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# Automating Cisco Enterprise Solutions

## ENAUTO: 300-435

## Course Overview

The Implementing Automation for Cisco Enterprise Solutions (ENAU1) v1.1 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 Internetworking Operating System (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 Interface (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 Generation (YANG).

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

## Prerequisite Knowledge

To fully benefit from 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)
- Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR)
- Introducing Automation for Cisco Solutions (CSAU)



Real skills for real engineers

## Objectives

- 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 Command-Line Interface (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
- Learn how to use 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
- Learn how to automate repetitive tasks using Ansible automation engine.
- 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
- Manage the tools and APIs to automate Cisco Meraki managed infrastructure and demonstrate workflows (configuration, verification, health checking, monitoring) using Python, Ansible, and Postman
- Explore a Python programming language, Python libraries and Python virtual environments and learn how can they be used for automation of network configuration tasks.
- Learn about the GIT version control system and its common operations.

