Automating and Programming Cisco Enterprise Solutions Training

Duration: **5 Day**

BILGINC IT Academy
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The Implementing Automation for Cisco Enterprise Solutions (ENAUTO) course equips network engineers with the knowledge and practical skills to automate enterprise network operations using Cisco automation technologies, APIs, and modern development tools. Learners explore the principles of network programmability, software-defined networking, infrastructure automation, and AI-assisted operations while developing practical automation workflows.

Throughout the course, participants gain hands-on experience using Python, Ansible, Cisco Catalyst Center, NETCONF, RESTCONF, streaming telemetry, webhooks, and controller APIs to automate device configuration, software deployment, monitoring, and troubleshooting. The course also introduces AI capabilities within network controllers and explores the opportunities and security considerations of AI-assisted network automation.

By combining instructor-led learning with practical labs, learners develop the confidence to automate repetitive operational tasks, improve network consistency, reduce deployment times, and support modern enterprise networking environments.

Prerequisites

To benefit fully from this course, learners should have:

- A solid understanding of enterprise networking concepts and IP networking.
- Experience configuring Cisco enterprise networking devices.
- Familiarity with routing, switching, security, and wireless technologies.
- Basic knowledge of Python programming is recommended but not essential.
- An understanding of APIs and data formats such as JSON is beneficial.

Target audience

This course is designed for:

- Network engineers.
- Network administrators.
- Systems engineers.
- Network automation engineers.
- DevNet professionals.
- Network architects.
- Infrastructure engineers responsible for enterprise network automation.
- Professionals preparing for Cisco automation and enterprise networking certifications.

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What You Will Learn

By the end of this course, learners will be able to:

- Explain the principles of network automation and programmable network architectures.
- Select appropriate automation tools and frameworks for enterprise networking tasks.
- Develop Python scripts to automate command-line interface operations.
- Implement NETCONF and RESTCONF to automate network configuration and management.
- Automate device configuration monitoring and validation.
- Use Ansible playbooks to deploy and manage network infrastructure.
- Configure on-box automation capabilities available on Cisco platforms.
- Provision enterprise networks using Cisco Catalyst Center Day-0 workflows.
- Build and manage reusable configuration templates for large-scale deployments.
- Integrate Ansible with Cisco controllers to automate configuration management.
- Automate security policy deployment and operational tasks.
- Troubleshoot automation workflows across enterprise network controllers.
- Validate automation solutions through testing and operational verification.
- Automate software image management and lifecycle operations.
- Monitor enterprise network health using APIs, streaming telemetry, and webhooks.
- Evaluate AI capabilities within modern network controllers.
- Apply AI-assisted automation responsibly while understanding associated security risks.
- Build automation workflows that integrate with AI agents using Python FastMCP.