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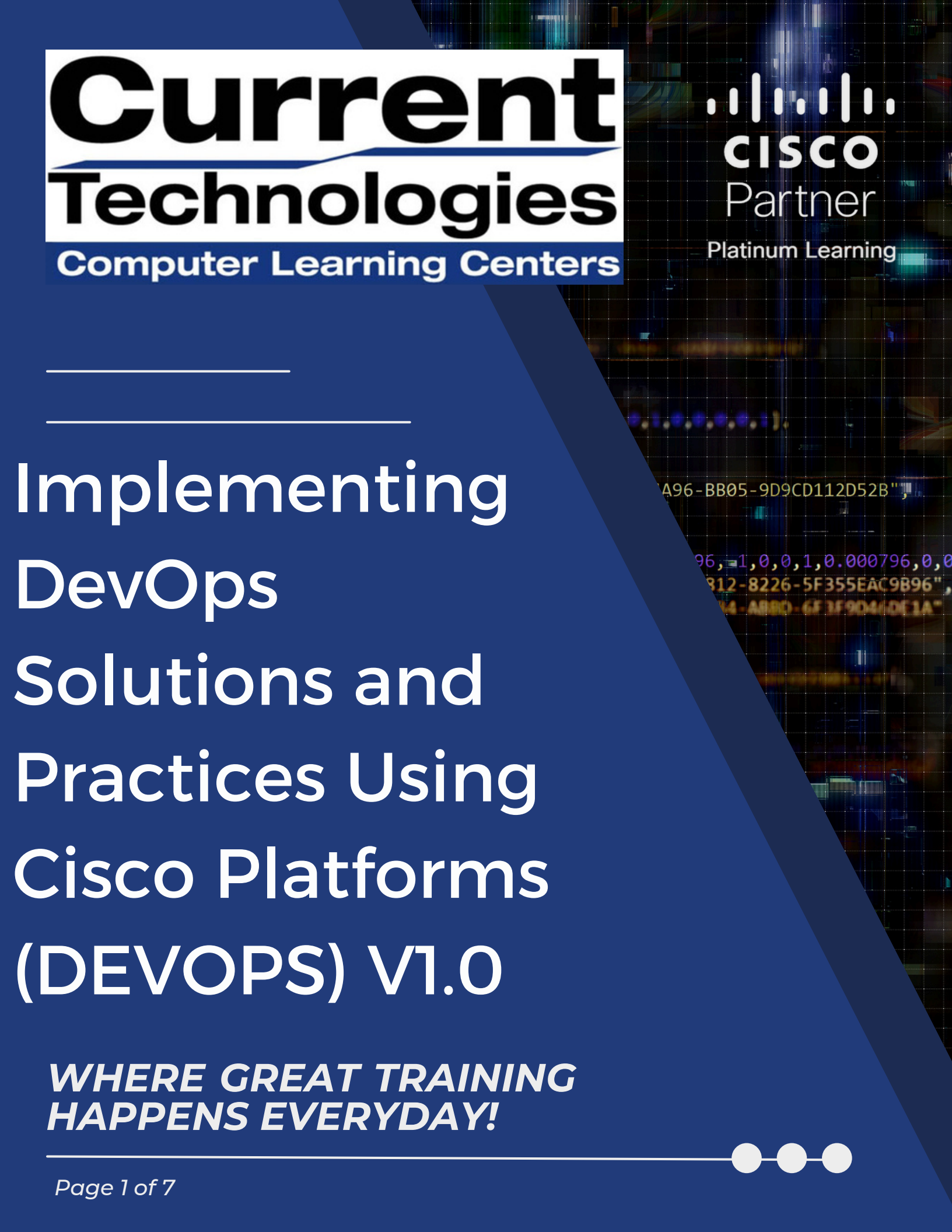

Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) V1.0

WHERE GREAT TRAINING HAPPENS EVERYDAY!

Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) V1.0

Course Duration

5 Days

Course Price

$4,495.00
45 CLCs

Methods of Delivery

In-Person ILT
Virtual ILT
Onsite ILT

About this Class

The Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) v1.0 course teaches you how to automate application deployment, enable automated configuration, enhance management, and improve scalability of cloud microservices and infrastructure processes on Cisco® platforms. You will also learn how to integrate Docker and Kubernetes to create advanced capabilities and flexibility in application deployment. This course prepares you for the 300-910 Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) certification exam.

