

## Implementing Automation for Cisco Data Center Solutions (DCAUI)

### COURSE OVERVIEW:

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) v1.0 certification exam.

This course 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 WILL BENEFIT FROM THIS COURSE?

This course 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

### 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
- CCNP level data center knowledge
- Foundational understanding of Cisco ACI

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 OBJECTIVES:**

After taking this course, you should be able to:

- Review Cisco ACI fundamental concepts and GUI workflows, and create the case for implementing automation
- Introduce the Cisco ACI REST API, the tools already available on the Cisco Application Policy Infrastructure Controller (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 Zero Touch Provisioning (ZTP), PowerOn Auto Provisioning (POAP), and enhanced Pre-boot eXecution Environment (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 operation
- 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

### **COURSE OUTLINE:**

- 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

### **SUNSET LEARNING INSTITUTE (SLI) DIFFERENTIATORS:**

Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their cloud technology investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

What sets SLI apart is not only our immense selection of trainings options, but our convenient and consistent delivery system. No matter how complex your environment is or where you are located, SLI is sure to have a training solution that you can count on!

#### **Premiere World Class Instruction Team**

- All SLI instructors have a four-year technical degree, instructor level certifications and field consulting work experience.
- Sunset Learning has won numerous Instructor Excellence and Instructor Quality Distinction awards since 2012

#### **Enhanced Learning Experience**

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

#### **Convenient and Reliable Training Experience**

- You have the option to attend classes at any of our established training facilities or from the convenience of your home or office with the use of our HD-ILT network (High Definition Instructor Led Training)
- All Sunset Learning Institute classes are guaranteed to run – you can count on us to deliver the training you need when you need it!

#### **Outstanding Customer Service**

- Dedicated account manager to suggest the optimal learning path for you and your team
- Enthusiastic Student Services team available to answer any questions and ensure a quality training experience