FIREFLY

Developing Applications Using Cisco Core Platforms and APIs

DURATION: 5 DAYS   **COURSE CODE: DEVCOR**   **FORMAT: LECTURE/LAB**

COURSE DESCRIPTION

The Developing Applications Using Cisco Core Platforms and APIs (DEVCOR) v1.0 course helps you prepare for Cisco DevNet Professional certification and for professional-level network automation engineer roles. You will learn how to implement network applications using Cisco® platforms as a base, from initial software design to diverse system integration, as well as testing and deployment automation. The course gives you hands-on experience solving real world problems using Cisco Application Programming Interfaces (APIs) and modern development tools.

This course helps you prepare to take the 350-901 Developing Applications Using Cisco Core Platforms and APIs (DEVCOR) exam. By passing this exam, you satisfy the core exam requirement toward Cisco Certified DevNet Professional, and you earn the Cisco Certified DevNet Specialist – Core certification.

This course will help you:

- Take full advantage of the network and software development practices when you implement applications to fulfill business needs

- Gain proficiency with applications, automation, and Cisco platforms

- Prepare for the 350-901 DEVCOR exam, which satisfies the core exam requirement toward Cisco Certified DevNet Professional, and earns Cisco Certified DevNet Specialist – Core

The 350-901 DEVCOR exam certifies your knowledge of software development and design including using APIs, Cisco platforms, application deployment and security, and infrastructure and automation.

After you pass 350-901 DEVCOR, you satisfy the core exam requirement toward Cisco Certified DevNet Professional, and you earn Cisco Certified DevNet Specialist – Core certification.

WHO SHOULD ATTEND

This course is designed for anyone who performs or seeks to perform a developer role and has one or more years of hands-on experience developing and maintaining applications that are built on top of Cisco platforms.

This course covers specialized material about designing, developing, and debugging applications using Cisco APIs and platforms, and managing and deploying applications on Cisco infrastructure. To fully benefit from this course, you should have three to five years of experience designing and implementing applications that are built on top of Cisco platforms.

PREREQUISITES

There are no formal prerequisites for Cisco Certified DevNet Associate certification, but you should make sure to have a good understanding of the exam topics before taking the exam.

Before taking this course, you should have:

- Knowledge of program design and coding with focus on Python

- Familiarity with Ethernet, TCP/IP, and Internet-related networking

- Understand the utilization of APIs

- Understanding of software development and design methodologies

- Hands-on experience with a programming language (specifically Python)

LEARNING OBJECTIVES

Describe the architectural traits and patterns that improve application maintainability

Describe the architectural traits and patterns that improve application serviceability

Identify steps to design and build a ChatOps application

Implement robust Representational State Transfer (REST) API integrations with network error handling, pagination, and error flow control

Describe the necessary steps for securing user and system data in applications

Describe the necessary steps for securing applications

Identify common tasks in automated application release process

Describe best practices for application deployment

Describe methodologies for designing distributed systems

Describe the concepts of infrastructure configuration management and device automation

Utilize Yet Another Next Generation (YANG) data models to describe network configurations and telemetry

Compare various relational and non-relational database types and how to select the appropriate type based on requirements

COURSE OUTLINE

1. Designing for Maintainability
2. Designing for Serviceability
3. Implementing ChatOps Application
4. Describing Advanced REST API Integration
5. Securing Application Data
6. Securing Web and Mobile Applications
7. Automating Application-Release
8. Deploying Applications
9. Understanding Distributed Systems
10. Orchestrating Network and Infrastructure
11. Modeling Data with YANG
12. Describing Virtual Extensible LAN

DISCOVERY LABS

1: Construct Sequence Diagram
2: Construct Web Sequence Diagram
3: Use Cisco Webex Teams™ API to Enable ChatOps
4: Integrate Cisco Meraki™ API to List Service Set Identifiers (SSIDs) and Retrieve Location Data
5: Use Paginated REST API Endpoint
6: Utilize REST API Error Control Flow Techniques
7: Evaluate Application for Common Open Web Application Security Project (OWASP) Vulnerabilities
8: Resolve Merge Conflicts with Git
9: Diagnose Continuous Integration and Continuous Delivery (CI/CD) Pipeline Failures
10: Containerize Application Using Docker
11: Integrate Application into Existing CI/CD Environment
12: Diagnose Problems Using Application Logs
13: Configure Network Parameters Using Ansible and Puppet
14: Synchronize Firepower Device Configuration
15: Utilize RESTCONF for Network Configuration
16: Query Relational Database
17: Query Document Store
18: Query Time Series Database
19: Query Graph Database