Designing, Deploying and Managing Network Automation Systems (AUTOCOR)

Category: Software Development & Programming | **Vendor:** Cisco

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format:	Instructor Led - Online
Certification:	Cisco Certified Specialist - Automation Core, Cisco Certified Internetwork Expert (CCIE) Automation certifications, CCNP
Related Exam:	350-901

Course Overview

The Designing, Deploying and Managing Network Automation Systems (AUTOCOR) training prepares you for a professional role as a network automation engineer. It focuses on designing and implementing automation systems, from writing Python scripts and Ansible playbooks, and applying Terraform for network automation, to building complex CI/CD pipelines that integrate multiple tools. The training also shows how to leverage AI for network automation by building Large Language Model (LLM)-powered network agents and by using MCP servers. Additionally, the training focuses on operational aspects of managing a modern, automated network and explores secure coding practices, collecting logs, containerization, and model-driven telemetry. Overall, the training focuses on practical implementation that directly prepares you to design, deploy, and operate automated networks.

This training prepares you for the 350-901 AUTOCOR v2.0 exam. If passed, you earn the Cisco Certified Specialist - Automation Core certification and satisfy the core exam requirement for the Cisco Certified Network Professional (CCNP) Automation and Cisco Certified Internetwork Expert (CCIE) Automation certifications. This training also earns you 32 Continuing Education (CE) credits toward recertification.

How You'll Benefit

This training will help you:

- Explore industry-standard automation tools, including Python, Ansible, and Terraform, to design and implement robust Infrastructure as Code (IaC) solutions
- Integrate Generative AI and LLMs into network workflows by building intelligent agents and utilizing MCP servers for advanced automation
- Construct automated CI/CD pipelines using GitLab, Cisco Modeling Labs (CML), and pyATS to streamline network testing, validation, and deployment
- Enhance network operations and security through the application of model-driven telemetry, secure coding practices, and containerized environments using Docker Compose
- Prepare for the 350-901 AUTOCOR v2.0 exam
- Earn 32 CE credits toward recertification

What to Expect in the Exam

Designing, Deploying and Managing Network Automation Systems (350-901 AUTOCOR) v2.0 is a 120-minute exam associated with the Cisco Certified Specialist - Automation Core certification and satisfies the core exam requirement for the CCNP Automation and CCIE Automation certifications.

The exam tests your knowledge of network automation systems development and design, including:

- Infrastructure as code
- Operations
- AI in automation

About This Course

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Who Should Attend

- Individuals seeking the CCNP Automation certification
- Network Automation Engineers
- Network Engineers with coding experience
- DevOps Engineers working with network infrastructure
- System Engineers
- Network Site Reliability Engineers (SREs)

Prerequisites & Entry Requirements

General Prerequisites:

There are no formal prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Hands-on experience with a programming language (specifically Python)
- Experience with common network designs and configurations
- Understanding of the utilization of APIs
- Awareness of network device APIs such as NETCONF and RESTCONF
- Understanding of the basics of version control with Git
- Familiarity with platforms like GitLab and GitHub
- Comfort with the Linux shell, SSH, files, and virtual environments
- Exposure to Docker/containerization
- Basic knowledge of AI and LLMs

These skills can be found in the following Cisco Learning Offerings:

- Automating Networks Using Cisco Platforms (CCNAAUTO)
- Intermediate Python for Network Engineers (IPYNE)

Learning Outcomes

Upon successful completion of this course, participants will be able to:

- Evaluate various network automation tools and approaches
- Use Python for CLI-based network automation
- Integrate REST APIs in network automation workflows
- Automate device configuration using RESTCONF requests based on YANG data models
- Create network automation solutions with Ansible
- Create network automation solutions with Terraform
- Implement the Infrastructure as Code approach for network management
- Use Git to track network changes
- Design and build GitLab CI pipelines for network automation
- Integrate CML topologies in automated workflows
- Create network validation tools with pyATS and include them in automated workflows
- Configure model-driven telemetry streams to collect real-time operational data from Cisco devices
- Diagnose common automation failures using well-structured logs from Python, Ansible, and RESTCONF integrations
- Harden network automation code by validating inputs, protecting credentials, and sanitizing outputs
- Build and run multi-service Docker Compose environments for network automation
- Generate, sign, and install certificates to secure web interfaces and APIs used by network automation tools
- Describe the role, value, and risks of generative AI in network automation script creation
- Create AI agents for network automation
- Integrate LLMs with external capabilities using MCP servers

Detailed Course Outline

- Network Automation Toolkits
- Network Task Automation with Python
- REST APIs in Network Automation
- Network Automation with Ansible
- Network Automation with Terraform
- Infrastructure as Code Implementation

- Network Change Tracking with Git
- Configuration Change Deployment with CI Pipelines
- Cisco Modeling Labs Integration for Test Network Environments
- Network State Validation with pyATS
- Model-Driven Telemetry for Network Monitoring
- Network Automation Solution Troubleshooting
- Secure Coding Practices for Network Automation
- Network Automation Environment Containerization with Docker Compose
- Trusted TLS Certificates Deployment for Secure Communication
- Generative AI for Network Automation
- AI Agents for Network Automation
- LLM and MCP Server Integration

□□ Certification Path

Cisco Certified Specialist - Automation Core, Cisco Certified Internetwork Expert (CCIE) Automation certifications, CCNP

Exam: 350-901

Skills You Will Learn:

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Frequently Asked Questions

Q: What delivery options are available for Designing, Deploying and Managing Network Automation Systems (AUTOCOR)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: What certification does this course prepare me for?

The Designing, Deploying and Managing Network Automation Systems (AUTOCOR) course helps prepare you for the Cisco Certified Specialist - Automation Core, Cisco Certified Internetwork Expert (CCIE) Automation certifications, CCNP certification path.

Q: Which exam does this course prepare me for?

This course prepares you for the 350-901 official exam. You can take this exam at any exam center across United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online wherever you are located.

Q: How many CPD hours does this course provide?

The 5-day Designing, Deploying and Managing Network Automation Systems (AUTOCOR) course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Designing, Deploying and Managing Network Automation Systems (AUTOCOR) training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Designing, Deploying and Managing Network Automation Systems (AUTOCOR)?

Yes, we provide corporate training, dedicated training, and closed classes for Designing, Deploying and Managing Network Automation Systems (AUTOCOR). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Designing, Deploying and Managing Network Automation Systems, Cisco Professional Level Automation, AUTOCOR

Q: Why choose Nexus Human for Designing, Deploying and Managing Network Automation Systems (AUTOCOR)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Designing, Deploying and Managing Network Automation Systems (AUTOCOR) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

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