Current Technologies
Computer Learning Centers

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Platinum Learning

Introducing Automation for Cisco Solutions (CSAU) V1.1

WHERE GREAT TRAINING HAPPENS EVERYDAY!

Introducing Automation for Cisco Solutions (CSAU) V1.1

Course Duration

3 Days

Course Price

$3,995.00
29 CLCs

Methods of Delivery

In-Person ILT
Virtual ILT
Onsite ILT

About this Class

The Introducing Automation for Cisco Solutions (CSAU) v1.1 course gives you a broad overview of network automation skills. Through a combination of lecture and hands-on labs, you will learn the fundamentals of automation such as working on model-driven programmability solutions with Representational State Transfer Configuration Protocol (RESTCONF) and Network Configuration Protocol (NETCONF) protocols. The course also covers data formats and types, including Extensible Markup Language (XML), JavaScript Object Notation (JSON), Yaml Ain't Markup Language (YAML), and Yet Another Next Generation (YANG), and their value in network automation, along with DevOps tools such as Ansible and Git.

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How you will 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
- This course also earns you 16 Continuing Education (CE) credits towards recertification

Why Attend with Current Technologies CLC

- Our Instructors are 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 job roles best suited to the material in this course are:

- Automation Architect
- Automation Engineer
- Consulting Systems Engineer
- Network Administrator
- Network Architect
- Network Engineer
- Network Consulting Engineer
- Network Operator
- Network Reliability Engineer
- Sales Engineer
- Site Reliability Engineer
- Systems Engineer
- Technical Solutions Architect

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Objectives

After taking this course, you should be able to:

- Articulate the role network automation and programmability play in the context of end-to-end network management and operations
- Define and differentiate between waterfall and agile software development methodologies
- Interpret and troubleshoot Python scripts with fundamental programming constructs built for network automation use cases
- Describe how DevOps principles, tools, and pipelines can be applied to network operations
- Understand the role of network automation development environments and associated technologies such as Python virtual environments, Vagrant, and Docker
- Understand and construct HTTP-based API calls to network devices
- Articulate the differences among and common use cases for XML, JSON, YAML, and protobuf
- Construct and interpret Python scripts using the Python requests module to automate devices that have HTTP-based APIs
- Understand the role YANG plays in network automation
- Understand that a number of tools exist to simplify working with YANG models
- Describe the functionality of RESTCONF and NETCONF and the differences between them
- Construct Ansible playbooks to configure network devices and retrieve operational state data from them
- Build Jinja2 templates and YAML data structures to generate desired state configurations

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Course 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

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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