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Learning Style: On Demand

Technology: Cisco

Difficulty: Intermediate

Course Duration: 40 Hours

Implementing Automation for Cisco Data Center Solutions (DCAUI) v1.0 - On Demand



Course Information

About this course:

This course teaches you how to implement Cisco Data Center automated solutions including programming concepts, orchestration, and automation tools.

You will manage the tools and learn the benefits of programmability and automation in the Cisco-powered data center with a combination of theoretical lessons and hands-on practice exercises. You will also 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.

The course will take you through the current ecosystem of software development toolkits, application programming interfaces (APIs), and relevant workflows along with open industry standards, tools 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 Next Generation (YANG).

Upon completion, you will be fully prepared to take the Automating Cisco Data Center Solutions (300-635 DCAUTO) certification exam.

Course Objective:

After taking this course, you should be able to:

- Leverage the various models and APIs of the Cisco Nexus OS platform to perform day 0 operations, improve troubleshooting methodologies with custom tools, augment the CLI using scripts, and integrate various workflows using Ansible and Python.
- Describe the paradigm shift of Model Driven Telemetry and understand the building blocks of a working solution.
- Leverage the tools and APIs to automate Cisco ACI powered data centers.
- Demonstrate workflows (configuration, verification, healthchecking, monitoring) using Python, Ansible, and Postman.
- Describe the Cisco Data Center compute solutions can be managed and automated using API centric tooling, by using the Python SDK, PowerTool, and Ansible modules to implement various workflows on Cisco UCS, Cisco IMC, Cisco UCS Manager, Cisco UCS Director, and Cisco Intersight.

Audience:

This course is designed for network and software engineers who hold the following job roles:

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

- Wireless design engineer
- Sales engineer
- Account manager

Prerequisite:

You should have the following knowledge and skills before taking this course:

- 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

The following Cisco courses can help you gain the knowledge you need to prepare for this course:

- Implementing and Administering Cisco Solutions (CCNA)
- Introducing Automation for Cisco Solutions (CSAU)
- Implementing and Operating Cisco Data Center Core Technologies (DCCOR)
- Programming Use Cases for Cisco Digital Network Architecture (DNAPUC)
- Introducing Cisco Network Programmability (NPICNP)

Course Outline:

- **Describing the Cisco ACI Policy Model**
- **Describing the Cisco APIC REST API**
- **Using Python to Interact with the ACI REST API**
- **Using Ansible to Automate Cisco ACI**
- **Describing Cisco ACI Apps Center and Kubernetes Integration**
- **Introducing Cisco NX-OS Programmability**
- **Describing Day-Zero Provisioning with Cisco NX-OS**
- **Implementing On-Box Programmability and Automation with Cisco NX-OS**
- **Implementing Off-Box Programmability and Automation with Cisco NX-OS**
- **Understanding Model-Driven Telemetry**
- **Automating Cisco UCS Using Developer Tools**
- **Implementing Workflows Using Cisco UCS Director**
- **Describing Cisco DCNM**
- **Describing Cisco Intersight**

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