# Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0)

**Category:** Networking & Security | **Vendor:** Cisco

**Duration:** 32.00 hours (4 days) **26.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

## Course Information

**Delivery Format:** Instructor Led - Online

## Course Overview

The NSO Essentials for Programmers and Network Architects (NSO201) training introduces you to Cisco Network Services Orchestrator (NSO). You will learn to install Cisco NSO and use it to manage devices and create services based on YANG templates with XPath. This training provides an overview of NSO as a network automation solution as well as introducing you to NETCONF, YANG, and XPath. You will learn about managing devices and creating device templates, service management and service package creation, network element drivers, interfacing with other systems using APIs, configuring and troubleshooting system settings, managing alarms and reporting, configuring NSO for scalability and performance, and capabilities that can be added to Cisco NSO.

How You'll Benefit

This course will help you:

- Learn to install Cisco Network Services Orchestrator (NSO)
- Practice configuring devices with NSO
- Practice designing and managing services with YANG models
- Gain confidence with NSO configuration

## About This Course

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## Who Should Attend

- System installers
- System integrators
- System administrators
- Network administrators
- Solutions designers

## Prerequisites & Entry Requirements

**General Prerequisites:**

Cisco require students to have the following knowledge and skills:

- Basic knowledge of the Cisco Command-Line Interface (CLI) or the CLI of UNIX-like operating systems
- Working knowledge of UNIX-based operating systems and basic tasks
- Basic knowledge of programming constructs
- Basic knowledge of YANG data modeling
- Basic knowledge of the NETCONF communication protocol
- Knowledge of XML data structures and schemas
- Basic management of network components (routers, switches, etc.)

The following Cisco courses can help you gain the necessary background

- Programming for Network Engineers (PRNE)
- Introducing Automation for Cisco Solutions (CSAU)

## Learning Outcomes

**Upon successful completion of this course, participants will be able to:**

- Explain the transactional service activation and how it relates to business requirements
- Explain how Cisco NSO communicates with network devices
- Understand the NETCONF protocol and be able to read and write simple YANG models
- Understand the difference between devices that are fully NETCONF capable and those that are less or not NETCONF capable
- Understand the support for candidate configuration and confirmed commit support
- Use logs to troubleshoot the Cisco NSO deployment and check NSO communication with network devices
- Explain the YANG service model structure
- Design a real-world usable service
- Explain the mapping logic of service parameters to device models and consequently to device configurations
- Describe the use of different integration options and APIs
- Explain how to implement action with use of config-templates in NSO package
- Explain the use of Reactive FASTMAP in for manipulating and implementing advanced NFV components
- Describe the use of feature components and function packs
- Define and explain the ETSI MANO principles and solution
- Work with the alarm console, and understand the NSO alarm structure and how it conforms to modern network operations procedures
- Describe Cisco NSO 5.3 new features and changes in NSO

## Detailed Course Outline

- Introducing Service Orchestration with Cisco NSO
- Exploring Cisco NSO Architecture
- Orchestrating Network Solutions
- Describing Cisco NSO Operation
- Installing Cisco NSO
- Exploring the Advantages of NETCONF

- Managing Devices Using the Device Manager
- Creating YANG Models
- Using Services
- Implementing Services with Model-to-Model Mapping
- Designing Services in Cisco NSO
- Managing the Service Lifecycle
- Programming with Python in Cisco NSO
- Configuring and Troubleshooting System Settings
- Discovering Cisco NSO Northbound APIs
- Managing Alarms and Reporting
- Configuring Cisco NSO for Scalability and Performance
- Describing Cisco NSO VNF Manager and Function Packs

**Skills You Will Learn:**

- Explain the transactional service activation and how it relates to business requirements<br>- Explain how Cisco NSO communicates with network devices<br>- Understand the NETCONF protocol and be able to read and write simple YANG models<br>- Understand the difference between devices that are fully NETCONF capable and those that are less or not NETCONF capable<br>- Understand the support for candidate configuration and confirmed commit support<br>- Use logs to troubleshoot the Cisco NSO deployment and check NSO communication with network devices<br>- Explain the YANG service model structure<br>- Design a real-world usable service<br>- Explain the mapping logic of service parameters to device models and consequently to device configurations<br>- Describe the use of different integration options and APIs<br>- Explain how to implement action with use of config-templates in NSO package<br>- Explain the use of Reactive FASTMAP in for manipulating and implementing advanced NFV components<br>- Describe the use of feature components and function packs<br>- Define and explain the ETSI MANO principles and solution<br>- Work with the alarm console, and understand the NSO alarm structure and how it conforms to modern network operations procedures<br>- Describe Cisco NSO 5.3 new features and changes in NSO

# Frequently Asked Questions

### Q: What delivery options are available for Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

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### Q: How many CPD hours does this course provide?

The 4-day Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0) course provides up to 26.0 CPD hours of structured learning. CPD certificates can be provided upon request.

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### Q: What is the duration of the Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0) training?

The training takes place over 4 day(s), with each day lasting approximately 32.00 hours including breaks for lunch and refreshments.

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### Q: Do you provide corporate training for Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0)?

Yes, we provide corporate training, dedicated training, and closed classes for Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

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### Q: What related terms do people search for?

Popular related searches include: Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0), Cisco Service Provider, NSO201

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### Q: Why choose Nexus Human for Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

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### Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.


## Nexus Human

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