



Python

Duration 3 day(s) (PYTHON)

Python basics

Description

Python is a modern programming language created by Guido van Rossum in the late 80s. It is an interpreted, multi-paradigm and multiplatform programming language. It is often appreciated, at first, for its clear syntax allowing an easy initiation to the basic concepts of programming. The strength of Python resides in these numerous specialized libraries developed by a community of contributors very active in various fields such as web development, scientific numerical computation, education, software development or business applications. Python is particularly used in the field of data science thanks to the power of its Numpy package (Numerical Python) and to the simplicity of its syntax which allows, for example, to communicate easily with big data (Apache Spark with PySpark) or deep learning (TensorFlow) environments.

Goals

- Learn and practice the basics of Python
- Be fluent and quickly operational in Python

Public

Analysts, Developers, Architects, Data Scientist

Prerequisites

Knowledge in programming

Structure

50% Theory, 50% Practice

Program

Getting started

- General presentation of the language
- Tools to code in Python
- Package overview

Data Structures

- Python basics
- Lists
- Tuples
- Strings
- Dictionaries
- Sets

Control Structures

- Conditions
- Loops
- Errors and Exceptions

Functions

- Generality and Syntax
- Arguments
- *Lambda* Functions and List Comprehensions
- Documentation *Docstring*

Inputs and outputs

- Standard inputs and outputs
- Files
- Command line arguments

Packages and Modules

- Install a package/module
- Load a package/module
- Create your own package/module

Object Oriented Programming

- Class and Object in Python
- Inheritance and Polymorphism
- Visibility

Industrialization

- Debuging
- Unit testing
- Profiling
- Deployment

Advanced Programming in Python

- Best practices
- Abstract Class, Metaclasses, Multiple Inheritance
- Function Currying
- Decorators