COMPLETE MASTER PROGRAM IN

PYTHON FULL STACK

Build End-to-End Web Applications with Python, Django
and Modern Web Technologies

3 MONTHS | 120 GUIDED HOURS

TOOLS & TECHNOLOGIES YOU WILL LEARN

- Python
- Django
- HTML5
- CSS3
- JavaScript
- React
- Oracle SQL
- Git
- More Tools

DURATION
3 Months

GUIDED HOURS
120 Hours

WHO CAN JOIN?
Students, graduates,
working professionals

PROGRAM APPROACH

Learn Python programming, modern web development, React frontend development, Django backend development, Oracle SQL, REST API integration, Git, testing, security and end-to-end project delivery.

CAREER LAUNCHPAD
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MODULE 01 | 12 Hours | Week 1

Python Programming Fundamentals

MODULE OVERVIEW

Build a strong foundation in Python programming.

TOPICS COVERED

- Python setup and IDE (VS Code)
- Python syntax, data types and operators
- Control flow: if, else and loops
- Functions and modules
- Working with files: read and write
- Libraries: NumPy and Pandas basics

REAL-WORLD EXAMPLE

Process and analyze a CSV file using Python.

PRACTICE PROJECT

Build a command-line data processing utility.

MODULE 02 | 12 Hours | Week 2

Web Development Fundamentals

MODULE OVERVIEW

Learn the core web technologies to build interactive web pages.

TOPICS COVERED

- HTML5: structure and semantic tags
- CSS3: styling, layout and responsiveness
- JavaScript: core concepts and DOM
- Bootstrap: responsive UI design
- Web page design best practices
- Form handling and validation

REAL-WORLD EXAMPLE

Create a responsive portfolio web page.

PRACTICE PROJECT

Build a multi-page responsive website using HTML, CSS and JavaScript.

MODULE 03 | 18 Hours | Weeks 3–4

Frontend Development with React

MODULE OVERVIEW

Build modern, interactive user interfaces using React.

TOPICS COVERED

- React setup and project structure
- Components, props and state
- Hooks: useState, useEffect and related hooks
- Routing with React Router
- API integration using REST
- Form handling and validation

REAL-WORLD EXAMPLE

Build a dynamic product list using a public API.

PRACTICE PROJECT

Create a responsive frontend for a real web application.

MODULE 04 | 18 Hours | Weeks 5–6

Backend Development with Django

MODULE OVERVIEW

Build robust and secure backend applications using Django.

TOPICS COVERED

- Django architecture and project setup
- Models, views, templates and URLs
- Django Admin and database operations
- Forms, validation and file handling
- User authentication and authorization
- REST API creation with Django REST Framework (DRF)

REAL-WORLD EXAMPLE

Build a user registration and login system.

PRACTICE PROJECT

Develop a RESTful CRUD application, such as task or blog management.

MODULE 05 | 12 Hours | Week 7

Oracle Database (SQL)

MODULE OVERVIEW

Learn to work with Oracle Database for real-world, enterprise applications.

TOPICS COVERED

- Oracle Database introduction
- SQL fundamentals: DDL, DML and DQL
- Queries, joins and subqueries
- Indexes, views and sequences
- SQL performance basics
- Integration with Python and Django

REAL-WORLD EXAMPLE

Design and implement a database for a web application.

PRACTICE PROJECT

Build an Oracle database schema and integrate it with a Django app.

MODULE 06 | 12 Hours | Week 8

API Development & Integration

MODULE OVERVIEW

Build and consume APIs to enable communication between frontend and backend.

TOPICS COVERED

- REST API concepts and design
- Building APIs with Django REST
- API authentication: Token and JWT
- Consuming APIs in React using Axios or Fetch
- Error handling and best practices

REAL-WORLD EXAMPLE

Create a REST API for product management and consume it in React.

PRACTICE PROJECT

Build and integrate REST APIs for a full stack application.

MODULE 07 | 8 Hours | Week 9

Version Control with Git

MODULE OVERVIEW

Use Git and GitHub for version control, team collaboration and project management.

TOPICS COVERED

- Git basics: init, add, commit, push and pull
- Branching, merging and conflict resolution
- Working with GitHub: repositories and pull requests
- Collaborative development workflow
- Using .gitignore and best practices

REAL-WORLD EXAMPLE

Collaborate on a project using GitHub with a branch-and-merge workflow.

PRACTICE PROJECT

Manage your full stack project code using Git and GitHub.

MODULE 08 | 8 Hours | Week 10

Testing & Code Quality

MODULE OVERVIEW

Ensure application quality, reliability and maintainability.

TOPICS COVERED

- Unit testing in Python using unittest or pytest
- Testing Django applications
- Frontend testing basics with React Testing Library
- Code quality and best practices
- Debugging and error handling

REAL-WORLD EXAMPLE

Write and run unit tests for key application modules.

PRACTICE PROJECT

Add unit tests for backend APIs and frontend components.

MODULE 09 | 8 Hours | Week 11

Security & Best Practices

MODULE OVERVIEW

Apply security and industry best practices to build production-ready applications.

TOPICS COVERED

- Web application security fundamentals
- Authentication and authorization (RBAC)
- Input validation and SQL injection prevention
- XSS, CSRF and other common vulnerabilities
- Secure configuration and environment handling
- Code quality, testing and project structure

REAL-WORLD EXAMPLE

Review an application for common security risks.

PRACTICE PROJECT

Apply secure configuration and input validation to the full stack application.

MODULE 10 | 8 Hours | Week 12

End-to-End Full Stack Project

MODULE OVERVIEW

Build and deliver a complete, real-world full stack application.

TOPICS COVERED

- Requirement analysis and system design
- Database design using Oracle SQL
- Backend development with Django and DRF
- Frontend development with React
- API integration and testing
- Project development, testing and documentation

REAL-WORLD EXAMPLE

Deliver a working full stack application for a real business need.

PRACTICE PROJECT

Build and demonstrate a complete Python Full Stack application.

MODULE 11 | 4 Hours | Week 12

Career Preparation

MODULE OVERVIEW

Get job-ready with practical preparation and industry guidance.

TOPICS COVERED

- Resume building for Python Full Stack roles
- GitHub portfolio and project showcase
- Technical interview preparation: Python, Django, React, SQL and Oracle
- Coding practice and problem solving
- Mock interviews and career guidance

REAL-WORLD EXAMPLE

Present your portfolio and explain key technical decisions.

PRACTICE PROJECT

Prepare a resume, GitHub portfolio and final project walkthrough.

KEY LEARNING OUTCOMES & CAREER OPPORTUNITIES

KEY LEARNING OUTCOMES

- ✓ Build end-to-end web applications using Python and Django
- ✓ Develop interactive and responsive UIs with React
- ✓ Design and work with Oracle Database (SQL)
- ✓ Create and integrate REST APIs using DRF
- ✓ Follow security, testing and coding best practices
- ✓ Build a real-world project and a strong portfolio

CAREER OPPORTUNITIES

- ➤ Python Full Stack Developer
- ➤ Django Developer
- ➤ React Developer
- ➤ Backend Developer (Python)
- ➤ Frontend Developer (React)
- ➤ Web Application Developer
- ➤ Application Developer
- ➤ Software Engineer
- ➤ Junior Full Stack Developer
- ➤ Associate Software Engineer

BUILD SKILLS | GAIN EXPERIENCE | LAUNCH YOUR CAREER