

SkillZen Institute

Python full stack

1. Frontend Development (HTML, CSS, JavaScript)

HTML & CSS

- HTML Basics (Tags, Forms, Tables, Divs, Span)
- CSS Basics (Selectors, Box Model, Flexbox, Grid)
- CSS Frameworks (Bootstrap, Tailwind CSS)
- Responsive Web Design

JavaScript & Frontend Framework

- JavaScript Basics (Variables, Data Types, Functions, ES6 Features)
- DOM Manipulation & Events
- Fetch API & Async Programming
- Frontend Framework (React.js or Angular)
- React Components, Props, State, Hooks, Routing

2. Python Backend Development (Django/Flask)

Core Python

- Python Basics (Variables, Loops, Functions, OOP)
- Exception Handling & Modules
- File Handling
- Python Libraries (Requests, JSON, etc.)

Django or Flask (Backend Framework)

- Introduction to Django/Flask
- Project Structure & Routing
- Views, Templates, Static Files
- Django Models & ORM (Object Relational Mapping)
- Django Admin Panel
- Middleware & Security Features
- RESTful API Development with Django REST Framework (DRF)

3. Database Management

SQL (MySQL/PostgreSQL)

- Database Basics (Tables, Keys, Relationships)
- SQL Queries (CRUD Operations)
- Joins, Indexing, Transactions

NoSQL (MongoDB)

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- Introduction to MongoDB
- Collections & Documents
- CRUD Operations in MongoDB
- Connecting MongoDB with Python

4. Authentication & Authorization

- User Authentication (JWT, OAuth, Django Authentication)
- Session Management
- Role-Based Access Control (RBAC)

5. Deployment & DevOps

- Web Server & Hosting (Nginx, Gunicorn)
- Deployment on AWS, Heroku, or DigitalOcean
- Docker & Containerization
- CI/CD Pipeline (GitHub Actions, Jenkins)
- Version Control with Git & GitHub

6. Advanced Topics

- Web Scraping with BeautifulSoup & Selenium
- Celery for Task Scheduling
- WebSocket & Real-time Communication
- Microservices Architecture