Developing Applications and Automating Workflows Using Cisco Core Platforms (DEVASC)

Description

The **Developing Applications and Automating Workflows Using Cisco Core Platforms (DEVASC)** 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 DEVASC v1.0 exam. If passed, you earn the DevNet Associate certification. This training also earns you 48 Continuing Education (CE) credits toward recertification.

How you'll benefit

This training will help you:

- Take advantage of the network when you implement applications to fulfill business needs
- Gain a foundation in the essentials of applications, automation, and Cisco platforms
- Prepare for the 200-901 DEVASC v1.0 exam
- Earn 48 CE credits toward recertification

Who should enroll

- Network Automation Engineers
- Software Developers
- System Integration Programmers
- Infrastructure Architects
- Network Designers

Technology areas

- Automation
- Network Programmability

Objectives

- 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
- Describe common security concerns and types of tests, and utilize containerization for local development
- Utilize tools to automate infrastructure through scripting and model-driven programmability

Prerequisites

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

- 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)

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 Protocol Messages
- Use Postman
- Troubleshoot an HTTP Error Response
- Utilize APIs with Python
- Use the Cisco Controller APIs
- Use the Cisco Webex Teams™ Collaboration API
- Interpret a Basic Network Topology Diagram
- Identify the Cause of Application Connectivity Issues
- Perform Basic Network Configuration Protocol (NETCONF) Operations
- Use Cisco Software Development Kit (SDK) and Python for Automation Scripting
- Utilize Bash Commands for Local Development
- Construct a Python Unit Test
- Interpret a Dockerfile
- Utilize Docker Commands to Manage Local Developer Environment
- Exploit Insufficient Parameter Sanitization
- Construct Infrastructure Automation Workflow

What to expect on the exam

Developing Applications and Automating Workflows using Cisco Platforms (200-901 DEVASC) v1.0 is a 120-minute exam associated with the DevNet Associate certification.

This exam tests your knowledge of software development and design, including:

- Understanding and using APIs
- Cisco platforms and development
- Application development and security
- Infrastructure and automation

Links

- Cisco U. Learning Path
- Cisco Learning Network Store
- Cisco Learning Locator