Implementing Automation for Cisco Enterprise Solutions (ENAUI)

Description

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 training highlights the tools and the benefits of leveraging programmability and automation in the Cisco-powered Enterprise Campus and wide-area network (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.

This training prepares you for the Automating and Programming Cisco Enterprise Solutions (300-435 ENAUTO) v1.0 exam. If passed, you earn the Cisco Certified DevNet Specialist – Enterprise Automation and Programmability certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Enterprise and Cisco Certified DevNet Professional certifications. This training also earns you 24 Continuing Education (CE) credits toward recertification.

How you'll benefit

This training will help you:

- Gain high-demand skills using modern programming languages, application programming interface (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 v1.0 exam
- Earn 24 CE credits toward recertification

Who should enroll

- Network Engineers
- Systems Engineers
- Wireless Engineers
- Consulting Systems Engineers

- Technical Solutions Architects
- Network Administrators
- Wireless Design Engineers
- Network Managers
- Sales Engineers
- Account Managers

Technology areas

- Enterprise
- Network Automation

Objectives

- Get familiar with different API styles (REST, RPC) and synchronous and asynchronous API requests
- Learn how to use Postman software development tool 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 command-line interface (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

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- 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

These skills can be found in the following Cisco Learning Offerings:

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

Outline

- Network Programmability Foundation
- Automating APIs and Protocols
- Managing Configuration with Python and Ansible
- Implementing On-Box Programmability and Automation with Cisco IOS XE Software
- Implementing Model-Driven Telemetry
- Day-Zero Provisioning with Cisco IOS-XE Software
- Implementing Automation in Enterprise Networks
- Building Cisco Catalyst Center Automation with Python
- Automating Operations using Cisco Catalyst Center
- Introducing Cisco Catalyst SD-WAN Programmability
- Building Cisco Catalyst SD-WAN Automation with Python
- Building Cisco Catalyst SD-WAN Automation with Ansible
- Automating Cisco Meraki
- Implementing Meraki Integration APIs

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
- Execute DNA Center SD-Access APIs to Manage SD-Access Fabric
- 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 Cisco Catalyst SD-WAN APIs Using the URI Module
- Manage Policies with Ansible
- Build Reports Using Ansible
- Implement Cisco Meraki API Automation
- Explore Cisco Meraki Integration APIs
- Explore Cisco Meraki Webhook Alerts

What to expect on the exam

Automating and Programming Cisco Enterprise Solutions (300-435 ENAUTO) v1.0 is a 90-minute exam associated with the Cisco Certified DevNet Specialist – Enterprise Automation and Programmability certification and satisfies the concentration exam requirement for the CCNP Enterprise and Cisco Certified DevNet Professional certifications.

This exam tests your knowledge of implementing enterprise automated solutions, including:

- Programming concepts

- Python programming
- APIs
- Controllers
- Automation tools

Links

- [Cisco U. Learning Path](#)
- [Cisco Learning Network Store](#)
- [Cisco Learning Locator](#)