

Intermediate Python for Network Engineers (IPYNE)

Description

The **Intermediate Python for Network Engineers (IPYNE) Learning Path** introduces the fundamental concepts of network programmability and automation using Python. It is designed for network engineers new to programming or professionals looking to enhance their automation skills through Python and Cisco APIs. The Learning Path focuses on practical use cases, such as automating device configurations, managing network inventories, and integrating with Cisco products like IOS XE, Meraki, and ThousandEyes for API automation. You will also learn the basics of creating reusable programs using object-oriented programming, building web interfaces with Flask, and interacting with large language models for advanced network automation. Upon completion, you will be able to write Python scripts, interact with network devices via APIs, and design automation workflows to streamline network management tasks.

Summary Description

Build practical network automation skills by using Python and Cisco APIs to automate, manage, and streamline network tasks.

Skills you'll learn

- Automate network device configuration, monitoring, and management using Python scripts
- Leverage modern tools and libraries (e.g., Netmiko, PyATS, REST APIs) for scalable network automation
- Build and deploy reusable automation solutions, such as scripts, web interfaces, and API wrappers
- Integrate advanced technologies like CI/CD, telemetry, and large language models into network automation workflows
- Troubleshoot, test, and validate network automation solutions using best practices in logging, error handling, and unit testing

Learning Tracks

1. **First Steps with Python:** Explore network programmability and automation by setting up a Python development environment and learning to write and run basic Python scripts.
2. **Automating Network Devices:** Build network management tools while learning essential Python concepts, libraries, and best practices.

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3. **HTTP API Automation:** Gain practical Python skills to automate network operations by working with APIs, authentication, testing, monitoring, CI/CD integration, and creating reusable code with SDKs and API wrappers.
 4. **Innovative Approaches to Network Automation:** Design web interfaces for network automation using the Python Flask framework.

Link

- [Cisco U. Learning Path](#)