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DCAUI - IMPLEMENTING AUTOMATION FOR CISCO DATA CENTER SOLUTIONS V1.2

Course Code: 100493

Implement Cisco Data Center automated solutions including programming concepts, orchestration, and automation tools.

Through a combination of lessons and hands-on practice, you will manage the tools and learn the benefits of programmability and automation in the Cisco-powered Data Center. You will examine Cisco Application Centric Infrastructure (Cisco ACI), Software-Defined Networking (SDN) for data center and cloud networks, Cisco Nexus (Cisco NX-OS) platforms for device-centric automation, and Cisco Unified Computing System (Cisco UCS) for Data Center compute.

You will study the current ecosystem of Application Programming Interfaces (APIs), software development toolkits, and relevant workflows along with open industry standards, tools, and APIs, such as Python, Ansible, Git, JavaScript Object Notation (JSON), Yaml Ain't Markup Language (YAML), Network Configuration Protocol (NETCONF), Representational State Transfer Configuration Protocol (RESTCONF), and Yet Another Generation (YANG). This course prepares you for the 300-635 Automating Cisco Data Center Solutions (DCAUTO) certification exam.

This course is eligible for 24 Continuing Education Credits (ILT &On Demand Modality).

What You'll Learn

After taking this course, you should be able to:

- Review Cisco ACI fundamental concepts and GUI workflows, and create the case for implementing automation
- Introduce the Cisco ACI REST API, the tools already available on the Cisco Application Policy
- Infrastructure Controller (APIC), and understand basic API interaction using Postman
- Understand the functionality provided by the Python ACI libraries and write scripts that apply configuration and verify state on the Cisco ACI fabric
- Understand Cisco ACI Ansible modules, build playbooks that apply Infrastructure-as-Code concepts to Cisco ACI tenant configuration, and generate a health report using Ansible
- Understand Cisco ACI Apps Center integration and the benefits of integrating Kubernetes infrastructure with Cisco ACI

- Understand the API types and capabilities available on Cisco Nexus product family
- Understand Day 0 operations and how Zero Touch Provisioning (ZTP), PowerOn Auto
- Provisioning (POAP), and enhanced Pre-boot eXecution Environment (iPXE) fulfill these goals with their respective tooling
- Understand functionality provided by the on-box tooling on the Cisco Nexus series switches and implement simple solutions to improve daily operation
- Use Python and Ansible to leverage the NX-API to implement and verify configuration state using modern workflows
- Understand the paradigm shift of Model-Driven Telemetry and explore a fully set up pipeline for data collection and analysis
- Understand the Cisco UCS developer tools and implement management workflows leveraging Cisco UCS APIs, Python, and Ansible modules
- Leverage Cisco UCS Director APIs to manage infrastructure using Postman and Python scripts
- Review Cisco Data Center Network Manager (DCNM) product capabilities and understand how its API can be beneficial to automating the Cisco Data Center
- Understand the advantages of using Cisco Intersight™ and how to implement automation tasks using its REST APIs via Python and Ansible

Who Needs to Attend

- Network engineer
- Systems engineer
- Wireless engineer
- Consulting systems engineer
- Technical solutions architect
- Network administrator
- Wireless design engineer
- Network manager
- Site reliability engineer
- Deployment engineer
- Sales engineer
- Account manager

Prerequisites

Before taking this course, you should have the following knowledge and skills:

- Basic programming language concepts
- Basic understanding of virtualization and VMware
- Ability to use Linux and Command Line Interface (CLI) tools, such as Secure Shell (SSH) and bash
- CCNP level data center knowledge
- Foundational understanding of Cisco ACI