Cisco NSO Advanced for Python Programmers (NSO300)

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

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

The Cisco Network Services Orchestrator (NSO) Advanced for Python Programmers (NSO300) v4.0 course continues the learning journey of the NSO Essentials for Programmers and Network Architects (NSO201) v4.0 course with NSO to include customizing templates with Python programming, Docker deployment, and Nano services. You will learn to create advanced services using the NSO application framework and Python scripting with both new and existing Layer 3 Multiprotocol Label Switching (MPLS) VPN services. You will also learn how to manage and scale these services to reduce operation consumption, and increase both security and available physical space, since Virtualized Network Functions (VNFs) replace physical hardware. You will use Network Functions Virtualization (NFV) orchestration features, and Cisco Elastic Services Controller (ESC) to manage virtualized network functions.

This course will help you:

- Tailor a Cisco Network Services Orchestrator solution for your organization
- Manage virtualized network functions (VNFs) automated, efficient, and dynamic network functioning

About This Course

The Cisco Network Services Orchestrator (NSO) Advanced for Python Programmers (NSO300) v4.0 course continues the learning journey of the NSO Essentials for Programmers and Network Architects (NSO201) v4.0 course with NSO to include customizing templates with Python programming, Docker deployment, and Nano services. You will learn to create advanced services using the NSO application framework and Python scripting with both new and existing Layer 3 Multiprotocol Label Switching (MPLS) VPN services. You will also learn how to manage and scale these services to reduce operation consumption, and increase both security and available physical space, since Virtualized Network Functions (VNFs) replace physical hardware. You will use Network Functions Virtualization (NFV) orchestration features, and Cisco Elastic Services Controller (ESC) to manage virtualized network functions.

This course will help you:

- Tailor a Cisco Network Services Orchestrator solution for your organization
- Manage virtualized network functions (VNFs) automated, efficient, and dynamic network functioning

Who Should Attend

- System engineers
- System integrators
- System programmers
- System administrators
- Network administrators
- Solutions designers

Prerequisites & Entry Requirements

General Prerequisites:

Before you take this course, Cisco recommends that you have the knowledge and skills obtainable by attending the Cisco Network Service Orchestrator (NSO) Essentials for Programmers and Network Architects (v4.0) (NSO201) class, plus have knowledge in the following areas:

- Basic knowledge of the command line of UNIX-like operating systems
- Basic knowledge of Network Configuration Protocol (NETCONF)
- Basic knowledge of Yet Another Next Generation (YANG) data modelling
- Basic knowledge of Python software development

Learning Outcomes

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

- Describe the NSO application framework
- Deploy NSO in Docker
- Implement Python- and template-based service
- Describe service lifecycle integration
- Describe the implementation of Layer 3 MPLS VPN service for a new service deployment
- Implement Nano services
- Describe the implementation of Layer 3 MPLS VPN service for an existing deployment
- Describe managed services
- Implement stacked services
- Describe how to scale service orchestration
- Describe the European Telecommunications Standards Institute Management and Orchestration (ETSI MANO) Framework
- Manage VNF Lifecycle with Cisco ESC
- Implement NFV

Detailed Course Outline

Discovering the NSO Application Framework

- NSO Transaction Model and Mapping Options
- NSO Python API Overview

Deploying NSO in Docker Containers

- Comparing NSO Deployments
- NSO in Docker Overview

Developing Python and Template-Based Service

- Service Strategy
- Service Design—Service Model

Integrating Service Lifecycle

- Service Lifecycle Overview
- Integration Options Overview

Developing a Layer 3 MPLS VPN Service for New Service Deployment

- Service Strategy
- Service Design—Service Model

Developing Nano Services

- Nano Services
- Service Design Manual Resource Allocation

Developing Layer 3 MPLS VPN Service for Existing Deployment

- Existing Service Deployment Strategy
- Existing Service Deployment Design

Introducing Managed Services

- Managed Services Overview

- Resource Allocation

Implementing Stacked Services

- Stacked Services Strategy

- Implementing Resource-Facing Services

Scaling Service Orchestration

- Optimization Options

- Layered Services Architecture Design

Discovering the ETSI MANO Framework

- Network Functions Virtualization Initiative

- ETSI MANO

Managing VNF Lifecycle with Cisco ESC

- Introduction to Cisco ESC

- VNF Lifecycle Management

Orchestrating NFV

- NFV Orchestration (NFVO) Bundle Introduction

- VNF Descriptor

Skills You Will Learn:

- Describe the NSO application framework
- Deploy NSO in Docker
- Implement Python- and template-based service
- Describe service lifecycle integration
- Describe the implementation of Layer 3 MPLS VPN service for a new service deployment
- Implement Nano services
- Describe the implementation of Layer 3 MPLS VPN service for an existing deployment
- Describe managed services
- Implement stacked services
- Describe how to scale service orchestration
- Describe the European Telecommunications Standards Institute Management and Orchestration (ETSI MANO) Framework
- Manage VNF Lifecycle with Cisco ESC
- Implement NFV

Frequently Asked Questions

Q: What delivery options are available for Cisco NSO Advanced for Python Programmers (NSO300)?

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

Q: How many CPD hours does this course provide?

The 5-day Cisco NSO Advanced for Python Programmers (NSO300) course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Cisco NSO Advanced for Python Programmers (NSO300) training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Cisco NSO Advanced for Python Programmers (NSO300)?

Yes, we provide corporate training, dedicated training, and closed classes for Cisco NSO Advanced for Python Programmers (NSO300). 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.

Q: What related terms do people search for?

Popular related searches include: Cisco NSO Advanced for Python Programmers, Cisco Service Provider, NSO300

Q: Why choose Nexus Human for Cisco NSO Advanced for Python Programmers (NSO300)?

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

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Cisco NSO Advanced for Python Programmers (NSO300) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

Professional Training & Development

Email: info@nexushuman.com

Website: www.nexushuman.com

Phone: +353 1 889 8700 (Ireland) | +44 20 8142 8961 (UK)

© 2026 Nexus Human. All rights reserved. This brochure was generated on 13/11/2026.