Developing Applications Using Cisco Platforms and APIs

Duración: 180 Días Código del Curso: DEVCOR Version: 1.0 Método de Impartición: e-Learning (Self-Study)

Temario:

The Developing Applications Using Cisco Core Platforms and APIs (DEVCOR) course helps you prepare for the 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. 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.

Associated Certifications: Cisco Certified DevNet Professional, Cisco Certified DevNet Specialist – Core certification

Associated Exam: 350-901

Duration: This elearning is equivalent to 5 days of ILT training with 3 additional days of self-paced learning

Dirigido a:

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, as well as network engineers looking to expand their knowledge to include software and automation.
This course covers specialized material about designing, developing, and debugging applications using Cisco APIs and platforms, and managing and deploying applications on Cisco infrastructure.

Objetivos:

- **After completing 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

Prerequisitos:

Attendees should meet the following prerequisites:

- 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

Exámenes y certificación

Recommended as preparation for the following exam:

- **350-901** - 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

methodologies
- Hands-on experience with a programming language (specifically Python)
- DEVASC - Developing Applications and Automating Workflows using Cisco Platforms

Siguientes cursos recomendados:

- DEVIOT - Developing Solutions using Cisco IoT and Edge Platforms
- DEVWBX - Developing Application for Cisco Webex and Webex Devices
- C-DEVOPS - Implementing DevOps Solutions and Practices using Cisco Platforms -DevOps-
- ENAUI - Implementing Automation for Cisco Enterprise Solutions
- CLAUI - Implementing Automation for Cisco Collaboration Solutions
- DCAUI - Implementing Automation for Cisco Data Center Solutions
- SAUI - Implementing Automation for Cisco Security Solutions
- SPAUI - Implementing Automation for Cisco Service Provider Solutions

Contenido:

Designing for Maintainability (Self-study)

- Functional and Non-Functional Requirements
- Non-Functional Requirements and Application Quality
- Maintainability Through Design
- Maintainability Through Implementation
- Modularity in Application Design
- Dependency Injection

Designing for Serviceability (Self-study)

- Observability in Application Design
- Scalability in Application Design
- High Availability and Resiliency
- Latency and Rate Limiting
- Architectural Patterns
- Sequence Diagrams

Implementing ChatOps Application

- Introducing ChatOps
- ChatOps with Cisco Webex Teams
- API Sequence Diagramming
- ChatOps Application Design
- Managing SSIDs and Retrieving Location Data Using Cisco Meraki API

Describing Advanced REST API Integration

- Consuming Paginated REST API Endpoints
- REST API Network Error Strategies
- REST API Error Control Flow
- Optimizing API Usage

Securing Application Data (Self-study)

- Data Storage and Protecting Data Privacy
- Storing Application Secrets
- Public Key Infrastructure
- Configuring Public Key Certificates for Applications
- Applying End-to-End Encryption for APIs

Securing Web and Mobile Applications (Self-study)

- OWASP Top 10
- Injection Attacks and Data Validation
- Cross-Site Scripting and Request Forgery
- OAuth Authorization Framework
- OAuth 2.0 Three-Legged Authorization Flow

Automating Application-Release

- Release Packaging and Dependency Management
- Advanced Version Control with Git
- Branching Strategies
- Continuous Testing and Static Code Analysis in CI Pipeline
- Identifying CI/CD Pipeline Failures

Deploying Applications

- 12-Factor App Methodology
- Containerizing Applications Using Docker
- Kubernetes Introduction
- Integrating Applications into Exisiting CI/CD Environment
- Hosting Applications on Network Devices

Understanding Distributed Systems

- Distributed Application Concepts
- Custom Dashboard Example
- Event-Driven Architecture Concepts
- Microservice Architecture Concepts
- Effective Distributed Application Logging Strategies
- Using Distributed Logging to Diagnose Problems
- Application Monitoring with Cisco AppDynamics
- Limitations of Distributed Systems and CAP Theorem
- Overcoming Challenges in Distributed Systems

Orchestrating Network and Infrastructure

- Configuring Servers Using Cisco UCS APIs
- Infrastructure as Code with Terraform
- Differentiating Configuration Management Solutions
- Configuring Network Parameters Using Puppet
- Configuring Network Parameters Using Ansible
- Defining Network Automation Source of Truth
- Creating and Deleting Objects Using Firepower Threat Defense API

Modeling Data with YANG

- YANG Overview
- XPath Query Language
- YANG Language Syntax
- Data Model Modularity
- Network Configuration Using RESTCONF
- Model-Driven Telemetry
- Streaming Telemetry with gNMI

Using Relational and Non-Relational Databases (Self-study)

- Evaluating Database Types to Meet Application Needs
- Relational Database Concepts
- Key-Value Database Concepts
- Document-Based Database Concepts
- Graph-Based Database Concepts
- Columnar-Based Database Concepts
- Time-Series Database Concepts

Labs

- 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

Información Adicional:

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

Más información:

Para más información o para reservar tu plaza llámanos al (34) 91 425 06 60

info.cursos@globalknowledge.es

www.globalknowledge.com/es-es/

Global Knowledge Network Spain, C/ Retama 7, 6ª planta, 28045 Madrid