Python Programming- For Network Engineers

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What you'll learn

- Learn network programmability with GNS3 and Python version 3
- Learn how to automate the configuration of network devices with Python
- Learn how to leverage NAPALM for network automation
- Use Netmiko for SSH connections to routers and switches
- Quick start guide using Telnet and SSH - get started in 20 minutes!
- Learn how to scale your network scripts

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Course Content

1. Introduction to Python with Networking

2. Lab Setup in GNS3

3. Open IP Addresses Database file in Python

4. Introduction to Netmiko

- 4.1. Configuring SSH on Routers
- 4.2. First SSH Script
- 4.3. Script for Connect Multiple Devices
- 4.4. One Click Configuration (OCC) to Configure multiple devices
- 4.5. Run Multiple Commands File in python

5. NAPALM

- 5.1. NAPALM Introduction
- 5.2. Installation of NAPALM
- 5.3. NAPALM Connection with Cisco Devices

6. Device Configuration Auditing and Changes with NAPALM

- 6.1. Configure ACL using NAPALM
- 6.2. ACLs Auditing
- 6.3. Device Configurations Auditing

7. Programming Theory

- 7.1. Programming Fundamentals
- 7.2. Python Introduction

8. Python Setup

- 8.1. Python Downloading
- 8.2. Python Installation
- 8.3. Basic Python Script

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9. Basic Python Programming Essentials:

- 9.1. Understanding Variables
- 9.2. Declaring Variables in Python
- 9.3. Data Types in Python
- 9.4. Data Type Methods in Python
- 9.5. Data Types Operations

10. Working with Numbers in Python:

- 10.1. Understanding Number types in Python
- 10.2. Working with Integers
- 10.3. Performing Integer Operations
- 10.4. Working with Floats
- 10.5. Performing Float Operations

11. Manipulation Data Types in Python:

- 11.1. Understanding String in Python
- 11.2. Manipulate Data in String using Builtins Function
- 11.3. Manipulate Data in Int and Float using Builtins Function

12. Python Operators:

- 12.1. Understanding Oprators
- 12.2. Understanding Airthmatic Operators
- 12.3. Understanding Boolean Operators
- 12.4. Understanding Comparison Operators

13. Python Arrays:

- 13.1. Understanding Arrays
- 13.2. Understanding Arrays in Python

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14. Understanding Array type LIST:

- 14.1. Making first LIST Array in Python
- 14.2. LIST Methods in Python
- 14.3. Checking Membership in Array

15. Understanding Array type DICTIONARY:

- 15.1. Making first DICTIONARY in Python
- 15.2. DICTIONARY Methods in Python
- 15.3. Checking Membership in Array

16. Understanding Array type TUPLE:

- 16.1. Making first TUPLE in Python
- 16.2. TUPLE Methods in Python
- 16.3. Checking Membership in Arrays

17. Making first SET in Python:

- 17.1. Making first SET in Python
- 17.2. SET Methods in Python
- 17.3. Checking Membership in Arrays

18. Understanding Conditions:

- 18.1. Understanding Logical Conditions
- 18.2. Making Logical Script using Conditions

19. Understanding Functions:

- 19.1. Understanding Functions
- 19.2. Creating First User-Defined Function in Python
- 19.3. Running User-Defined Function

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20. Understanding LOOPS:

- 20.1. Understanding LOOPS in Python
- 20.2. Understanding FOR Loop
- 20.3. Creating FOR LOOP in Script
- 20.4. Understanding WHILE LOOP
- 20.5. Creating WHILE LOOP in Script
- 20.6. Breaking LOOPS using Statements