Iverson Associates Sdn Bhd (303330-M)
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Tel: 03-7726 2678   Fax: 03-7727 9737   Website: www.iverson.com.my

Course Outline :: DO400::

Module Title	:	DO400: Red Hat DevOps Pipelines and Processes: CI/CD with Jenkins, Git, and Test Driven Development
Duration	:	4 days

Overview

DevOps practices have enabled organizations to undergo a digital transformation, moving from a monolithic waterfall approach to a rapidly deploying cloud-based agile process. This transformation requires a team of developers trained to use tools that enable them to spend more time coding and testing and less time troubleshooting. Red Hat DevOps Pipelines and Processes: CI/CD with Jenkins, Git, and Test-Driven Development (TDD) is a practical introduction to DevOps for developers that teaches students the necessary skills and technologies for automated building and deploying of cloud-native applications

Course summary

- Version control with Git
- Build and execute Jenkins pipelines
- Release strategies
- Build applications with Test Driven Development
- Security scanning and code analysis of applications
- Monitor applications and pipelines
- Consume and troubleshoot pipelines

Technology considerations

Internet access is required.

You will use your own machines and must be able to install software on your device. If you are unable to do so, you may use the embedded virtual machine in ROL or be provided a machine in ILT.

Audience

This course is designed for application developers.

Recommended training

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Course Outline :: DO400::

- Experience with application development or Red Hat Application Development I: Programming in Java EE (AD183)
- Proficiency in using an IDE such as Red Hat® Developer Studio or VSCode
- Introduction to OpenShift Applications (DO101) (Recommended, not required)
- Take our free assessment to gauge whether this offering is the best fit for your skills.

Outline

Introduction to continuous integration and continuous deployment (CI/CD)

Describe the principles of DevOps and the role of Jenkins.

Integrate source code with version control

Manage source code changes with Git version control.

Test applications

Describe the foundational principles behind comprehensive application testing and implement unit, integration, and functional testing.

Build applications with test-driven development

Implement and build application features with TDD.

Author pipelines

Create basic pipelines to run Jenkins jobs.

Deploy applications with pipelines

Safely and automatically deploy applications to Red Hat OpenShift Container Platform.

Implement pipeline security and monitoring

Manage the security and monitor the performance of pipelines.

Consume pipelines

Work with (or "Use") and troubleshoot CI/CD pipelines for automated deployment and automated testing.

Outcomes

Impact on the organization

DevOps with Jenkins, Test-Driven Development, and Git version control, improves application time-to-market and code quality. This approach makes applications more resilient and enables organizations to quickly implement new features and respond to a quickly changing market.

Impact on the individual

You will be able to use the concepts in this course to simplify and more efficiently integrate your application code, build reliable code with TDD, and use automated pipelines to simplify testing. You will learn how to build pipelines, design applications with a "test first" approach, and integrate application code with Git. This course is intended to illustrate the benefits of DevOps and the tools that support its implementation.

Recommended Next Exam or Course

- DevOps Culture and Practice Enablement (DO500)
- Introduction to Containers, Kubernetes, and Red Hat OpenShift (DO180)
- Red Hat OpenShift Development I: Containerizing Applications (DO288)