Programming for Network Engineers (PRNE)

Description

Introduction to the Programming for Network Engineers (PRNE) course

The Programming for Network Engineers (PRNE) course is designed for network engineers who want to acquire essential programming skills with Python. By combining theoretical lessons and practical lab sessions, you will learn how to develop efficient Python scripts to automate common and complex network tasks.

This course enables you to master the basics of programming, with a focus on network automation using Netmiko. Whether you are a network administrator or an engineer new to programming, this training is designed to provide you with the tools and skills necessary to improve productivity and optimize network management.

Course Content
Module 1: Introduction to Programmability and Python for Network Engineers

- Understanding programmability in networks
- Introduction to Python for network engineers

Module 2: Scripting with Python

- Run basic Python scripts
- Network task automation with Netmiko

Module 3: Examining Python Data Types

- Use fundamental data types
- Handle complex data types

Module 4: Manipulating Strings

- Manipulate and transform strings

Module 5: Conditionals, Loops, and Operators

- Use conditions and operators in Python

- Master loops in Python

Module 6: Exploring Classes, Methods, Functions, Namespaces, and Scopes

- Create and use classes and methods
- Understand functions and namespaces

Module 7: Exploring Data Storage Options

- Store and retrieve data with Python
- Manage files and databases with Python

Module 8: Exploring Python Modules and Packages

- Use Python modules and packages

Module 9: Analyzing Exceptions and Error Management

- Analyze exceptions and errors in Python

Module 10: Examining Debugging Methods

- Master Python debugging methods

Lab / Exercises

- Run your first Python program
- Use the Python interactive shell
- Explore Python basic data types
- Explore complex Python data types
- Use standard string operations
- Use basic pattern matching
- Reformat MAC addresses
- Use the if-else construct
- Use for loops
- Use while loops
- Create and use functions
- Create and use classes
- Use the Python main() construct
- Traverse the file structure
- Read data in CSV format
- Read, store, and retrieve data in XML format
- Read, store, and retrieve data in JSON format
- Read, store, and retrieve data in raw or unstructured format

Documentation

- Digital course materials included

Participant profiles

- Network administrators
- Network engineers with no programming experience
- Network managers seeking to develop technical skills
- Systems engineers

Prerequisites

- Basic knowledge of network management
- Mastery of Cisco device configuration concepts
- Familiarity with Cisco IOS®-XE systems
- Basic understanding of IP protocol concepts
- CCNA certification or equivalent experience

Objectives

- Create Python scripts
- Manipulate common data types
- Manage loops and conditions in Python
- Use Python classes, methods, and functions
- Optimize error and exception handling
- Debug Python scripts

Description
Programming for Network Engineers (PRNE) training
Niveau
Intermédiaire
Classroom Registration Price (CHF)
3560
Virtual Classroom Registration Price (CHF)
3560
Duration (in Days)
4
Reference
PRNE