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How you will benefit

This class will help you:

- Gain the high-demand knowledge and skills to implement automation, streamline container orchestration, and enhance scalability
- Learn the skills to maximize the lightweight design of containers to scale more quickly and allow more responsiveness to website traffic load
- Earn 40 CE credits toward recertification
- Prepare for the 300-910 DEVOPS exam

Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The job roles best suited to the material in this course are:

- Systems Engineer
- Wireless Engineer
- Consulting Systems Engineer
- Technical Solutions Architect
- Network Administrator
- Wireless Design Engineer
- Network Manager
- Sales Engineer
- Account Manager

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Objectives

After taking this course, you should be able to:

- Describe the DevOps philosophy and practices, and how they apply to real-life challenges
- Explain container-based architectures and available tooling provided by Docker
- Describe application packaging into containers and start building secure container images
- Utilize container networking and deploy a three-tier network application
- Explain the concepts of Configuration Item (CI) pipelines and what tooling is available
- Implement a basic pipeline with Gitlab CI that builds and deploys applications
- Implement automated build testing and validation
- Describe DevOps principles applied to infrastructure
- Implement on-demand test environments and explain how to integrate them with an existing pipeline
- Implement tooling for metric and log collection, analysis, and alerting
- Describe the benefits of application health monitoring, telemetry, and chaos engineering in the context of improving the stability and reliability of the ecosystem
- Describe how to implement secure DevOps workflows by safely handling sensitive data and validating applications
- Explain design and operational concepts related to using a mix of public and private cloud deployments
- Describe modern application design and microservices architectures
- Describe the building blocks of Kubernetes and how to use its APIs to deploy an application
- Explain advanced Kubernetes deployment patterns and implement an automated pipeline
- Explain how monitoring, logging, and visibility concepts apply to Kubernetes

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Course Outline

Module 1: Introducing the DevOps Model

Module 2: Introducing Containers

Module 3: Packaging an Application Using Docker

Module 4: Deploying a Multitier Application

Module 5: Introducing CI/CD

Module 6: Building the DevOps Flow

Module 7: Validating the Application Build Process

Module 8: Building an Improved Deployment Flow

Module 9: Extending DevOps Practices to the Entire Infrastructure

Module 10: Implementing On-Demand Test Environments at the Infrastructure Level

Module 11: Monitoring in NetDevOps

Module 12: Engineering for Visibility and Stability

Module 13: Securing DevOps Workflows

Module 14: Exploring Multicloud Strategies

Module 15: Examining Application and Deployment Architectures

Module 16: Describing Kubernetes

Module 17: Integrating Multiple Data Center Deployments with Kubernetes

Module 18: Monitoring and Logging in Kubernetes

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Lab Outline

- **Lab 1:** Interact with GitLab Continuous Integration (CI)
- **Lab 2:** Explore Docker Command-Line Tools
- **Lab 3:** Package and Run a WebApp Container
- **Lab 4:** Build and Deploy Multiple Containers to Create a Three-Tier Application
- **Lab 5:** Explore Docker Networking
- **Lab 6:** Build and Deploy an Application Using Docker Compose
- **Lab 7:** Implement a Pipeline in Gitlab CI
- **Lab 8:** Automate the Deployment of an Application
- **Lab 9:** Validate the Application Build Process
- **Lab 10:** Validate the Deployment and Fix the Infrastructure
- **Lab 11:** Build a Yaml Ain't Markup Language (YAML) Infrastructure as Code (IaC) Specification for the Test Environment
- **Lab 12:** Manage On-Demand Test Environments with Terraform
- **Lab 13:** Build Ansible Playbooks to Manage Infrastructure
- **Lab 14:** Integrate the Testing Environment in the CI/CD Pipeline
- **Lab 15:** Implement Pre-deployment Health Checks
- **Lab 16:** Set Up Logging for the Application Servers and Visualize with Kibana

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Lab Outline Cont.

- **Lab 17:** Create System Dashboard Focused on Metrics
- **Lab 18:** Use Alerts Through Kibana
- **Lab 19:** Instrument Application Monitoring
- **Lab 20:** Use Alerts and Thresholds to Notify Webhook Listener and Cisco Webex® Teams™ Rooms
- **Lab 21:** Secure Infrastructure in the CI/CD Pipeline
- **Lab 22:** Explore Kubernetes Setup and Deploy an Application
- **Lab 23:** Explore and Modify a Kubernetes CI/CD Pipeline
- **Lab 24:** Kubernetes Monitoring and Metrics—Elasticsearch, Logstash, and Kibana (ELK)