



CISCO TRAINING

Implementing Automation for Cisco Service Provider Solutions

Automate Cisco Service Provider solutions. Learn to implement network automation for efficient, scalable SP operations.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

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COURSE OVERVIEW

This intermediate-level course, "Implementing Automation for Cisco Service Provider Solutions," is meticulously designed to equip network professionals with the essential skills to automate complex service provider infrastructures. In today's rapidly evolving digital landscape, automation is no longer an option but a necessity for service providers to achieve unprecedented levels of scalability, operational efficiency, and rapid service delivery. This training dives deep into core automation technologies and methodologies, empowering participants to transform traditional manual network operations into agile, programmable systems.

Participants will gain hands-on experience with critical tools and platforms, including Python for scripting, Ansible for configuration management, and model-driven programmability concepts like NETCONF and YANG. A significant focus will be placed on Cisco's cutting-edge automation solutions, such as Cisco Network Services Orchestrator (NSO) for intelligent service lifecycle management and Cisco Crosswork Network Automation for proactive insights and closed-loop automation. By mastering these technologies, you will learn to streamline deployments, reduce human error, and accelerate troubleshooting across large-scale, multi-vendor service provider networks.

The professional benefits of this course are substantial. It prepares you to take on advanced roles in network automation, making you an invaluable asset in organizations striving for NetDevOps adoption. You will emerge with the ability to design, implement, and maintain automated solutions that dramatically improve network performance and reliability, positioning yourself at the forefront of modern service provider operations and enhancing your career trajectory in the competitive ICT sector.

Duration	2 hours
Level	Intermediate
Vendor	Cisco

COURSE CURRICULUM

01 Module 1: Introduction to Automation in Service Provider Networks

- The need for automation in SP environments
- Challenges of traditional SP network operations
- Overview of network programmability and SDN
- Automation vs. Orchestration vs. Programmability
- Key benefits of automating SP solutions (agility, scale, efficiency)

02 Module 2: Python Fundamentals for Network Automation

- Python syntax and data structures for networking tasks
- Interacting with network devices using Python libraries (e.g., Netmiko, NAPALM)
- Working with structured data: JSON, YAML, XML parsing
- Introduction to REST APIs and HTTP requests

03 Module 3: Automating with Ansible for Service Providers

- Ansible architecture and core components (control node, managed nodes, inventory, playbooks)
- Writing Ansible Playbooks for configuring Cisco SP devices
- Using network-specific modules for IOS XR, IOS XE, and NX-OS
- Implementing Jinja2 templating for dynamic configurations
- Ansible Vault for sensitive data management

04 Module 4: Model-Driven Programmability with NETCONF and YANG

- Understanding NETCONF protocol and operations
- Introduction to YANG data modeling language
- Working with standard and custom YANG models in SP contexts
- Model-driven configuration and state retrieval
- Utilizing YANG tools and validators

05 Module 5: Cisco Network Services Orchestrator (NSO) Essentials

- Cisco NSO architecture and key features
- Service modeling with YANG and NSO service packages
- Orchestrating multi-vendor and multi-domain networks with NSO
- Transactional configuration and rollback capabilities
- Integrating NSO for end-to-end service delivery automation

06 Module 6: Introduction to Cisco Crosswork Network Automation

- Overview of the Cisco Crosswork portfolio (e.g., Network Controller, Health Insights)
- Utilizing Crosswork for proactive monitoring and intent-based networking
- Implementing closed-loop automation in SP networks
- Leveraging telemetry and analytics for operational insights
- Integrating Crosswork with NSO for comprehensive SP automation workflows

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Service Provider Network Automation Engineer**
- > **DevNet Specialist (Service Provider Solutions)**
- > **Senior Network Operations Analyst (with Automation Focus)**

FREQUENTLY ASKED QUESTIONS

Q: What are the essential prerequisites for enrolling in the "Implementing Automation for Cisco Service Provider Solutions" course to maximize learning?

To get the most out of this course, participants should have a solid understanding of fundamental networking concepts, including routing protocols (OSPF, BGP), switching, and general service provider network architecture. Basic familiarity with the Linux command line and foundational programming logic, preferably in Python, will be highly beneficial. Experience with Cisco IOS XR is also an advantage, though not strictly mandatory.

Q: How will the skills acquired from this specific course be directly applicable to real-world automation challenges faced by service providers in Kenya?

This course directly addresses practical challenges such as the slow provisioning of new services, manual configuration errors in complex networks, and the inability to scale efficiently. You will learn to automate tasks like device configuration, service deployment, and network changes using tools like Ansible and Cisco NSO, significantly reducing operational costs and improving service delivery speed. The skills are critical for managing the growth and complexity of modern Kenyan service provider networks.

Q: Beyond technical proficiency, what strategic career advantages does mastering automation for Cisco SP solutions offer to a network professional?

Mastering automation for Cisco SP solutions positions you as a forward-thinking professional capable of driving digital transformation. It unlocks opportunities in specialized roles like Network Automation Engineer or DevNet Specialist, which are in high demand globally and locally. You'll gain the ability to innovate, optimize, and future-proof network infrastructures, making you a key strategic asset in any service provider organization looking to implement NetDevOps practices and achieve operational excellence.

ABOUT COMPUTER PRIDE*East Africa's Premier IT Training Center*

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

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READY TO ENROL?

Take the next step in your technology career.

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