Implementing Automation for Cisco Enterprise Solutions (ENAUI) V1.3

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Implementing Automation for Cisco Enterprise Solutions (ENAUI) V1.3

Course Duration

3 Days

Course Price

$2,995.00
30 CLCs

Methods of Delivery

In-Person ILT
Virtual ILT
Onsite ILT

About this Class

The Implementing Automation for Cisco Enterprise Solutions (ENAUI) training teaches you how to implement Cisco Enterprise automated solutions, including programming concepts, orchestration, telemetry, and automation tools.

This course highlights the tools and the benefits of leveraging programmability and automation in the Cisco-powered Enterprise Campus and WAN. You will also examine platforms including IOS XE software for device-centric automation, Cisco DNA Center for the intent-based enterprise network, Cisco Software-Defined WAN, and Cisco Meraki. Their current ecosystem of APIs, software development toolkits, and relevant workflows are studied in detail together with open industry standards, tools, and APIs, such as Python, Ansible, Git, JSON/YAML, NETCONF/RESTCONF, and YANG.

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How you will benefit

This class will help you:

- Gain high-demand skills using modern programming languages, APIs, and systems such as Python, Ansible, and Git to automate, streamline, and enhance business operations.
- Acquire the skills and knowledge to customize tools, methods, and processes that improve network performance and agility
- Earn 24 CE credits toward recertification
- Prepare for the 300-435 ENAUTO exam

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:

- Account manager
- Consulting systems engineer
- Network administrator
- Network engineer
- Network manager
- Sales engineer
- Systems engineer
- Technical solutions architect
- Wireless design engineer
- Wireless engineer

Prerequisites

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
- CCNP level core networking knowledge
- Foundational understanding of Cisco DNA, Meraki, and Cisco SD-WAN

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Objectives

After taking this course, you should be able to:

- Get familiar with different API styles (REST, RPC) and synchronous and asynchronous API requests
- Learn how to use Postman software development tool in order to test the API calls
- Learn how to automate repetitive tasks using Ansible automation engine
- Explore a Python programming language, Python libraries and Python virtual environments and learn how can they be used for automation of network configuration tasks
- Get introduced to GIT version control system and its common operations
- Learn how to leverage the various models and APIs of the Cisco IOS XE platform to perform day-zero operations, improve troubleshooting methodologies with custom tools, augment the CLI using scripts, and integrate various workflows using Ansible and Python
- Learn about the paradigm shift of model-driven telemetry and the building blocks of a working solution
- Learn how to leverage 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
- Understand 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
- Learn how to leverage the tools and APIs to automate Cisco Meraki managed infrastructure and demonstrate workflows (configuration, verification, health checking, monitoring) using Python, Ansible, and Postman

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Course Outline

Module 1: Network Programmability Foundation

Module 2: Automating APIs and Protocols

Module 3: Managing Configuration with Python and Ansible

Module 4: Implementing On-Box Programmability and Automation with Cisco IOS XE Software

Module 5: Implementing Model-Driven Telemetry

Module 6: Day 0 Provisioning with Cisco IOS-XE Software

Module 7: Implementing Automation in Enterprise Networks

Module 8: Building Cisco DNA Center Automation with Python

Module 9: Automating Operations using Cisco DNA Center

Module 10: Introducing Cisco SD-WAN Programmability

Module 11: Building Cisco SD-WAN Automation with Python

Module 12: Building Cisco SD-WAN Automation with Ansible

Module 13: Automating Cisco Meraki

Module 14: Implementing Meraki Integration APIs

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Lab Outline

- Lab 1: Automate Networks with Netmiko

- Lab 2: Use Postman for REST API Consumption

- Lab 3: Use Ansible to Configure and Verify Device Configuration

- Lab 4: Implement On-Box Programmability and Automation with Cisco IOS XE Software

- Lab 5: Use Python on Cisco IOS XE Software

- Lab 6: Implement Streaming Telemetry with Cisco IOS XE

- Lab 7: Explore Cisco DNA Center APIs

- Lab 8: Build Python Scripts to Interact with Cisco DNA Center Intent APIs

- Lab 9: Build Python Scripts with Cisco DNA Center Assurance APIs

- Lab 10: Troubleshoot End-to-End Connectivity and Health-Check the Network via the Cisco DNA Center API

- Lab 11: Perform Administrative Tasks Using the Cisco SD-WAN API

- Lab 12: Build, Manage, and Operate Cisco SD-WAN Programmatically

- Lab 13: Consume SD-WAN APIs Using the Uniform Resource Identifier (URI) Module

- Lab 14: Manage Policies with Ansible

- Lab 15: Build Reports Using Ansible-Cisco SD_WAN Role

- Lab 16: Implement Cisco Meraki API Automation

- Lab 17: Explore Cisco Meraki Integration APIs

- Lab 18: Explore Cisco Meraki Webhook Alerts