training code: DCAUI / e-learning / EN

E-Learning - Implementing Automation for Cisco Data Center Solutions

Cisco - On Demand E-Learning

The Implementing Automation for Cisco Data Center Solutions (DCAUI) training shows you how to implement Cisco Data Center automated solutions, including programming concepts, orchestration, and automation tools.

The goal of this training is to highlight the tools and benefits of leveraging programmability and automation in the Cisco-powered Data Center. Examined 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. Their current ecosystem of APIs, software development toolkits, and relevant workflows is inspected in detail together with open industry standards, tools, and APIs, such as Python, Ansible, Git, JSON/YAML, NETCONF/RESTCONF, and 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.

Access Duration: 180 days

Continuing Education Credits: 24

Training recipients

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

Benefits

This training will help you:

- Gain high-demand knowledge and skills in modern programming language to create powerful APIs that enhance network functioning
- Earn 24 CE credits toward recertification
- Prepare for the **300-635 DCAUTO** exam

Training program

Course Objectives

- Review Cisco ACI fundamental concepts, GUI workflows, and create the case for implementing automation
- Introduce the Cisco ACI REST API, the tools already available on the Cisco APIC, and understand basic API interaction using Postman
- Understand the functionality provided by the Python ACI libraries and write scripts that apply configuration and verify state on the Cisco ACI fabric
- Understand Cisco ACI Ansible modules, build playbooks that apply Infrastructure-as-Code concepts to Cisco ACI tenant configuration, and generate a health report using Ansible
- Understand Cisco ACI Apps Center integration and the benefits of integrating Kubernetes infrastructure with Cisco ACI

- Understand the API types and capabilities available on Cisco Nexus product family
- Understand Day 0 operations and how ZTP, POAP, and iPXE fulfill these goals with their respective tooling
- Understand functionality provided by the on-box tooling on the Cisco Nexus series switches and implement simple solutions to improve daily operations
- Use Python and Ansible to leverage the NX-API to implement and verify configuration state using modern workflows
- Understand the paradigm shift of Model-Driven Telemetry and explore a fully set up pipeline for data collection and analysis
- Understand the Cisco UCS developer tools and implement management workflows leveraging Cisco UCS APIs, Python, and Ansible modules
- Review Cisco NDFC product capabilities and understand how its API can be leveraged to automate the Cisco Data Center
- Understand the advantages of using Cisco Intersight and how to implement automation tasks using its REST APIs via Python and Ansible
- Describe Terraform plans for Cisco ACI deployments

Course Outline

Learning Path Curriculum

- Cisco Data Center ACI Automation
- Cisco Data Center NX-OS Automation
- Cisco Data Center Orchestration
- Cisco Data Center

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

Expected preparation of the participant

Before taking this offering, you should have:

- 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

Training Includes

- Labs
- Self-Paced Training
- Video Training

Language

Language: English
Materials: English

Duration

1 days / 1 hours

Examination description

Certyfication:

Associated Certifications: CCNP Data Center, Cisco Certified DevNet Professional

Associated Exam: 300-635 DCAUTO