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Cisco NSO Advance Python Programmers (NSO300) V4.0

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Course Duration

5 Days

Course Price

$4,295.00
43 CLCs

Methods of Delivery

In-Person ILT
Virtual ILT
Onsite ILT

About this Class

The Cisco Network Services Orchestrator (NSO) Advance Python Programmers (NSO300) V4.0 course continues the learning journey of the NSO Essentials for Programmers and Network Architects (NSO201) 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.

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How you will benefit

This class will help you:

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

Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The job roles best suited to the material in this course are:

- System Engineers
- System Integrators
- System Programmers
- System Administrators
- Network Administrators
- Solutions Designers

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Objectives

After taking this course, you should 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

Prerequisites

Before you take this course, we recommend that you have the knowledge and skills obtainable by attending the NSO Essentials for Programmers and Network Architects (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

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Course Outline

Module 1: Discovering the NSO Application Framework
- NSO Transaction Model and Mapping Options
- NSO Python API Overview

Module 2: Deploying NSO in Docker Containers
- Comparing NSO Deployments
- NSO in Docker Overview

Module 3: Developing Python and Template-Based Service
- Service Strategy
- Service Design—Service Model

Module 4: Integrating Service Lifecycle
- Service Lifecycle Overview
- Integration Options Overview

Module 5: Developing a Layer 3 MPLS VPN Service for New Service Deployment
- Service Strategy
- Service Design—Service Model

Module 6: Developing Nano Services
- Nano Services
- Service Design Manual Resource Allocation

Module 7: Developing Layer 3 MPLS VPN Service for Existing Deployment
- Existing Service Deployment Strategy
- Existing Service Deployment Design

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Course Outline

Module 8: Introducing Managed Services
- Managed Services Overview
- Resource Allocation

Module 9: Implementing Stacked Services
- Stacked Services Strategy
- Implementing Resource-Facing Services

Module 10: Scaling Service Orchestration
- Optimization Options
- Layered Services Architecture Design

Module 11: Discovering the ETSI MANO Framework
- Network Functions Virtualization Initiative
- ETSI MANO

Module 12: Managing VNF Lifecycle with Cisco ESC
- Introduction to Cisco ESC
- VNF Lifecycle Management

Module 13: Orchestrating NFV
- NFV Orchestration (NFVO) Bundle Introduction
- VNF Descriptor

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Lab Outline

Lab 1: Create NSO Docker Environments

Lab 2: Create Switch Virtual Interface (SVI) Service Using Premodification

Service Callback

Lab 3: Implement Nano Services

Lab 4: Create an L3VPN Service Using Dynamic ID Allocation

Lab 5: Perform an L3VPN Service Upgrade

Lab 6: Implement Stacked Services

Lab 7: Deploy Link State Advertisement (LSA) Service

Lab 8: Integrate Cisco ESC and OpenStack

Lab 9: Deploy NFV for Demilitarized Zone (DMZ) Service

Lab 10: Implement Self-Test Action