

Cisco 350-901 Exam Prep: DevNet Automation

Cisco 350-901 DevNet 2026. Automate networks with Python, Cisco APIs, and DevOps tools.

IT Certifications Instructor: Jason Miller • 5 sections • 48 lessons • 17.75h total

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About this course

This course is for network professionals and developers preparing for the Cisco 350-901 Developing Applications Using Cisco Core Platforms and APIs exam. We will break down the 2026 exam blueprint into manageable skills you can apply in your job.

You will learn how to automate network tasks, work with Cisco APIs, and use Python for DevOps, with step-by-step guides, practical labs, and downloadable templates. The format includes video lessons, hands-on case studies from real Cisco environments, and problem-solving sessions.

Course curriculum

Foundations and Exam Blueprint Overview

- **Understanding the 2026 350-901 Exam Structure (12m)**
Get a clear breakdown of the exam domains, question types, and scoring to plan your study strategy effectively.
- **Setting Up Your DevNet Lab Environment (18m)**
Step-by-step guide to configuring a virtual lab with Cisco DevNet Sandbox and necessary tools for hands-on practice.
- **Core Programming Concepts for Network Engineers (25m)**
Learn Python basics tailored for network automation, including variables, loops, and functions with real examples.
- **Introduction to Cisco Platforms and APIs (15m)**
Explore key Cisco platforms like DNA Center, Meraki, and Webex, and how their APIs fit into automation workflows.
- **Git and Version Control for Network Code (22m)**
Practical session on using Git to manage automation scripts, with a downloadable template for your projects.
- **API Fundamentals: REST, JSON, and Authentication (30m)**
Deep dive into REST API principles, JSON parsing, and OAuth methods used in Cisco DevNet scenarios.
- **Exam Study Plan and Time Management (10m)**
Create a personalized study schedule with milestones, using real case studies from past exam takers.

Core Concepts: APIs and Automation Tools

- **Working with Cisco DNA Center API (28m)**
Hands-on lab to authenticate and retrieve network inventory data using the DNA Center REST API.
- **Automating with Python Requests Library (20m)**
Build scripts to interact with Cisco APIs, including error handling and logging for production use.
- **Using Postman for API Testing and Debugging (16m)**
Step-by-step guide to set up Postman collections for Cisco APIs, with a downloadable template for common endpoints.
- **Ansible Basics for Network Automation (32m)**
Learn how to write Ansible playbooks for Cisco devices, with a real-world case study on configuration management.
- **Webex Teams API for Collaboration Automation (14m)**
Integrate Webex APIs to automate notifications and meetings, with practical examples for team workflows.
- **Meraki Dashboard API for Cloud Management (24m)**
Automate Meraki network tasks like device provisioning and monitoring, including a problem-solving session.

- **Python for Data Parsing with JSON and XML (19m)**
Techniques to parse API responses, with a downloadable script template for common data formats.
- **Error Handling and Logging in Automation Scripts (27m)**
Best practices for robust code, using real-case scenarios from network automation projects.
- **Integrating Multiple APIs in a Single Workflow (35m)**
Step-by-step guide to combine DNA Center and Meraki APIs for end-to-end network automation.

Deep Dive: Cisco Core Platforms

- **Automating Cisco SD-WAN with vManage API (22m)**
Learn to configure and monitor SD-WAN policies programmatically, with a real case study analysis.
- **Cisco UCS and Server Automation (26m)**
Use Python to manage UCS servers, including a downloadable template for common tasks.
- **Cisco ACI Programmability (30m)**
Explore ACI REST API for fabric automation, with hands-on labs and problem-solving exercises.
- **Cisco Webex Calling API Integration (17m)**
Automate call routing and user management, with practical examples for IT teams.
- **Cisco SecureX API for Security Automation (23m)**
Integrate security tools using APIs, with a step-by-step guide to threat response automation.
- **Cisco ThousandEyes API for Network Insights (20m)**
Retrieve and analyze network performance data, using a real-world monitoring case study.
- **Cisco Finesse API for Contact Center (21m)**
Build custom workflows for contact centers, with a downloadable script template.
- **Cisco Intersight API for Hybrid Cloud (29m)**
Automate infrastructure management across on-prem and cloud, with hands-on examples.
- **Troubleshooting API Integrations (18m)**
Common issues and solutions, with a problem-solving session based on real exam scenarios.

Advanced Application: Real-World Scenarios

- **Building a Network Health Dashboard (33m)**
Combine APIs from DNA Center and ThousandEyes to create a monitoring dashboard, step-by-step.
- **Automating User Onboarding with Cisco APIs (26m)**
End-to-end guide for adding users to Webex and Meraki, with a downloadable workflow template.
- **Cisco DevNet Sandbox Projects (28m)**
Hands-on labs using real Cisco sandboxes, with case studies from production environments.
- **CI/CD Pipeline for Network Automation (31m)**
Integrate Git, Jenkins, and Cisco APIs for automated deployments, with a real case study.
- **Security Best Practices for API Scripts (19m)**
Protect credentials and data, with practical examples and a downloadable security checklist.
- **Performance Optimization for Automation (24m)**
Tune scripts for speed and reliability, using real-world network automation data.
- **Cisco API Rate Limiting and Throttling (15m)**
How to handle API limits, with a step-by-step guide and problem-solving session.

- **Custom Webhooks with Cisco Platforms** (22m)
Set up webhooks for event-driven automation, with a downloadable template for Meraki and DNA Center.
- **Scaling Automation for Large Networks** (34m)
Strategies for enterprise-scale automation, with a real case study from a multinational company.
- **Exam Practice: Mock 350-901 Questions** (40m)
Test your knowledge with timed practice questions, followed by detailed explanations.

Implementation & Next Steps

- **Creating Your Personal Automation Portfolio** (20m)
Step-by-step guide to showcase projects on GitHub, with a downloadable portfolio template.
- **Cisco DevNet Certification Path** (14m)
Overview of next certifications like DevNet Professional, with a study plan template.
- **Applying Skills in Your Current Role** (18m)
Real-world examples of how to use these skills to solve daily network problems.
- **Building a Home Lab for Continuous Learning** (25m)
Guide to setting up a cost-effective lab, with a downloadable equipment list.
- **Joining the Cisco DevNet Community** (12m)
How to leverage forums, events, and resources for ongoing support and networking.
- **Final Exam Checklist and Tips** (16m)
Comprehensive checklist for exam day, including what to bring and how to manage time.
- **Troubleshooting Common Exam Issues** (22m)
Address technical and mental challenges during the exam, with problem-solving strategies.
- **Career Opportunities with DevNet Skills** (15m)
Explore job roles like automation engineer, with real salary data and case studies.
- **Updating Your Resume and LinkedIn** (13m)
Step-by-step guide to highlight DevNet skills, with a downloadable resume template.
- **Setting Up Ongoing Learning Goals** (17m)
Create a 6-month plan for skill maintenance, with a downloadable tracking sheet.
- **Q&A: Common Questions from Students** (21m)
Address top questions from the course, with real examples and solutions.
- **Course Wrap-Up and Resources** (10m)
Summary of key takeaways and a list of free resources for continued learning.
- **Bonus: Advanced Python for DevNet** (38m)
Deep dive into advanced Python topics like async programming, with hands-on labs.

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