

Implementing DevOps Solutions and Practices using Cisco Platforms (DEVOPS)

Duration: 5 Days **Course Code: C-DEVOPS** **Version: 1.0**

Overview:

The Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) 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. Learn to integrate Docker and Kubernetes to create advanced capabilities and flexibility in application deployment.

Target Audience:

Network and software engineers interested in automation and programmability

Objectives:

- **After completing 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

Prerequisites:

Attendees should meet the following prerequisites:

- Basic programming language concepts and familiarity with Python
- Basic understanding of compute virtualization
- Ability to use Linux, text-driven interfaces, and CLI tools, such as Secure Shell (SSH), bash, grep, ip, vim/nano, curl, ping, traceroute, and telnet
- Foundational understanding of Linux-based OS architecture and system utilities
- CCNA® level core networking knowledge
- Foundational understanding of DevOps concepts

- Awareness and familiarity with continuous integration, continuous deployment, and continuous delivery (CI/CD) concepts
 - Hands-on experience with Git
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Content:

Topics:

- Introducing the DevOps Model
 - Introducing Containers
 - Packaging an Application Using Docker
 - Deploying a Multitier Application
 - Introducing CI/CD
 - Building the DevOps Flow
 - Validating the Application Build Process
 - Building an Improved Deployment Flow
 - Extending DevOps Practices to the Entire Infrastructure
 - Implementing On-Demand Test Environments at the Infrastructure Level
 - Monitoring in NetDevOps
 - Engineering for Visibility and Stability
 - Securing DevOps Workflows
 - Exploring Multicloud Strategies
 - Examining Application and Deployment Architectures
 - Describing Kubernetes
 - Integrating Multiple Data Center Deployments with Kubernetes
 - Monitoring and Logging in Kubernetes
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Further Information:

For More information, or to book your course, please call us on 0800/84.009

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