

Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) v1.0

Course Duration: 40 Hours (5 Days)

Overview

The Implementing DevOps Solutions and Practices Using Cisco Platforms (DEVOPS) v1.0 course is designed to provide IT professionals with the skills and knowledge needed to implement DevOps methodologies and practices using Cisco and open-source tools. The course covers various aspects of the DevOps model, including CI/CD pipelines, containerization with Docker, multi-tier application deployment, infrastructure automation, and monitoring. Throughout the modules, learners will engage with hands-on labs to gain practical experience. They'll learn to package applications, build an improved deployment flow, and extend DevOps practices to infrastructure with tools like Terraform and Ansible. Additionally, the course delves into securing DevOps workflows, multi-cloud strategies, Kubernetes, and monitoring/logging, ensuring that learners are equipped to handle real-world DevOps challenges. By the end of the course, participants will have a solid understanding of how to leverage Cisco platforms and tools to optimize the software development lifecycle, improve deployment strategies, and enhance operational efficiency.

Audience Profile

The DEVOPS v1.0 course equips professionals with the skills to implement DevOps practices using Cisco platforms DevOps Engineers

- Software Developers
- System Administrators
- Network Engineers involved in DevOps processes
- IT Project Managers overseeing DevOps teams
- Cloud Infrastructure Engineers
- Automation Architects
- Application Deployment Managers
- Quality Assurance (QA) Engineers
- Security Professionals in a DevOps environment
- Technical Team Leads managing software lifecycles
- Operations Support Staff working with CI/CD pipelines
- IT Professionals aiming to learn about containerization and Kubernetes
- Cisco Integrators and Partners looking to expand their DevOps knowledge

Course Syllabus

- Lab outline
- Interact with GitLab Continuous Integration (CI)
- Explore Docker Command-Line Tools
- Package and Run a WebApp Container
- Build and Deploy Multiple Containers to Create a Three-Tier Application
- Explore Docker Networking
- Build and Deploy an Application Using Docker Compose
- Implement a Pipeline in Gitlab CI
- Automate the Deployment of an Application
- Validate the Application Build Process
- Validate the Deployment and Fix the Infrastructure
- Build a Yaml Ain't Markup Language (YAML) Infrastructure as Code (IaC) Specification for the Test Environment
- Manage On-Demand Test Environments with Terraform
- Build Ansible Playbooks to Manage Infrastructure
- Integrate the Testing Environment in the CI/CD Pipeline
- Implement Pre-deployment Health Checks
- Set Up Logging for the Application Servers and Visualize with Kibana
- Create System Dashboard Focused on Metrics
- Use Alerts Through Kibana
- Instrument Application Monitoring
- Use Alerts and Thresholds to Notify Webhook Listener and Cisco Webex® Teams™ Rooms
- Secure Infrastructure in the CI/CD Pipeline
- Explore Kubernetes Setup and Deploy an application
- Explore and modify a Kubernetes CI/CD Pipeline
- Kubernetes Monitoring and Metrics—Elasticsearch, Logstash, and Kibana (ELK)