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IMPLEMENTING AUTOMATION FOR CISCO SERVICE PROVIDER SOLUTIONS (SPAUI) V1.0

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The Implementing Automation for Cisco Service Provider Solutions (SPAUI) V1.0 course prepares you to implement and support automation solutions in a 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).

Introducing Automation for Cisco Solutions (CSAU) is required prior to enrolling in Implementing Automation for Cisco Service Provider Solutions (SPAUI) because it provides crucial foundational knowledge essential to success.

How you'll benefit

This class 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
- This course prepares you for the 300-535 Automating and Programming Cisco® Service Provider Solutions (SPAUTO) exam.

Why Attend with Current Technologies CLC

- Our Instructors are in 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

Course Duration
3 days
Course Price
$2,995.00 or 30 CLCs
Methods of Delivery
- Instructor Led
- Virtual ILT
- On-Site

Who Should Attend

The primary audience for this course is as follows:

- Network Engineer
- Network Administrator
- Network Manager
- Network Designer
- Network Architect
- Network Supervisors
- Network Operations Center (NOC) Personnel

OUTLINE

Module 1: Implementing Network Device Programmability Interfaces with NETCONF and RESTCONF
- Implement NETCONF Protocol
- Implement RESTCONF Protocol

Module 2: Implementing Model-Driven Programmability with YANG
- YANG Data Models
- YANG Tools
- YANG Development Kit

Module 3: Implementing Model-Driven Telemetry
- Implementing Model-Driven Telemetry with gRPC
- Implementing Model-Driven Telemetry with gNMI

Module 4: Automating Service Provider Network Traffic with Cisco XTC
- Cisco XTC Fundamentals
- Configure Cisco XTC

Module 5: Automating Networks with Tools That Utilize SSH
- Implement Device Configurations with Python Netmiko Library
- Implement Device Configurations with Ansible Playbooks

Module 6: Orchestrating Network Services with Cisco NSO
- Cisco NSO Fundamentals
- Cisco NSO Device Manager
- Cisco NSO Service
- Implement Device Configurations with Python

Module 7: Automating Virtualized Resources with Cisco Elastic Services Controller
- Cisco ESC Architecture
- Cisco ESC Resource Management

Module 8: Automating the WAN with Cisco WAE
- Describe the Cisco WAE Components

LAB OUTLINE

- **Lab 1: Explore NETCONF Protocol in Cisco Devices**

- **Lab 2: Configure Cisco IOS XE Devices with RESTCONF**

- **Lab 3: Explore Cisco and OpenConfig YANG Data Models with YANG Tools**

- **Lab 4: Use ncclient and Python to Configure Cisco Devices**

- **Lab 5: Use YANG Development Kit (YDK) to Configure Cisco Devices**

- **Lab 6: Configure Model-Driven Telemetry with gRPC**

- **Lab 7: Configure Model-Driven Telemetry with gNMI**

- **Lab 8: Configure Path Disjointness with Cisco XTC**

- **Lab 9: Use Python Netmiko Library to Configure Cisco Devices**

- **Lab 10: Use Ansible to Configure Cisco Devices**

- **Lab 11: Use Cisco NSO Device Manager**

- **Lab 12: Create a Loopback Service Template**

- **Lab 13: Use Cisco NSO REST API with Postman**

- **Lab 14: Explore and Use Cisco WAE Features**