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Implementing Automation for Cisco Enterprise Solutions

Duración: 3 Días   Código del Curso: ENAUI   Version: 1.1

Temario:

The Implementing Automation for Cisco Enterprise Solutions (ENAUI) 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).

Dirigido a:

Network engineers who need to use modern programming, automation and orchestration tools such as Python, Ansible and Git to automate, streamline and enhance their Cisco enterprise network.

Objetivos:

- **After completing 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 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.

Prerequisitos:

Attendees should meet the following prerequisites:

- 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
- ENCOR - Implementing and Operating Cisco Enterprise Network Core Technologies

Exámenes y certificación

Recommended as preparation for the following exams:

- **300-435** - Automating Cisco Enterprise Solutions (ENAUTO) exam After you pass **300-435 ENAUTO**, you earn the **Cisco Certified DevNet Specialist - Enterprise Automation and Programmability** certification, you will also satisfy the concentration exam requirements for both the CCNP Enterprise certification and the Cisco Certified DevNet Professional certification.

Contenido:

Network Programmability Foundation

- Version Control with GIT
- Introduction to Network-Based APIs
- Characteristics of API styles (REST and RPC)
- Synchronous and Asynchronus API Requests
- Python Fundamentals
- Python Modules
- Introduction to Ansible for Network Automation
- Cisco DevNet Resources

Automating APIs and Protcols

- JavaScript Object Notation
- Extensible Markup Language
- YAML Data Serialization Standard
- Introduction to YANG
- Types of YANG Models
- Introduction to NETCONF
- Introduction to RESTCONF
- Postman for REST API Consumption

Managing Configuration with Python and Ansible

- Enterprise LAN Network Automations Overview

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

- Introduction to Programmability Features on Cisco IOS XE

Implementing Model-Driven Telemetry

- Data Models on Cisco IOS XE Software
- Streaming Telemetry
- Streaming Telemetry Models
- Streaming Telemetry Transport Protocols

Day-Zero Provisioning with Cisco IOS-XE

- Day-Zero Operations
- iPXE Overview
- Cisco Network Plug and Play Overview
- ZTP Overview

Implementing Automation in Enterprise Networks

- Cisco Intent-Based Network Overview
- Cisco DNA Center Architecture
- Cisco DNA Center APIs

Building Cisco DNA Center Automation with Python

- Explore Cisco DNA Center Libraries

Automating Operations using Cisco DNA Center

- Introduction to Cisco DNA Center Assurance Workflows
- Cisco DNA Center Event Webhooks

Introducing Cisco SD-WAN Programmability

- SD-WAN Overview
- Cisco SD-WAN Architecture
- Cisco SD-WAN REST API Overview

Building Cisco SD-WAN Automation with Python

- Working with Templates in Cisco SD-WAN
- Python Workflows for Cisco SD-WAN

Building Cisco SD-WAN Automation with Ansible

- Shaping SD-WAN Overlay with Policies
- Using Ansible with Cisco SD-WAN APIs

Automating Cisco Meraki

- Cisco Meraki Architecture and Automation Capabilities
- Cisco Meraki REST API Overview

Implementing Meraki Integration APIs

- Cisco Meraki Integrations Overview
- Location Scanning APIs
- Cisco Meraki Camera APIs
- Cisco Meraki Captive Portals
- Cisco Meraki Wireless Health
- Explore Cisco Meraki Webhook Alerts

Labs

- 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
- Perform Administrative Task Using the Cisco SD-WAN API
- Build, Manage and Operate Cisco SD-WAN Programmatically
- Consume SD-WAN APIs Using the 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

Más información:

Para más información o para reservar tu plaza llámanos al (34) 91 425 06 60

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