

Course Title: Python 3.1 for Red Hat Linux / Windows

Duration: 3 days

This course offers coverage to python language

Program objectives

Some of the key skills you will gain upon completion of this program include:

- Basic Language Syntax
- Collection
- Object Oriented Features in Python
- Working with inbuilt database support (SQLite)

Prerequisite

This course is for the beginners. The participants need not have any prior exposure to Python programming language. Prior familiarity with some other programming language (such as Java or C++) would be useful, but it is not mandatory.

Audience

The course coverage and pace would vary slightly, depending on the composition of the batch. If the training is for participants who are already familiar with some other object-oriented programming language, such as C++ or Java, the initial parts covering the basic language constructs as well as introduction to the OO concepts could be completed faster, and more time could be spent on some of the advanced aspects of the course.

If the training is for a batch of participants who are new to any programming language, then even the basic language constructs would require more detailed explanation and practice work, and coverage of some of the later, advanced topics would be curtailed.

Set up Requirements

Computer with the following software

Operating System: Red Hat Linux or Windows XP / Windows Server

Python 3.1

Day Wise Break Up

Day	Module	Topics
Day 1	Module 1	Introduction to Python
	Module 2	Simple Program
	Module 3	Basic Language Construct
	Module 4	Control Structure
	Module 5	Functions
Day 2	Module 6	Data Structures
	Module 7	Modules
	Module 8	Object Oriented Programming
	Module 9	Files
	Module 10	Exception Handling
Day 3	Module 11	Database Connectivity using SQLite database file
	Module 12	Socket Programming
	Module 13	Threading

Course Outline

Module 1: Introduction to Python

- Introduction to Python
- Features of Python
- Why Python

Module 2: Simple Program

- Python shell
- Python command
- Prepare source File and execute the code
- Print “Hello World”
- Comments
- Help command

Module 3: Basic Language Constructs

- Data types and Variables
- String type
- Format method
- Operators and Expressions
- Indentation

Module 4: Control Structure

- If
- While loop
- For loop
- Break & Continue Statements

Module 5: Functions

- Simple Function declaration
- Function with parameter
- Variable Scope
- The “global” statement
- Function with default arguments
- Function with return type

Module 6: Data Structures

- List
- Tuple
- Dictionary
- Sequences
- Set

Module 7: Modules

- What is module?
- Use of modules
- Import statement
- Global and local module
- Standard library module
- User defined modules
- The dir() Function

Module 8: Object Oriented Programming Concepts

- Introduction to object oriented concepts
- Classes and Objects
- The “self” keyword
- Methods and Attributes
- Constructor and Destructor
- Instance and static member
- Class Inheritance
- Super keyword

Module 9: Files

- What is File Input output?
- How to open a file
- How to close a file
- Read and write data to a file
- Pickle Module

Module 10: Exception Handling

- What is an Exception?
- Run time Exceptions
- try ... except statements
- Multiple except statements
- Clean up statement (finally)
- Raised exceptions
- User defined exceptions

Module 11: Database connectivity using SQLite database file

- Introduction to SQLite database file
- Connection class
- Cursor
- Execute method
- Fire the SQL statements like select, Insert, Update, Delete
- Write parametrized query
- Join

Module 12: Socket Programming

- What is Socket Programming?
- What is protocol?
- Types of protocol
- What is “host” and “port”
- socket class
- methods of socket class
- type of socket

Module 13: Threading

- What is process?
- What is thread?
- Thread class
- Life cycle of a thread
- Methods of thread class
- Time class
- Synchronization
- Lock class methods