Automating Networks Using Cisco Platforms

Duration: 180 Days **Course Code: CCNAAUTO** **Version: 1.1** **Delivery Method: e-Learning**

Overview:

The **Automating Networks Using Cisco Platforms (CCNAAUTO)** training teaches you how to implement basic network applications using Cisco platforms as a base, and how to implement automation workflows across network, security, collaboration, and computing infrastructure. The training gives you hands-on experience solving real-world problems using Cisco Application Programming Interfaces (APIs) and modern development tools.
This training prepares you for the 200-901 CCNAAUTO v1.1 exam. If passed, you earn the Cisco Certified Network Associate (CCNA) Automation certification.

This training also earns you 48 Continuing Education (CE) credits toward recertification.

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e-Learning

Interactive self-paced content that provides flexibility in terms of pace, place and time to suit individuals and organisations. These resources also consist of online books, educational podcasts and vodcasts, and video-based learning.

Target Audience:

This class is intended for the following participants:
- Network Automation Engineers
- Software Developers
- System Integration Programmers
- Infrastructure Architects
- Network Designers

Objectives:

- After this course participants should be able to:
- Describe the importance of APIs and use of version control tools in modern software development
- Describe common processes and practices used in software development
- Describe options for organizing and constructing modular software
- Describe HTTP concepts and how they apply to network-based APIs
- Apply Representational State Transfer (REST) concepts to integration with HTTP-based APIs
- Describe Cisco platforms and their capabilities
- Describe programmability features of different Cisco platforms
- Describe basic networking concepts and interpret simple network topology
- Describe interaction of applications with the network and tools used for troubleshooting issues
- Apply concepts of model-driven programmability to automate common tasks with Python scripts
- Identify common application deployment models and components in the development pipeline
- Utilize tools to automate infrastructure through scripting and model-driven programmability
- Describe common security concerns and types of tests, and utilize containerization for local development

Prerequisites:

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

Testing and Certification

This training prepares you for the 200-901 CCNAAUTO v1.1 exam. If passed, you earn the Cisco Certified Network Associate (CCNA) Automation certification.

- Basic computer literacy
- Basic PC operating system navigation skills
- Basic Internet usage skills
- Hands-on experience with a programming language (specifically Python)

These skills can be found in the following Cisco Learning Offering:

- Python Programming for Network Engineers (PRNE)
- PRNE - Programming for Network Engineers

Content:

Course Outline

- Practicing Modern Software Development
- Describing Software Development Process
- Designing Software
- Introducing Network-Based APIs
- Consuming REST-Based APIs
- Introducing Cisco Platforms and APIs
- Employing Programmability on Cisco Platforms
- Describing IP Networks
- Relating Network and Applications
- Employing Model-Driven Programmability
- Deploying Applications
- Automating Infrastructure
- Testing and Securing Applications
- Lab Code Reference

Lab Outline

- Parse API Data Formats with Python
- Use Git for Version Control
- Identify Software Architecture and Design Patterns on a Diagram
- Implement Singleton Pattern and Abstraction-Based Method
- Inspect HTTP Messages
- Use Postman
- Troubleshoot an HTTP Error Response
- Utilize APIs with Python
- Use the Cisco Webex Collaboration API
- Interpret a Basic Network Topology Diagram
- Identify the Cause of Application Connectivity Issues
- Perform Basic NETCONF Operations
- Utilize Bash Commands for Local Development
- Construct Infrastructure Automation Workflow
- Construct a Python Unit Test
- Interpret a Dockerfile
- Utilize Docker Commands to Manage Local Developer Environment
- Exploit Insufficient Parameter Sanitization

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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