Objetivos

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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Pre-requisitos

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

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2700215 / 591-79671047
eriveros@cttbolivia.com

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- CCNP level core networking knowledge
- 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:

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

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Contenido

- 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 0 Provisioning with Cisco IOS-XE Software
- Implementing Automation in Enterprise Networks
- Building Cisco DNA Center Automation with Python
- Automating Operations using Cisco DNA Center
- Introducing Cisco SD-WAN Programmability
- Building Cisco SD-WAN Automation with Python
- Building Cisco SD-WAN Automation with Ansible
- Automating Cisco Meraki
- Implementing Meraki Integration APIs

Laboratorio

- 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

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- 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

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