



# Programming for Network Engineers (PRNE) v1.0

Duration 1 Day

## COURSE DESCRIPTION

Programming for Network Engineers (PRNE) Version 1.0 is a Cisco® Training on Demand course. It provides you with an understanding of programming in Python. You also gain knowledge that helps you automate repetitive networking tasks and provides you with useful programming tools to use in your day-to-day job.

This course teaches you how to manage a network more efficiently with network programmability as you develop Python programming fundamental skills. In addition, it provides you with the foundation required before attending the Cisco Network Programmability Engineer course.

## COURSE OBJECTIVES

After completing this course, you should be able to:

- Describe use cases and examples of the value of network programmability
- Acquire a complete complement of Python programming skills: basics, data structures, control structures, comparison operators, input and output, structured programming, object-oriented programming, etc.
- Use Python to communicate to individual network devices, using examples of real-world networking communication and operations
- Use Python to communicate to multiple devices
- Use object-oriented programming in Python to abstract network devices
- Use databases in a network-based application to store information about the network
- Use test methodologies to create quality applications
- Use software available through open source and existing libraries, for example, Cisco GitHub, Cisco DevNet, Python general-purpose and Cisco-specific libraries, and NX-API

## COURSE OUTLINE

- Section 1: Network Programmability
- Section 2: Your First Network Program
- Section 3: Python Overview
- Section 4: Creating Your First Python Program
- Section 5: Reading and Writing Network Device Information
- Section 6: Communicating with Network Devices
- Section 7: Python Data Structures
- Section 8: Comparing Network Information
- Section 9: Conditional Code
- Section 10: Looping with for and while
- Section 11: Functions
- Section 12: Object-Oriented Programming
- Section 13: Object-Oriented Programming: Classes
- Section 14: Modules and Packages
- Section 15: Python and Data Storage
- Section 16: Debugging, Testing, and Logging

## PREREQUISITES

The knowledge and skills recommended before attending this course are:

- Experience with network management (CCNA-level recommended)

## WHO SHOULD ATTEND

This course is designed for network engineers looking to use network programming and those preparing for the Cisco Network Programmability Engineer course.