# Developing Applications Using Cisco Core Platforms and APIs (DEVCOR) v1.0

**What you'll learn**

The Developing Applications using Cisco Core Platforms and APIs (DEVCOR) v1.0 training 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 training gives you hands-on experience solving real world problems using Cisco Application Programming Interfaces (APIs) and modern development tools.

This training 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 training also earns you 64 Continuing Education (CE) credits towards recertification.

**How you'll benefit**

This training 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

What to expect in the exam

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 enroll

This training 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 training 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 training, you should have three to five years of experience designing and implementing applications that are built on top of Cisco platforms.

**The training is appropriate for:**

Network engineers expanding their skill-base to include software and automation

Developers expanding expertise in automation and DevOps

Solution architects moving to the Cisco ecosystem

Infrastructure developers designing hardened production environments

The job roles best suited to the material in this training are:

Senior network automation engineer

Senior software developer

Senior system integration programmer

Additional job roles that could find this training useful are:

Senior infrastructure architect

Senior network designer

Senior test development engineer

Students preparing for Cisco Certified DevNet Professional and Cisco Certified DevNet Specialist – Core certification will also find this material useful.

Technology areas

Automation

Network programmability

Training overview

Objectives

After taking this training, 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 as well as knowledge in the following areas:

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)

Here are Cisco learning resources that can help you prepare:

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

Explore the DevNet Certification area for specific topics and labs related to this training and certification: https://developer.cisco.com/certification/

**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 Puppet

Configure Network Parameters Using Ansible

Synchronize Firepower Device Configuration

Utilize RESTCONF for Network Configuration

Query Relational Database

Query Document Store

Query Time Series Database

Query Graph Database