

# Red Hat DevOps Pipelines and Processes: CI/CD with Jenkins, Git, and Test Driven Development

Course code: D0400

Build essential skills to implement agile and DevOps development processes and workflows. 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.

## Who is the course for

This course is designed for application developers.

## What we teach you

- 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

## Required skills

- 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 (D0101) (Recommended, not required)
- Take our free assessment to gauge whether this offering is the best fit for your skills.

## Course 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.

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