

Course Code DCAUI
Duration 3 days

Overview

The Implementing Automation for Cisco Data Center Solutions (DCAUI) 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.

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).

Audience

Individuals looking to understand how to implement automated solutions in a Cisco Data Center.

Learning Objectives

By actively participating in this course, you will learn about the following:

- ▶ Reviewing Cisco ACI fundamental concepts and GUI workflows, and creating the case for implementing automation.
- ▶ Introducing the Cisco ACI REST API, the tools already available on the Cisco Application Policy Infrastructure Controller (APIC), and understanding basic API interaction using Postman
- ▶ Understanding the functionality provided by the Python ACI libraries and writing scripts that apply configuration and verify state on the Cisco ACI fabric.
- ▶ Understanding Cisco ACI Ansible modules, building playbooks that apply Infrastructure-as-Code concepts to Cisco ACI tenant configuration, and generating a health report using Ansible.
- ▶ Understanding Cisco ACI Apps Center integration and the benefits of integrating Kubernetes infrastructure with Cisco ACI.
- ▶ Understanding the API types and capabilities available on Cisco Nexus product family.
- ▶ Understanding 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.
- ▶ Understanding functionality provided by the on-box tooling on the Cisco Nexus series switches and implementing simple solutions to improve daily operation.
- ▶ Using Python and Ansible to leverage the NX-API to implement and verify configuration state using modern workflows.
- ▶ Understanding the paradigm shift of Model-Driven Telemetry and exploring a fully set up pipeline for data collection and analysis.



Pre-Requisites

- ▶ 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

Recommended courses:

- ▶ DCCOR - Implementing and Operating Cisco Data Center Core Technologies
- ▶ DCFNDU - Understanding Cisco Data Center Foundations

Course Contents

- ▶ 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

Exam Details

This course leads to the 300-635 – Automating Cisco Data Center Solutions (DCAUTO) exam.

Successful completion of this exam will earn you the Cisco Certified Specialist – Cisco Certified DevNet Specialist – Data Center Automation and Programmability certification and will satisfy the concentration exam requirements for both the CCNP Data Center certification and the Cisco Certified DevNet Professional certification.

Further Information

For more information or to book this course, please contact our Course Enquiries Team on **01752 227330** (Option 2) or email us at enquiries@skilltec.co.uk.