265