

Cisco NSO Administration and DevOps (NSO303)

Duration: 32 Hours (4 Days)

Overview

The Cisco NSO Administration and DevOps (NSO303) course is designed for network engineers and DevOps professionals seeking to understand Cisco's Network Services Orchestrator (NSO). This course provides a comprehensive overview of the software's capabilities for automating and managing network services across traditional and virtualized networks. Module 1 introduces the convergence of network and IT, setting the stage for understanding the need for network automation and orchestration. Module 2 delves into the architecture of Cisco NSO, providing the foundational knowledge needed for deployment and operation. With Module 3, learners are introduced to Linux, an essential skill for navigating the NSO environment. Subsequent modules cover a range of topics, from Cisco NSO Setup and Access Control to Integration Options and Version Control Systems. The course emphasizes DevOps practices such as Continuous Integration and Continuous Delivery (CI/CD), and explores Scalability and High Availability to ensure resilient network operations. Throughout the course, learners will engage with various Software Development Methodologies, learn about Service Maintenance, and understand how to manage network changes and compliance through Configuration Management and Change Management. Practical labs reinforce the concepts, offering hands-on experience with NSO installation, API utilization, service backup, and more, culminating in the creation of a Compliance Report. By completing the NSO303 course, learners will gain valuable skills for automating network functions and ensuring efficient, compliant network operations, positioning them at the forefront of network administration and DevOps practices.

Audience Profile

The Cisco NSO Administration and DevOps (NSO303) course is designed for IT professionals involved in network automation and system management.

- Network Engineers
- DevOps Engineers
- System Administrators
- Network Architects
- Technical Support Personnel
- IT Project Managers
- Network Operations Personnel
- Software Developers with a focus on network automation
- IT Professionals seeking to learn about Cisco NSO solutions and network automation

Course Syllabus

Course Content:

- Introducing Network and IT Convergence
- Introducing Cisco NSO Architecture
- Introducing Linux
- Explaining Cisco NSO Setup
- Exploring Access Control
- Describing Integration Options

- Explaining Version Control System
- Describing Continuous Integration and Continuous Delivery
- Introducing Scalability and High Availability
- Describing Scalable System Management
- Describing Software Development Methodologies
- Introducing Service Maintenance
- Performing Network Element Driver (NED) Upgrades
- Introducing Configuration Management
- Describing Change Management
- Explaining Service Problem Management
- Explaining Service Monitoring and Compliance Reporting
- Introducing Inventory Management
- Describing Cisco NSO Use Cases

Lab outline

- Perform NSO System Install
- Implement Role-Based Access and PAM
- Using Cisco NSO APIs
- Learn to work with Git
- Use NSO in Docker
- Configure High Availability
- Migrating a Monolithic Service to LSA
- Deploying the LSA Services
- Use the Network Connectivity Tool (NCT)
- Perform Service Backup and Restore
- Migrate a CDM Device
- Build a NETCONF NED
- Replacing a Device
- Troubleshoot NSO Alarms and Services
- Creating a Compliance Report