

CISCO NSO ADMINISTRATION AND DEVOPS (NSO303)

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In this Cisco Network Services Orchestrator (NSO) Administration and DevOps course provides a comprehensive operational and architectural view of Cisco Network Services Orchestrator, focusing on how network automation integrates with modern IT practices. It is designed for network engineers, automation engineers, and operations teams who are responsible for running Cisco NSO in production environments and need to manage scale, reliability, change control, and service lifecycle operations. The course emphasizes the convergence of networking and IT, highlighting how DevOps concepts apply directly to network orchestration.

Students begin by exploring network and IT convergence, Cisco NSO architecture, Linux fundamentals, and NSO setup, establishing a strong foundation for understanding how NSO operates as a platform. The curriculum then expands into access control, integration options, version control with Git, CI/CD pipelines, and software development methodologies, showing how NSO fits into modern automation ecosystems. Scalability, high availability, and system management topics prepare students to operate NSO reliably in large, distributed environments.

The course also focuses heavily on service lifecycle operations, including configuration management, change management, service maintenance, monitoring, compliance reporting, inventory management, and NED lifecycle management. Hands-on labs reinforce these concepts through real-world scenarios such as deploying NSO in Docker, configuring high availability, migrating services to LSA, performing backups and restores, building NETCONF NEDs, troubleshooting alarms, and generating compliance reports. By the end of the course, students are prepared to operate, scale, and govern Cisco NSO as a critical automation platform in enterprise and service provider networks.

How you'll benefit

This class will help you:

- Install, configure, and maintain a Cisco Network Services Orchestrator solution
- Apply DevOps best practices for Cisco NSO development, operations, and administrative tasks
- Implement Layered Service Architecture (LSA) within a Cisco NSO solution
- Gain knowledge for protocols, solutions, and designs to acquire professional-level and expert-level networking roles
- Earn 32 CE credits toward recertification

Why Attend with Current Technologies CLC

- Our Instructors are in 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

Course Duration

4 days

Course Price

\$3,595.00 or 36 CLCs

Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

Who Should Attend

The primary audience for this course is as follows:

- DevOps Engineers
- Integration Engineers
- Network and Software architects
- Network Engineers
- Software Engineers
- System Administrators

Prerequisites

The knowledge and skills you are expected to have before attending this training are:

- Basic knowledge of the Cisco CLI
- Basic knowledge of the CLI of UNIX-like operating systems
- Basic knowledge of Yet Another Next Generation (YANG) data modelling
- Basic knowledge of Python software development

OUTLINE

Module 1: Introducing Network and IT Convergence

Module 2: Introducing Cisco NSO Architecture

Module 3: Introducing Linux

Module 4: Explaining Cisco NSO Setup

Module 5: Exploring Access Control

Module 6: Describing Integration Options

Module 7: Explaining Version Control System

Module 8: Describing Continuous Integration and Continuous Delivery

Module 9: Introducing Scalability and High Availability

Module 10: Describing Scalable System Management

Module 11: Describing Software Development Methodologies

Module 12: Introducing Service Maintenance

Module 13: Performing NED Upgrades

Module 14: Introducing Configuration Management

Module 15: Describing Change Management

Module 16: Explaining Service Problem Management

Module 17: Explaining Service Monitoring and Compliance Reporting

Module 18: Introducing Inventory Management

Module 19: Describing Cisco NSO Use Cases

LAB OUTLINE

Lab 1: Perform NSO System Install

Lab 2: Implement Role-Based Access and PAM

Lab 3: Using Cisco NSO APIs

Lab 4: Learn to work with Git

Lab 5: Use NSO in Docker

Lab 6: Configure High Availability

Lab 7: Migrating a Monolithic Service to LSA

Lab 8: Deploying the LSA Services

Lab 9: Use the Network Connectivity Tool (NCT)

Lab 10: Perform Service Backup and Restore

Lab 11: Migrate a CDM Device

Lab 12: Build a NETCONF NED

Lab 13: Replacing a Device

Lab 14: Troubleshoot NSO Alarms and Services

Lab 15: Creating a Compliance Report