

# Developing Applications Using Cisco Core Platforms and APIs (DEVCOR)

## COURSE CONTENT

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 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

## COURSE OBJECTIVE

After taking this course, you should be able to:

- 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 nonrelational database types and how to select the appropriate type based on requirements

## 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)

## COURSE OUTLINE

This class includes lecture sections and self-study sections. In instructor-led classes, lectures are delivered in real-time, either in person or via video conferencing. In e-learning courses, the lectures are on recorded videos. In both versions, you will need to review self-study sections on your own before taking the certification exam.

- Section title
- Designing for Maintainability
- Designing for Serviceability
- Implementing ChatOps Application
- Describing Advanced REST API Integration
- Securing Application Data
- Securing Web and Mobile Applications
- Automating Application-Release
- Deploying Applications
- Understanding Distributed Systems
- Orchestrating Network and Infrastructure
- Modeling Data with YANG
- Using Relational and Non-Relational Databases

## Lab outline

- Construct Sequence Diagram
- Construct Web Sequence Diagram
- Use Cisco Webex Teams™ API to Enable ChatOps
- Integrate Cisco Meraki™ API to List Service Set Identifiers (SSIDs) and Retrieve Location Data
- Use Paginated REST API Endpoint
- Utilize REST API Error Control Flow Techniques
- Evaluate Application for Common Open Web Application Security Project (OWASP) Vulnerabilities
- Resolve Merge Conflicts with Git
- Diagnose Continuous Integration and Continuous Delivery (CI/CD) Pipeline Failures
- Containerize Application Using Docker
- Integrate Application into Existing CI/CD Environment
- Diagnose Problems Using Application Logs
- Configure Network Parameters Using Ansible and Puppet
- Synchronize Firepower Device Configuration
- Utilize RESTCONF for Network Configuration
- Query Relational Database
- Query Document Store
- Query Time Series Database
- Query Graph Database