

**NSO303**

## Cisco NSO Administration and DevOps

32 horas

Automation, Programmability &amp; DNA

Cisco

Cisco Continuing Education Credits

**32 CE Credits**

### INTRODUÇÃO

The Cisco Network Services Orchestrator (NSO) Administration and DevOps (NSO303) v4.0 course continues the learning journey of the NSO Essentials for Programmers and Network Architects (NSO201) v4.0 and NSO Advanced for Python Programmers (NSO300) v4.0 courses by introducing you to the system administration and DevOps focusing on NSO; the robust bridge linking network automation and orchestration tools, examining the development, operation, and administration task functions. You will learn how to set up, configure, deploy, and maintain a Cisco Network Services Orchestrator solution, and learn best practices for using DevOps. The examples shown in this course demonstrate real-world scenarios to prepare you for deployment and management of new or existing NSO instances. The course guides you through the setup of a production ready NSO instances using system installation with access control settings, the deployment of NSO in Docker containers, and introduces modern DevOps concepts and tools such as Git and Continuous Delivery/Continuous Deployment (CI/CD). You will learn how to migrate CDM devices, how to build NETCONF NEDs from the NSO CLI, how to handle NSO Alarms, and many more features that benefit you in your journey with Cisco NSO.

This course 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.

## OBJETIVO DO CURSO

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After completing this course, you should be able to:

- Describe network and IT convergence;
- Describe Cisco NSO architecture;
- Describe Linux;
- Configure Cisco NSO;
- Set up access control to Cisco NSO system;
- Describe Cisco NSO Integration Options;
- Explain version control systems and basic git concepts;
- Describe the purpose of continuous integration and continuous delivery;
- Implement Cisco NSO high availability;
- Describe scalable system management;
- Describe software development methodologies;
- Describe service maintenance;
- Perform NED upgrades;
- Use Cisco NSO for managing services and their associated device configurations;
- Describe Cisco NSO change management;
- Explain service problem management;
- Use Cisco NSO for service monitoring and compliance reporting;
- Describe Cisco NSO inventory management;
- Describe Cisco NSO use cases.

## PÚBLICO-ALVO

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- DevOps engineers
- Integration engineers
- Network and software architects
- Network engineers
- Software engineers
- System administrators

## PRÉ-REQUISITOS

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Before you take this course, we recommend that you have the knowledge and skills obtainable by attending the Cisco Network Services Orchestrator Foundation (NSO201) class, including:

- Basic knowledge of the Cisco Command-Line Interface (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.

## CONTEÚDO PROGRAMÁTICO

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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