

# Automating Networks Using Cisco Platforms (CCNAAUTO)

## Description

The **Automating Networks Using Cisco Platforms (CCNAAUTO)** 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 CCNAAUTO v1.1 exam. If passed, you earn the Cisco Certified Network Associate (CCNA) Automation 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 CCNAAUTO v1.1 exam
- Earn 48 CE credits toward recertification

## Who should enroll

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

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

## 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

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

## What to expect on the exam

Automating Networks Using Cisco Platforms (200-901 CCNAAUTO) v1.1 is a 120-minute exam associated with the CCNA Automation certification.

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

- Understanding and using APIs
- Application deployment and security
- Infrastructure and automation on Cisco platforms

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## Links

- [Cisco U. Learning Path](#)
- [Cisco Learning Locator](#)