

NSO300 - CISCO NSO ADVANCED FOR PYTHON PROGRAMMERS V4.0

Course Code: 5394

Introduces learners to developing advanced services using Cisco Network Services Orchestrator (NSO) programmability with Python scripting.

This course explores how 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. Students will also learn how to manage and scale these services, and how to use NSO Network Functions Virtualization (NFV) orchestration features and Cisco Elastic Services Controller (ESC) to manage Virtualized Network Functions (VNFs).

This course is eligible for 50 Continuing Education Credits (ILT & ELT Modality).

What You'll Learn

- Describe the NSO's transactional application framework and mapping model options
- Describe the Reactive Fastmap design pattern and the NSO Configuration Database (CDB) subscriber in the NSO Transaction model
- Simplify packages to remove the need for subscriber applications, scale orchestration solutions, and integrate NSO with external systems (east-west integration)
- Describe the Cisco ESC architecture and integration with NSO, and how the NSO VNF Orchestration (VNFO) Release 2 bundle interacts with ESC for orchestration

Who Needs to Attend

System installers

System integrators

System administrators

Network administrators

Solutions designers

Prerequisites

- Basic knowledge of the Cisco Command -Line Interface (CLI)
- Basic knowledge of the CLI of UNIX-like operating systems

- Basic knowledge of YANG data modeling
- Basic knowledge of Java or Python software development

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CLASSROOM LIVE

\$4,300 USD

4 Day

Classroom Live Outline

Module 1: Cisco NSO Programmability

- NSO Application Framework
- NSO Python Scripting
- NSO Python and Template-Based Services Resources

Module 2: Augmenting Cisco NSO Service

- Service Lifecycle and Integration Options Overview
- Greenfield Layer 3 MPLS VPN Service
- Brownfield Layer 3 MPLS VPN Service

Module 3: Managed Services

- Managed Services Overview
- Stacked Service Design Overview
- Design-Managed Network Services
- Scaling Service Orchestration

Module 4: Cisco NSO Network Functions Virtualization (NFV) Orchestration

- ETSI MANO
- Cisco ESC
- Cisco NSO Orchestration

Classroom Live Labs

Lab 1: Device Setup Using Python Script

Lab 2: Create an SVI Service Using `pre_modification` Service Callback

Lab 3: Create a L3VPN Service Using Dynamic ID Allocation

Lab 4: L3VPN Service Upgrade

Lab 5: Stacked Services

Lab 6: Service Action

Lab 7: ESC Integration

Lab 8: NFV for the DMZ Service



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VIRTUAL CLASSROOM LIVE

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4 Day

Jun 23 - 27, 2025 | 9:00 AM - 5:00 PM EDT

Jul 14 - 18, 2025 | 9:00 AM - 5:00 PM EDT



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ON-DEMAND

\$750 USD



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PRIVATE GROUP TRAINING

4 Day

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