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Learning Style: On Demand

Technology: Cisco

Difficulty: Intermediate

Course Duration: 40 Hours

Implementing Automation for Cisco Enterprise Solutions (ENAUI) v1.0 - On Demand

About this course:

The Implementing Automation for Cisco Enterprise Solutions (ENAUI) v1.0 course teaches you how to integrate programmability and automation in the Cisco-powered Enterprise Campus and Wide Area Network (WAN) using programming concepts,

orchestration, telemetry, and automation tools to create more efficient workflows and more agile networks.

Through a combination of lessons and hands-on labs, you will gain knowledge and skills for using Cisco IOS-XE for device-centric automation, Cisco Digital Network Architecture (Cisco DNA™) Center for the intent-based enterprise network, Cisco Software-Defined (SD) WAN, and Cisco Meraki™. You will study software development toolkits, industry-standard workflows, tools, and Application Programming Interfaces (APIs), such as Python, Ansible, Git, JavaScript Object Notation (JSON), YAML Ain't Markup Language (YAML), Network Configuration Protocol (NETCONF), Representational State Configuration Protocol (RESTCONF), and Yet Another Next Generation (YANG).

This course helps you prepare for the Automating Cisco Enterprise Solutions (300-435 ENAUTO) certification exam.

Course Objective:

After taking this course, you should be able to:

- Describe the various models and APIs of the Cisco IOS-XE platform to perform Day 0 operations, improve troubleshooting methodologies with custom tools, augment the CLI using scripts, and integrate various workflows using Ansible and Python
- Explain the paradigm shift of model-driven telemetry and the building blocks of a working solution
- Control the tools and APIs to automate Cisco DNA infrastructure managed by Cisco DNA Center™
- Demonstrate workflows (configuration, verification, health checking, and monitoring) using Python, Ansible, and Postman
- Explain Cisco SD-WAN solution components, implement a Python library that works with the Cisco SD-WAN APIs to perform configuration, inventory management, and monitoring tasks, and implement reusable Ansible roles to automate provisioning new branch sites on an existing Cisco SD-WAN infrastructure
- Manage the tools and APIs to automate Cisco Meraki managed infrastructure and demonstrate workflows (configuration, verification, health checking, monitoring) using Python, Ansible, and Postman.

Audience:

This course is designed primarily for network and software engineers who are interested in learning about automation and programmability and hold the following job roles:

- Network engineer
- Systems engineer
- Wireless engineer
- Consulting systems engineer
- Technical solutions architect

- Network administrator
- Wireless design engineer
- Network manager
- Sales engineer
- Account manager

Prerequisite:

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

- Basic programming language concepts
- Basic understanding of virtualization
- Ability to use Linux and CLI tools, such as Secure Shell (SSH) and Bash
- Networking knowledge equivalent to the CCNP level
- Foundational understanding of Cisco DNA, Meraki, and Cisco SD-WAN

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

- Implementing and Administering Cisco Solutions (CCNA)
- Introducing Automation for Cisco Solutions (CSAU)
- Implementing Cisco Enterprise Network Core Technologies (ENCOR)

Course Outline:

- **Introducing Cisco SD-WAN Programmability**
- **Building Cisco SD-WAN Automation with Python**
- **Building Cisco SD-WAN Automation with Ansible**
- **Managing Configuration with Ansible and Network Automation and Programmability Abstraction Layer with Multivendor support (NAPALM)**
- **Implementing On-Box Programmability and Automation with Cisco IOS XE Software**
- **Implementing Model-Driven Telemetry**
- **Day 0 Provisioning with Cisco IOS-XE**
- **Automating Cisco Meraki**
- **Implementing Meraki Integration APIs**
- **Implementing Automation in Enterprise Networks**
- **Building Cisco DNA Center Automation with Python**
- **Automating Operations using Cisco DNA Center**