



# Implementing Automation for Cisco Data Center Solutions

## What you'll learn in this course

The Implementing Automation for Cisco Data Center Solutions (DCAUI) v1.1 training 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 training prepares you for the 300-635 Automating Cisco Data Center Solutions (DCAUTO) certification exam. Introducing Automation for Cisco Solutions (CSAU) is required prior to enrolling in Implementing Automation for Cisco Data Center Solutions (DCAUI) because it provides crucial foundational knowledge essential to success. This training also earns you 24 Continuing Education (CE) credits towards recertification.

## Course duration

- Instructor-led training: 5 days in the classroom
- Virtual instructor-led training: 5 days of web-based classes

## How you'll benefit

This training will help you:

- 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

## Who should enroll

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

- 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

## Technology areas

Collaboration

## Course details

### Objectives

After taking this training, you should be able to:

- 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 how 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.

### Recommended knowledge and training

Before taking this training, 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

The following Cisco trainings can help you gain the knowledge you need to prepare for this training:

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

## How to enroll

To enroll in the DCAUI course or explore our larger catalog of courses on Cisco Digital Learning, contact us at [<training@fastlane-mea.com>](mailto:training@fastlane-mea.com)

### Lab outline

- Use Cisco APIC Web GUI
- Discover the Cisco APIC REST API
- 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
- Set Up 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)
- Configure and Verify Using NX-API and Python
- Configure and Verify Using NETCONF/YANG
- Use Ansible with Cisco NX-OS
- Connect, Query, and Modify Cisco UCS Manager Objects Using Cisco UCS PowerTool
- 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

