



IMPLEMENTING AUTOMATION FOR CISCO DATA CENTER SOLUTIONS (DCAUI) V1.0

The Implementing Automation for Cisco Data Center Solutions (DCAUI) v1.0 course teaches you how to 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 their 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 also earns you 24 Continuing Education (CE) credits towards recertification.

How you'll benefit

- Gain high-demand knowledge and skills in modern programming language to create powerful APIs that enhance network functioning
- Prepare for the 300-635 DCAUTO exam

Why Attend with Current Technologies CLC

- Our Instructors are 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



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Objectives

Upon completing this course, the student will be able to meet these objectives:

- Leverage the tools and APIs to automate Cisco ACI powered data centers
- Demonstrate workflows (configuration, verification, healthchecking, monitoring) using Python, Ansible, and Postman
- 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
- 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

Course Duration

3 day

Course Price

\$3,000.00

Methods of Delivery

- Instructor Led
- Virtual ILT

Certification Exam

300-635

Certification Exam

24

Who Should Attend

The primary audience for this course is as follows:

- Network Engineer
- Network Administrator
- Network Manager
- Systems Engineer
- Wireless Engineer
- Wireless Design Engineer
- Consulting Systems Engineer
- Site Reliability Engineer
- Deployment Engineer
- Sales Engineer
- Technical Solutions Architect
- 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



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- CCNP level core networking knowledge
- CCNP level security networking knowledge

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

Module 1: Describing the Cisco ACI Policy Model

Module 2: Describing the Cisco APIC REST API

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

Module 4: Using Ansible to Automate Cisco ACI

Module 5: Describing Cisco ACI Apps Center and Kubernetes Integration

Module 6: Introducing Cisco NX-OS Programmability

Module 7: Describing Day-Zero Provisioning with Cisco NX-OS

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

Module 9: Implementing Off-Box Programmability and Automation with Cisco NX-OS

Module 10: Understanding Model-Driven Telemetry

Module 11: Automating Cisco UCS Using Developer Tools

Module 12: Implementing Workflows Using Cisco UCS Director

Module 13: Describing Cisco DCNM

Module 14: Describing Cisco Intersight

LAB OUTLINE

- Use Cisco APIC Web GUI
- Discover the Cisco APIC REST API



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- Use Postman with the APIC REST API
- Use Python with the Cisco APIC REST API
- Configure and Verify Cisco ACI Using Acitoolkit
- Use Cobra and Arya to Recreate a Tenant
- Manage Configuration Using Ansible
- Set Up a New Tenant the NetDevOps Way
- Create an Infrastructure Health Report
- Install an Application from the App Center on the Cisco APIC
- Power on Auto Provisioning on the Cisco Nexus 9000
- Use Bash and Guest-Shell on Cisco NX-OS
- Use Python to Enhance CLI Commands
- Trigger a Python Script Using Cisco Embedded Event Manager (EEM)
- Docker Containers on NX-OS
- Configure and Verify Using NX-API and Python
- Configure and Verify Using NETCONF/YANG
- Use Ansible with NX-OS
- Streaming Telemetry
- Connect, Query, and Modify Cisco UCS Manager Objects Using Cisco UCS PowerTool
- Discovery 21: Connect, Query, and Modify Cisco UCS Integrated Management Controller (IMC) Objects Using Cisco IMC PowerTool
- Utilize Cisco UCS Python Software Development Kit (SDK)
- Utilize Cisco IMC Python SDK
- Implement Ansible Playbooks to Modify and Verify the Configuration of Cisco UCS Manager