Implementing Automation for Cisco Data Center Solutions (DCAUI)

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In this Implementing Automation for Cisco Data Center Solutions (DCAUI) course provides a focused, hands-on introduction to automating Cisco data center environments using modern programmability, model-driven interfaces, and automation frameworks. It is designed for data center and network engineers who want to move beyond manual configuration and adopt scalable, repeatable automation practices aligned with Cisco data center architectures. The course emphasizes practical automation workflows that integrate compute, network, and policy-driven operations across the data center.

Students explore automation technologies commonly used in Cisco data center solutions, including APIs, Python-based automation, model-driven programmability with YANG, and infrastructure-as-code principles. The course demonstrates how automation improves consistency, reduces operational risk, and accelerates deployment for data center networks built on Cisco Nexus platforms and supporting controllers. Concepts such as service abstraction, orchestration, and telemetry are introduced to show how automation enables better visibility and lifecycle management.

Hands-on labs reinforce these concepts by guiding students through real-world automation tasks, such as interacting with data center APIs, building scripts to automate configuration and validation, and integrating automation tools into operational workflows. By the end of the course, learners are equipped with the skills needed to design, implement, and operate automated Cisco data center solutions in support of modern application and infrastructure demands.

How you'll benefit

This class will help you:

- Learn the tools and the benefits of leveraging programmability and automation in the Cisco-powered Data Center
- Examine platforms include Cisco ACI (the controller-based Data Center environment), Cisco NX-OS on all Cisco Nexus platforms for device-centric automation, and Cisco UCS for Data Center compute
- Inspect the current ecosystem of APIs, software development toolkits, and relevant workflows in detail together with open industry standards, tools, and APIs, such as Python, Ansible, Git, JSON/YAML, NETCONF/RESTCONF, and YANG

Course Duration
3 days
Course Price
$2,995.00 or 30 CLCs
Methods of Delivery
- Instructor Led
- Virtual ILT
- On-Site

Why Attend with Current Technologies CLC
- Our Instructors are in the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend
The primary audience for this course is as follows:

- Channel and Customer Engineers including Network Engineers, System Engineers, Wireless Engineers, Consulting Systems Engineers, Technical Solutions Architects,

Network Administrators, Wireless Design Engineers, Network Managers, Site Reliability Engineers, and Deployment Engineers
- Channel Sales Engineers
- Channel Account Managers

Prerequisites

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

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

OUTLINE

Module 1: Describing the Cisco ACI Policy Model

Module 2: Describing the Cisco APIC REST API

Module 3: Using Python to Interact with the Cisco ACI REST API

Module 4: Using Ansible to Automate Cisco ACI

Module 5: Introducing Cisco NX-OS Programmability

Module 6: Describing Day-Zero Provisioning with Cisco NX-OS

Module 7: Implementing On-Box Programmability and Automation with Cisco NX-OS

Module 8: Implementing Off-Box Programmability and Automation with Cisco NX-OS

Module 9: Automating Cisco UCS Using Developer Tools

Module 10: Describing Cisco Intersight

LAB OUTLINE

Lab 1: Use Cisco APCI Web GUI

Lab 2: Discover the Cisco APIC REST API

Lab 3: Use Postman with the APIC REST API

Lab 4: Use Python with Cisco APIC REST API

Lab 5: Configure and Verify Cisco ACI Using Acitoolkit

Lab 6: Use Cobra and Arya to Recreate a Tenant

Lab 7: Manage Configuration Using Ansible

Lab 8: Set Up a New Tenant the NetDevOps Way

Lab 9: Create an Infrastructure Health Report

Lab 10: Set Up Power On Auto Provisioning on the Cisco Nexus 9000

Lab 11: Use Bash and Guest Shell on Cisco NX-OS

Lab 12: Use Python to Enhance CLI Commands

Lab 13: Trigger a Python Script Using EEM

Lab 14: Configure and Verify Using NX-API and Python

Lab 15: Configure and Verify Using NETCONF and YANG

Lab 16: Use Ansible with Cisco NX-OS

Lab 17: Connect, Query, and Modify Cisco UCS Manager Objects Using Cisco UCS PowerTool

Lab 18: Connect, Query, and Modify Cisco UCS IMC Objects Using Cisco UCS PowerTool

Lab 19: Utilize Cisco UCS Python SDK

Lab 20: Utilize Cisco IMC Python SDK

Lab 21: Implement Ansible Playbooks to Modify and Verify the Configuration of Cisco UCS Manager