

Python â 6-Month Course

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What is Python?

Python is a dynamically-typed, readable language that has become the default choice for scripting, web backends, data work and machine learning. Its huge standard library and ecosystem mean you spend less time fighting the language and more time solving the actual problem.

What you'll learn

- Write clean, idiomatic Python using the language's own conventions (PEP 8)
- Work comfortably with files, JSON, CSV and third-party APIs
- Structure a real project with modules, virtual environments and tests
- Ship a working Flask/FastAPI service or a packaged CLI tool

6-month curriculum

Month 1: Foundations

Get comfortable with Python's syntax and its REPL.

- Variables, types and control flow
- Functions and default arguments
- Running scripts and the REPL
- Reading a traceback

Month 2: Data Structures

Work with Python's built-in collections properly.

- Lists, tuples, dicts and sets
- Comprehensions
- Working with files
- String formatting

Month 3: Object-Oriented Python

Structure larger programs with classes and modules.

- Classes and inheritance

- Dunder methods
- Decorators
- Modules and packages

Month 4: Working with Data

Pull real data into your programs.

- Reading CSV and JSON
- Calling APIs with requests
- An intro to pandas
- Basic data cleaning

Month 5: Testing & Tooling

Write Python the way a team would.

- Virtual environments and pip
- Testing with pytest
- Debugging with pdb
- Packaging a small project

Month 6: Capstone Project

Ship something real.

- Build a Flask/FastAPI service or a CLI tool
- Handle errors and edge cases
- Write basic tests for it
- Deploy or package it for others to run