

Implementing Automation for Cisco Service Provider Solutions (SPAUI)

COURSE OVERVIEW:

The Implementing Cisco Service Provider Automation Solutions (SPAUI) v1.0 course prepares you to implement and support automation solutions in Service Provider network infrastructure, using network programmability principles, protocols, tools, and mechanisms. Through a combination of lessons and hands-on labs, you will learn to deploy, configure, monitor, and operate Service Provider network environments using modern data models. These models allow you to represent operational data and new network management protocols in order to administer hundreds or thousands of devices in a single operation, replacing traditional, time-consuming, error prone, device-by-device command line interface (CLI) management. The course also introduces powerful automation solutions that can streamline network operations.

This course covers Yet Another Next Generation (YANG) data models and validation tools, Representational State Transfer Configuration Protocol RESTCONF and Network Configuration Protocol (NETCONF) management protocols, model-driven telemetry with Google Remote Procedure Call (gRPC) and Google Network Management Interface (gNMI), traffic automation with XR Transport Control (XTC), Secure Shell (SSH)-based automation tools like NetMiko and Ansible, orchestration provided by Network Services Orchestration (NSO), Network Function Virtualization (NFV) lifecycle management with Elastic Services Controller (ESC), and network operations automation with WAN Automation Engine (WAE).

This course prepares you for the 300-535 Automating Cisco® Service Provider Solutions (SPAUTO) exam. The 300-535 SPAUTO exam goes live on February 24, 2020. By passing this exam, you earn the Cisco Certified DevNet Specialist - Service Provider Automation and Programmability certification, and you satisfy the concentration exam requirement for two professional-level certifications:

- CCNP® Service Provider
- Cisco Certified DevNet Professional

This course will help you:

- Use network programmability to scale and streamline Service Provider network infrastructure
- Gain hands-on experience in using modern data models to manage Service Provider network infrastructure
- Prepare for the 300-535 SPAUTO exam

WHO WILL BENEFIT FROM THIS COURSE?

This course is designed for Service Provider networking professionals in job roles such as:

- Network administrators
- Network architects
- Network designers
- Network engineers
- Network managers
- Network Operations Center (NOC) personnel
- Network supervisors

PREREQUISITES:

Before taking this course, you should have the following knowledge and skills:

- Knowledge equivalent to CCNP Enterprise certification
- Experience working with Cisco Internetwork Operating System (Cisco IOS®) XE and Cisco IOS XR
- Service Provider operations experience with routing, Multiprotocol Label Switching (MPLS), and VPN solutions
- Hands-on experience with a programming language (specifically Python)
- Network programmability basics: APIs and protocols, network model-driven APIs and protocols, configuration management with Ansible, and Service Provider network automation workflows

The following Cisco courses can help you gain the knowledge you need to prepare for this course:

- Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR)
- Implementing Cisco Service Provider Routing Solutions (SPRI)
- Implementing Cisco Service Provider VPN Solutions (SPVI)
- Automation Fundamentals (CSAU)
- Python Programming for Network Engineers (PRNE)

COURSE OBJECTIVES:

After taking this course, you should be able to:

- Use NETCONF and RESTCONF programmability protocols on Cisco devices
- Describe and use tools to validate YANG data models on Cisco devices
- Describe and configure model-driven telemetry on Cisco devices
- Describe and configure network traffic automation with Cisco XTC

COURSE OUTLINE:

Implementing Network Device Programmability Interfaces

- Implement NETCONF Protocol
- Implement RESTCONF Protocol

Implementing Model-Driven Programmability

- YANG Data Models
- YANG Tools
- YANG Development Kit

Implementing Model-Driven Telemetry

- Implementing Model-Driven Telemetry with gRPC
- Implementing Model-Driven Telemetry with gNMI

Automating Service Provider Network Traffic with Cisco XTC

- Cisco XTC Fundamentals
- Configure Cisco XTC

Automating Networks with Tools That Utilize SSH

- Implement Device Configurations with Python Netmiko Library
- Implement Device Configurations with Ansible Playbooks

Orchestrating Network Services with Cisco NSO

- Cisco NSO Fundamentals
- Cisco NSO Device Manager
- Cisco NSO Services
- Implement Device Configurations with Python

Automating Virtualized Resources with Cisco Elastic Services Controller

- Cisco ESC Architecture
- Cisco ESC Resource Management

Automating the WAN with Cisco WAE

- Describe the Cisco WAE Components

SUNSET LEARNING INSTITUTE (SLI) DIFFERENTIATORS:

Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their cloud technology investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

What sets SLI apart is not only our immense selection of trainings options, but our convenient and consistent delivery system. No matter how complex your environment is or where you are located, SLI is sure to have a training solution that you can count on!

Premiere World Class Instruction Team

- All SLI instructors have a four-year technical degree, instructor level certifications and field consulting work experience.
- Sunset Learning has won numerous Instructor Excellence and Instructor Quality Distinction awards since 2012

Enhanced Learning Experience

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

Convenient and Reliable Training Experience

- You have the option to attend classes at any of our established training facilities or from the convenience of your home or office with the use of our HD-ILT network (High Definition Instructor Led Training)
- All Sunset Learning Institute classes are guaranteed to run – you can count on us to deliver the training you need when you need it!

Outstanding Customer Service

- Dedicated account manager to suggest the optimal learning path for you and your team
- Enthusiastic Student Services team available to answer any questions and ensure a quality training experience