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Learning Style: On Demand

Technology: Cisco

Difficulty: Intermediate

Course Duration: 40 Hours

Implementing DevOps Solutions and Practices using Cisco Platforms (DEVOPS) v1.0 - On Demand



About this course:

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 helps you prepare for the Implementing DevOps Solutions and Practices using Cisco Platforms (300-910 DEVOPS) certification exam.

Course Objective:

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

Audience:

This course is designed for network and software engineers interested in automation and programmability and who hold job roles such as:

- Account manager
- Consulting systems engineer
- Network administrator, engineer, and manager
- Sales engineer
- Systems engineer

- Technical solutions architect
- Wireless design engineer
- Wireless engineer

Prerequisite:

Before taking this course, you should have the following knowledge and skills:

- 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), Bourne-Again SHell (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, delivery, and deployment (CI/CD) concepts
- Hands-on experience with Git

The following Cisco courses can help you gain the knowledge you need to prepare for this course:

- Developing Applications and Automating Workflows using Cisco Platforms (DEVASC)
- Developing Applications using Cisco Core Platforms and APIs (DEVCOR)

Course Outline:

- **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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