

Python Full-Stack Developer

A job-ready, fully online program that takes you from Python foundations to deploying real full-stack applications — Python, Django REST APIs, React.js, databases, authentication, and cloud deployment.

Build a portfolio and get interview-ready.

Total: 60–65 Hours

Free Foundation: 15 Hours

Job-Ready Program: 45–50 Hours

Online & Live

Certificate

Free Foundation — 15 Hours

Start learning for free. Build your core Python and web development foundations.

Module 1: Programming Foundations with Python

Estimated Time: 5 Hours

Learning Objectives

- Write and run Python programs confidently
- Use core programming logic to solve problems

Topics

- Python setup, syntax, and variables
- Data types, operators, and strings
- Conditionals, loops, and functions

Hands-on

- Build a command-line calculator and number-guessing game

Assessment: Quiz + Coding Exercises

Module 2: Python Data Structures & OOP

Estimated Time: 5 Hours

Learning Objectives

- Work with Python's built-in data structures
- Model real-world entities using OOP

Topics

- Lists, tuples, dictionaries, and sets
- Classes, objects, and inheritance
- Modules, exceptions, and file handling

Hands-on

- Build a contact book with object-oriented design

Assessment: Quiz + Lab

Module 3: Version Control with Git & GitHub

Estimated Time: 3 Hours

Learning Objectives

- Track code changes with Git
- Collaborate using GitHub workflows

Topics

- Repositories, commits, and branches
- Merging, pull requests, and conflict resolution
- Building a professional GitHub profile

Hands-on

- Push your first projects to GitHub

Assessment: Quiz + Lab

Module 4: Web Fundamentals (HTML, CSS & JavaScript)

Estimated Time: 2 Hours

Learning Objectives

- Structure and style web pages
- Understand how the web works end-to-end

Topics

- HTML structure and semantic elements
- CSS styling and responsive layouts
- JavaScript basics and the client-server model

Hands-on

- Build a responsive personal profile page

Assessment: Quiz

Paid Job-Ready Program — 45–50 Hours

Go from foundations to fully employable across backend, frontend, databases, and deployment.

Module 5: Advanced Python & Developer Environment

Estimated Time: 4 Hours

Learning Objectives

- Write clean, reusable, professional Python
- Manage projects with virtual environments

Topics

- Virtual environments and pip package management
- List/dict comprehensions, decorators, and generators
- Working with APIs and JSON data

Hands-on

- Build a script that fetches and processes live API data

Assessment: Quiz + Lab

Module 6: Databases with SQL & PostgreSQL

Estimated Time: 5 Hours

Learning Objectives

- Design normalized relational databases
- Query and manipulate data with SQL

Topics

- Relational modeling and schema design
- SQL: SELECT, JOIN, aggregation, and indexing
- PostgreSQL setup and administration basics

Hands-on

- Design and query a PostgreSQL database for a blog app

Assessment: Quiz + Lab

Module 7: Backend Development with Django

Estimated Time: 7 Hours

Learning Objectives

- Build data-driven web applications with Django
- Model data using the Django ORM

Topics

- Django project structure, apps, and settings
- Models, migrations, and the ORM
- Views, URL routing, and the admin panel

Hands-on

- Build the backend for a task-management application

Assessment: Project Milestone

Module 8: Building REST APIs with Django REST Framework

Estimated Time: 5 Hours

Learning Objectives

- Design and build production-grade REST APIs
- Serialize, validate, and paginate data

Topics

- Django REST Framework serializers and viewsets
- CRUD endpoints, routers, and status codes
- Filtering, pagination, and API documentation

Hands-on

- Expose the task-management app as a full REST API

Assessment: Lab

Module 9: Authentication & Authorization (JWT)

Estimated Time: 4 Hours

Learning Objectives

- Secure APIs with token-based authentication
- Control access with roles and permissions

Topics

- User registration and login flows
- JWT access and refresh tokens
- Permissions, roles, and API security best practices

Hands-on

- Add secure JWT authentication to your REST API

Assessment: Lab

Module 10: Frontend Development with React.js

Estimated Time: 7 Hours

Learning Objectives

- Build interactive user interfaces with React.js
- Manage component state and events

Topics

- JSX, components, and props
- State, hooks (useState, useEffect), and event handling
- Lists, forms, and conditional rendering

Hands-on

- Build a responsive React.js UI for the task app

Assessment: Project Milestone

Module 11: Advanced React & State Management

Estimated Time: 5 Hours

Learning Objectives

- Structure scalable React.js applications
- Manage routing and global state

Topics

- React Router and multi-page navigation
- Global state with Context API and reducers
- Reusable components and custom hooks

Hands-on

- Add routing, protected routes, and shared state

Assessment: Lab

Module 12: Full-Stack Integration (React + Django)

Estimated Time: 4 Hours

Learning Objectives

- Connect a React.js frontend to a Django REST backend
- Handle authenticated API communication

Topics

- Consuming REST APIs with fetch/axios
- Handling JWT tokens on the frontend
- CORS, environment variables, and error handling

Hands-on

- Wire the React.js UI to the Django API end-to-end

Assessment: Project Milestone

Module 13: Deployment & DevOps Essentials

Estimated Time: 4 Hours

Learning Objectives

- Deploy full-stack applications to the cloud
- Automate builds with CI/CD basics

Topics

- Containerizing apps with Docker
- Deploying Django and React to cloud platforms
- Environment configuration and CI/CD pipelines

Hands-on

- Deploy your full-stack app live to the internet

Assessment: Lab

Module 14: Capstone Project, Portfolio & Job Readiness

Estimated Time: 5 Hours

Learning Objectives

- Ship a complete, portfolio-ready full-stack application
- Prepare for the developer job search

Topics

- End-to-end capstone project planning and build
- Portfolio, GitHub, and resume optimization
- Technical interview and coding challenge prep

Hands-on

- Build and deploy a capstone full-stack app (React + Django); mock interviews and resume review

Assessment: Capstone Project + Mock Interview

Total Course Duration: 60–65 Hours

Free Foundation (15h) + Paid Job-Ready Program (50h). Includes portfolio projects, resume & interview prep, mock interviews, and a Progmatrix Certificate of Completion. Enroll at www.progmatrix.com