



Implementing Automation for Cisco Service Provider Solutions (SPAUI)

Course ID #: 7000-241-ZZ-Z

Hours: 21

Course Content

Course Description:

In this course,

At Course Completion:

After competing this course, student will 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
- Describe and use network automation tools that utilize SSH
- Automate service provider network configuration with Cisco NSO
- Describe how to automate virtualized resources with Cisco ESC
- Describe how to automate service provider WAN with Cisco WAE

Prerequisites:

- CCNP equivalent level of knowledge for Routing and Switching (R and S)
- Cisco Internetworking Operating System (IOS XE) and Cisco IOS XR working experience
- SP Operations experience with routing, Multi-Protocol Label Switching (MPLS) and Virtual Private Network (VPN) Solutions
- Network Programmability Basics (Network Programming Foundations, APIs and Protocols, Network Model Driven APIs and Protocols, Configuration Management with Ansible, Service Provider Network Automation workflows)

Target Student:

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

Topics:



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Implementing Network Device Programmability Interfaces with NETCONF and RESTCONF

- Implement NETCONF Protocol
- Implement RESTCONF Protocol

Implementing Model-Driven Programmability with YANG

- 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