Implementing Automation for Cisco Enterprise Solutions (ENAUI) v1.2

What you'll learn

Implementing Automation for Cisco Enterprise Solutions (ENAUI) v.1.2 teaches you how to implement Cisco Enterprise automated solutions, including programming concepts, orchestration, telemetry, and automation tools.

This training 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. This training also earns you 24 Continuing Education (CE) credits towards recertification.

How you'll benefit

This training 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

Prepare for the 300-435 ENAUTO exam

What to expect in the exam

The 300-435 ENAUTO exam certifies your knowledge and skills in implementing Enterprise automated solutions, including programming concepts, Python programming, APIs, controllers, and automation tools.

After you pass 300-435 ENAUTO, you earn the Cisco Certified DevNet Specialist - Enterprise Automation and Programmability certification, and you satisfy the concentration exam requirement for these professional-level certifications:

CCNP Enterprise

Cisco Certified DevNet Professional

Who should enroll

This training 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

Technology areas

Enterprise

Network automation

Training overview

Objectives

After taking this training, 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

Prerequisites

Before taking this training, 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

The following Cisco trainings can help you gain the knowledge you need to prepare for this training:

Introducing Automation for Cisco Solutions (CSAU)

Implementing and Administering Cisco Solutions (CCNA®)

Implementing Cisco Enterprise Network Core Technologies (ENCOR)

Lab outline

Automate Networks with Netmiko

Use Postman for REST API Consumption

Use Ansible to Configure and Verify Device Configuration

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

Use Python on Cisco IOS XE Software

Implement Streaming Telemetry with Cisco IOS XE

Explore Cisco DNA Center APIs

Build Python Scripts to Interact with Cisco DNA Center Intent APIs

Build Python Scripts with Cisco DNA Center Assurance APIs

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

Perform Administrative Tasks Using the Cisco SD-WAN API

Build, Manage, and Operate Cisco SD-WAN Programmatically

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

Manage Policies with Ansible

Build Reports Using Ansible-Cisco SD_WAN Role

Implement Cisco Meraki API Automation

Explore Cisco Meraki Integration APIs

Explore Cisco Meraki Webhook Alerts