



We Build Professionals

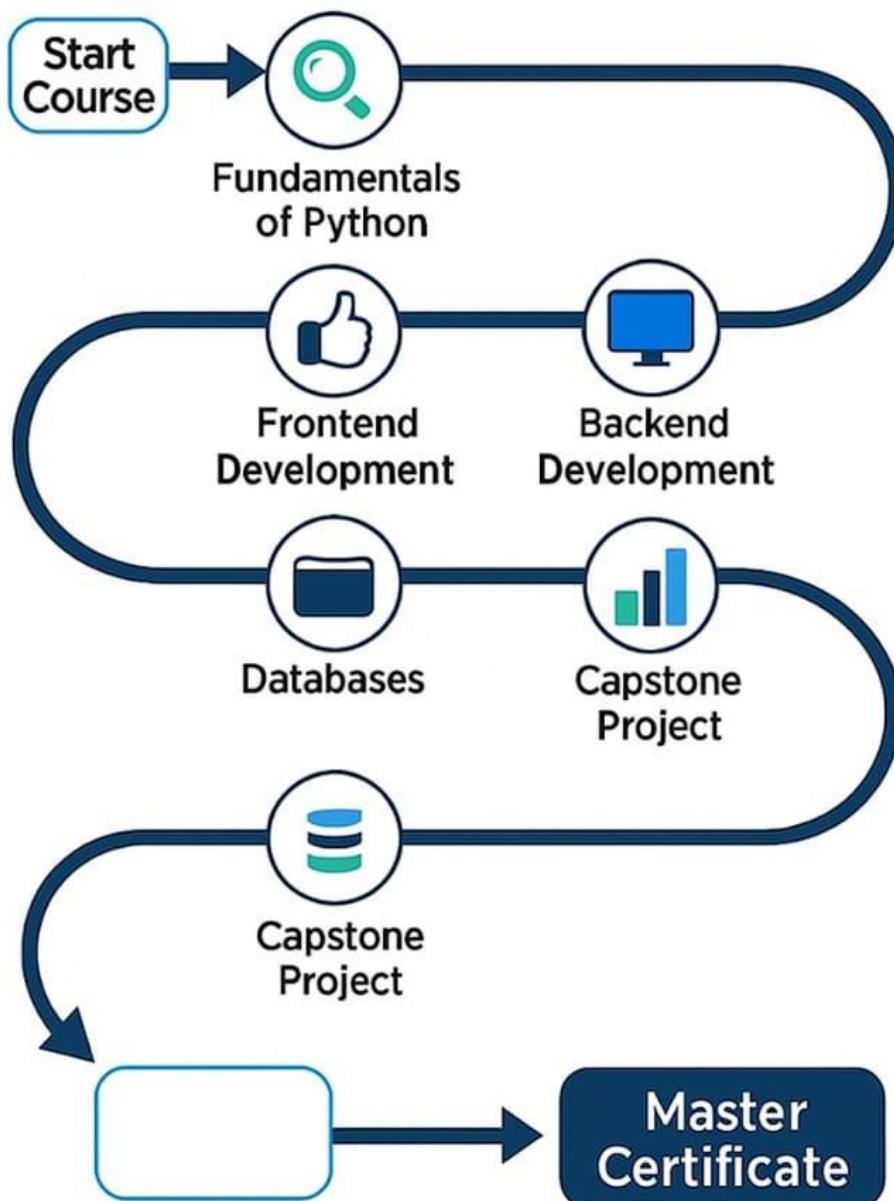
PYTHON FULL STACK

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Modules of Python Full Stack



🎓 Python Full Stack Development – Master Curriculum

◊ Module 1: Core + Advanced Python (4 Weeks)

Topics:

- Python Setup, Syntax, Indentation
- Data Types: int, float, str, list, tuple, dict, set
- Conditional Statements
- Loops: for, while, nested
- Functions & Lambda
- List Comprehension
- Exception Handling
- File Handling (Text, JSON, CSV)
- OOP: Class, Object, Inheritance, Polymorphism
- Python Modules & Packages
- Virtual Environment & `pip`

◊ Module 2: Version Control & Team Workflow (1 Week)

Topics:

- Git CLI: init, commit, branch, merge
- GitHub Repository Management
- Forking, Pull Requests
- `.gitignore`, SSH Key Setup
- Intro to Agile & Jira

◊ Module 3: Web Development Fundamentals (4 Weeks)

HTML5

- Semantic Tags
- Forms & Inputs
- Media Integration (Image, Video, Audio)

 CSS3

- Selectors, Box Model, Flexbox, Grid
- Animations, Transitions
- Media Queries

 Bootstrap 5

- Grid System
- Components: Cards, Navbars, Modals

 JavaScript (Core + ES6)

- Variables, Functions, Loops
- DOM Manipulation
- Event Handling
- Form Validation
- Arrow Functions, Spread, Destructuring
- `fetch()` API

◊ **Module 4: React JS (4 Weeks)**

Topics:

- JSX, Components, Props & State
- useEffect & useState
- Events & Forms
- React Router DOM
- Axios for API Calls
- Component Reusability
- Controlled vs Uncontrolled Forms
- Project: React Frontend with API Integration

◊ Module 5: Backend with Django Framework (5 Weeks)**Topics:**

- Django Setup & Structure
- MVT Architecture
- App Routing, Views, Templates
- Django Template Language
- Forms & ModelForms
- Django ORM Basics
- Admin Panel Customization
- Static & Media File Handling
- User Authentication: Signup, Login, Logout
- Messages, Sessions, Cookies
- Role-Based Access Control (RBAC)

◊ Module 6: MySQL (Relational Database) – 2 Weeks

Topics:

- RDBMS Overview
- MySQL Installation & Workbench
- SQL Basics: SELECT, INSERT, UPDATE, DELETE
- Joins: INNER, LEFT, RIGHT
- GROUP BY, ORDER BY, HAVING
- Constraints: PK, FK, UNIQUE
- Normalization (1NF–3NF)
- Integrating MySQL with Django ORM
- Raw SQL in Django

◊ Module 7: MongoDB (NoSQL Database) – 2 Weeks**Topics:**

- NoSQL vs SQL Overview
- Documents, Collections
- CRUD: insertOne, find, update, delete
- Nested Documents, Arrays
- Aggregation Pipelines
- MongoDB Atlas Setup
- Integrating MongoDB with Django using Djongo or MongoEngine

◊ Module 8: API Development using Django REST Framework – 2 Weeks**Topics:**

- REST API Concepts
- Serializers, ViewSets, Routers
- CRUD APIs with DRF
- Token Authentication (DRF or JWT)
- API Testing with Postman
- Consuming APIs in React

◊ **Module 9: Full Stack Integration (React + Django + DBs)**

Topics:

- Full Project Setup
- CORS Setup
- API Integration with React
- Auth Flow with JWT or Session-Based Auth
- Deployment-Ready Configuration

◊ **Module 10: Deployment (2 Weeks)**

Topics:

- Preparing App for Production
- Django Deployment:
 - PythonAnywhere (Basic)
 - Render / Railway (Modern)
- MongoDB Atlas Cloud Hosting
- Connecting Custom Domain
- Serving Static Files

- `.env` & Secret Management

◊ **Module 11: Final Projects (4 Weeks)**

Projects:

-  E-commerce Platform
-  Blog System
-  LMS (Learning Management System)
-  Job Portal
-  Admin Dashboard with Charts
- All integrated with MySQL or MongoDB