

Cisco 300-535 Exam Preparation 2026

Cisco 300-535 2026. Service provider automation with Python, Ansible, NETCONF, and RESTCONF.

[IT Certifications](#) Instructor: Jason Miller • 5 sections • 48 lessons • 16.00h total

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About this course

Preparing for the Cisco 300-535 exam can feel overwhelming, especially with the focus on service provider automation. This course cuts through the noise and gives you a focused, practical approach to the key topics you will face in 2026. We skip the fluff and get straight to what matters for passing.

You will learn how to apply automation tools like Python and Ansible in real service provider scenarios, understand NETCONF/RESTCONF APIs, and troubleshoot common automation challenges. The course includes video guides, hands-on lab simulations, and downloadable study templates.

Course curriculum

Foundations and Exam Overview

- **Understanding the 300-535 Exam Structure (12m)**
Get a clear breakdown of the exam domains, question types, and scoring so you know exactly what to expect on test day.
- **Setting Up Your Lab Environment (18m)**
Step-by-step guide to configuring a virtual lab using Cisco Modeling Labs or EVE-NG for hands-on practice.
- **Key Automation Concepts for Service Providers (15m)**
Learn the core principles of network automation and why it's critical for modern SP networks.
- **Essential Python for Network Engineers (22m)**
Practical Python basics focused on networking tasks, including libraries like Netmiko and Paramiko.
- **Introduction to Ansible for Network Automation (20m)**
How Ansible works for network devices, with a real case study on automating device configurations.
- **Exploring NETCONF and RESTCONF APIs (17m)**
Hands-on session with YANG models and API interactions for Cisco IOS-XR devices.
- **Study Plan and Resource Guide (10m)**
Downloadable template to organize your study schedule and track progress toward the 300-535 exam.

Core Automation Tools and Techniques

- **Building Python Scripts for Device Management (25m)**
Create scripts to automate common tasks like config backups and compliance checks.
- **Ansible Playbooks for Service Provider Networks (28m)**
Develop playbooks to automate provisioning and manage network services at scale.
- **Working with YANG Data Models (23m)**
Real-world analysis of YANG models for Cisco IOS-XR and how to use them in automation.
- **NETCONF Operations Deep Dive (32m)**
Practical exercises with NETCONF get, edit-config, and validate operations.
- **RESTCONF for Web-Based Automation (20m)**
How to use RESTCONF APIs for configuration and monitoring in a lab environment.
- **Integrating Python with NETCONF/RESTCONF (27m)**
Step-by-step guide to building a Python script that interacts with Cisco devices via APIs.
- **Troubleshooting Automation Scripts (19m)**
Common issues with Python and Ansible scripts and how to debug them effectively.
- **Security Best Practices in Automation (14m)**
How to secure your automation workflows, including credential management and access control.
- **Case Study: Automating a Service Provider Link (30m)**
Walkthrough of a real scenario where automation reduces manual work for SP link provisioning.

Deep Dive into Service Provider Solutions

- **Automating MPLS and Segment Routing (26m)**
Practical methods to automate MPLS and SR configurations using Python and Ansible.
- **Managing QoS Policies Programmatically (21m)**
How to apply and verify QoS settings across multiple devices with automation.
- **BGP Automation for Service Providers (24m)**
Step-by-step guide to automating BGP peering and route policies in SP networks.
- **EVPN and VXLAN Automation (29m)**
Real case study on automating EVPN/VXLAN deployments for data center interconnect.
- **Network Telemetry and Monitoring (18m)**
Using automation to collect and analyze telemetry data for proactive network management.
- **Service Function Chaining Automation (22m)**
Hands-on session with automating SFC in a virtualized SP environment.
- **Problem-Solving: Automation Failures (16m)**
Interactive session analyzing common automation failures and their solutions.
- **Downloadable Script Templates (8m)**
Access to pre-built Python and Ansible templates for common SP automation tasks.

Advanced Application and Optimization

- **Scaling Automation with CI/CD Pipelines (31m)**
How to integrate network automation into DevOps workflows for continuous deployment.
- **Using Git for Version Control in Automation (15m)**
Practical guide to managing your automation code with Git and collaboration tools.
- **Optimizing Ansible Performance for Large Networks (24m)**
Tips and tricks to make your Ansible playbooks run faster and more reliably.
- **Advanced Python: Async and Multithreading (27m)**
Learn to handle multiple devices concurrently for efficient automation.
- **RESTCONF for Real-Time Monitoring (20m)**
Building a dashboard to monitor SP network health using RESTCONF APIs.
- **Automating Security Policies (22m)**
Step-by-step automation of ACLs and firewall rules in a service provider context.
- **Integrating with Cloud Platforms (19m)**
How to extend automation to hybrid cloud environments for SP services.
- **Troubleshooting Complex Automation Scenarios (26m)**
Problem-solving session on multi-vendor automation challenges.
- **Performance Tuning for Automation Scripts (14m)**
Real-world techniques to improve script efficiency and resource usage.
- **Case Study: End-to-End Service Provisioning (33m)**
Full walkthrough of automating a customer service from order to activation.
- **Downloadable Advanced Scripts and Configs (10m)**
Access to advanced automation examples for SP network management.

Implementation and Next Steps

- **Creating Your Automation Roadmap (18m)**
How to plan and prioritize automation projects in your organization.
- **Building a Reusable Automation Library (22m)**
Step-by-step guide to creating and maintaining a shared code repository.
- **Testing and Validation Strategies (20m)**
Methods to test automation scripts safely before production deployment.
- **Documentation for Automation Projects (15m)**
How to document your automation work for team collaboration and maintenance.
- **Presenting Automation Value to Stakeholders (17m)**
Tips for demonstrating the ROI of automation to management and peers.
- **Continuous Learning and Staying Updated (12m)**
Resources and communities to keep your skills sharp after the 300-535 exam.
- **Real-World Project: Automate a SP Service (35m)**
Hands-on project to design and implement an automation solution for a mock SP scenario.
- **Exam Day Strategies and Tips (14m)**
Practical advice for managing time and stress during the Cisco 300-535 exam.
- **Post-Exam: Certification Maintenance (10m)**
How to maintain your Cisco certification and continue growing your automation skills.
- **Downloadable Final Study Checklist (8m)**
A comprehensive checklist to ensure you're fully prepared for the exam.
- **Q&A Session: Common Exam Questions (25m)**
Review of frequently asked questions and topics from the 300-535 exam.
- **Building a Portfolio of Automation Projects (16m)**
How to showcase your automation skills to employers or clients.
- **Next Steps: Beyond 300-535 (11m)**
Explore advanced certifications and specializations in network automation.

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