Introducing Automation for Cisco Solutions (CSAU)

Introducing Automation for Cisco Solutions (CSAU)

In this Introducing Automation for Cisco Solutions course provides a comprehensive introduction to network automation and NetDevOps practices, focusing on how modern networks are designed, operated, and maintained using software-driven methodologies. It establishes the foundational knowledge required to transition from manual, device-by-device management to automated, scalable, and repeatable network operations. Emphasis is placed on aligning network engineering workflows with proven software development and DevOps principles.

The curriculum introduces Python as the primary automation language, covering core scripting concepts, API consumption, and interaction with network devices. Students learn how HTTP-based network APIs work, how data is structured and encoded using JSON and YAML, and how model-driven interfaces such as YANG, NETCONF, and RESTCONF enable structured, programmatic configuration and telemetry. Automation frameworks such as Ansible are introduced to demonstrate how configuration templating, data collection, and large-scale deployments are simplified in enterprise environments.

Hands-on labs reinforce each topic through practical exercises, including building automation scripts, using Git for version control, interacting with APIs through Postman and Python Requests, automating devices with Netmiko, and deploying configurations with Ansible and Jinja2 templates. By the end of the course, students gain the practical skills and operational mindset needed to begin implementing network automation and NetDevOps workflows in real-world production networks.

How you'll benefit

This class will help you:

- Gain an overview of the skills you need to become a next-generation engineer
- Prepare to accelerate network automation in your organization
- Increase collaboration across internal and external teams using version control systems
- Earn 16 CE credits toward recertification

Course Duration
3 days
Course Price
$3,995.00 or 29 CLCs
Methods of Delivery
- Instructor Led
- Virtual ILT
- On-Site

Why Attend with Current Technologies CLC

- Our Instructors are in 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

Who Should Attend

The primary audience for this course is as follows:

- Automation Architects
- Automation Engineers
- Consulting Systems Engineers

- DevOps Engineers
- Network Administrators
- Network Architects
- Network Consulting Engineers
- Network Design Engineers
- Network Engineers
- Network Operators
- Network Reliability Engineers
- Sales Engineers
- Site Reliability Engineers
- Systems Engineers
- Technical Solutions Architects
- Application Developers
- Collaboration Developers
- Collaboration Solutions Architects
- IT Directors
- Mobile Developers
- Network Operations Center (NOC) Managers
- Software Architects
- Web Developers

Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Routing and switching including open shortest path first (OSPF), border gateway protocol (BGP), and basic configuration features such as interfaces, simple network management protocol (SNMP), and static routes
- Fundamentals of Python data structures and programming constructs, such as loops, conditionals, and classes, or the equivalent of 3–6 months of experience writing Python scripts
- Basic Linux commands for navigating the file system and executing scripts
- Knowledge of working with text editors

OUTLINE

Module 1: Examining Network Management and Operations

Module 2: Exploring Software Development Methodologies

Module 3: Using Python for Network Automation

Module 4: Describing NetDevOps: DevOps for Networking

Module 5: Managing Automation Development Environments

Module 6: Introducing HTTP Network APIs

Module 7: Reviewing Data Formats and Data Encoding

Module 8: Using Python Requests to Automate HTTP-Based APIs

Module 9: Exploring YANG

Module 10: Using YANG Tools

Module 11: Automating Model-Driven APIs with Python

Module 12: Introducing Ansible for Network Automation

Module 13: Templating Configurations with Jinja2

LAB OUTLINE

Lab 1: Use Network Automation Scripts

Lab 2: Enforce Python Fundamentals on the Interactive Interpreter

Lab 3: Automate Networks with Netmiko

Lab 4: Use the Git Version-Control System and Collaborate on an Internal Project

Lab 5: Build Reproduceable Automation Environments

Lab 6: Use HTTP-Based APIs with Postman

Lab 7: Explore YAML and JSON Data

Lab 8: Consume HTTP-Based APIs with Python Requests

Lab 9: Explore YANG Tools

Lab 10: Explore RESTCONF with Python

Lab 11: Explore NETCONF with Python

Lab 12: Configure Network Devices with Ansible

Lab 13: Collect Network Data with Ansible

Lab 14: Build and Deploy Configurations with Ansible