

Python Scripting for Network Engineers



Instructor Led Live Virtual Class

Duration: 6 Day (20-30 hours) | Course Number: LF-Python-200

Intended Audience

This course is designed for professionals in the industry who need to develop a high-level understanding of Linux Operating System.

Course Description:

This course introduces the Linux family of operating systems. Basic commands, utilities, system structures, scripting and tools are explored. Elements of system administration are presented. This course is primarily oriented for would-be users and administrators of Linux -- in the words of the course text, p. iv, for those "primarily interested in it as a tool".

This general overview of the Linux operating systems will include topics such as the environment, commands, file system, processes, and utilities, as well as Linux history and philosophy. Specific emphasis will be given to the bash shell and user environment.

Learning Objectives:

After successfully completing this course, students should be able to:

- Comfortably use basic Linux commands from the command line (from a terminal window);
- Organize and manage their files within the Linux file system;
- Organize and manage their processes within Linux;
- Usefully combine Linux tools using features such as filters, pipes, redirection, and regular expressions;
- Customize their Linux working environment;
- Be knowledgeable enough about basic Linux shell scripting to be able to successfully read and write
- Bash shell scripts;
- Know how to use Linux resources to find additional information about Linux commands.

Section I: Introduction to Python Language

1. Introduction
 - A. Why a Network Engineer MUST learn Python ?
2. Automation Tools and Languages
 - A. Scripting
 - B. Perl vs Python
 - C. Perl vs Python Summary
3. Battle of Versions
 - A. Some Important Differences between Python 2 and Python 3
4. Python IDE
 - A. Complete IDE
 - B. Online python IDE

Section II Fundamentals of Programming

5. Python Variables
 - A. Assigning Values to Variables
 - B. Multiple Assignment
6. Python Strings
7. Conditional Statements
 - A. If...Else Statements
8. Loops
 - A. FOR Loop
 - B. While loop
 - i. What is the difference between FOR loop and WHILE loop
 - C. Do While Loop
 - D. Difference between while loop and do while loop?
9. Collections
10. Variable Types
 - A. Standard Data Types
 - B. Python Numbers
 - C. Python Strings
 - D. What are the differences between tuples and lists in Python?

11. Strings

- A. Lists
- B. Sets
- C. Tuples
- D. Dictionaries
 - i. What is the difference between a list and a dictionary in Python?

12. Functions

- A. Python's Built-In Functions
- B. What are Functions ?

13. Errors and Exceptions

- A. Error Handling in Python
- B. Exception Handling in Python

14. Object Oriented Programming

- A. Definition of OOP in the words of Steve Jobs
- B. OOP example in Python
- C. Features of Object Oriented Programming (OOP)

Section III Programs

15. Practice Programs

- A. Ideas for Additional Network Programs