WOTMERS TECHNOLOGIES LTD

Software Engineering — Backend

Power Web Applications with Robust Server-Side Architecture

Duration	Level	Course Fee	Delivery
10 Weeks (Full-Time) / 20 Weeks (Part-Time)	Beginner to Intermediate	NGN 60,000	In-Person | Abuja & Kaduna

Course Overview

The Backend Software Engineering programme teaches students to build the server-side logic, databases, and APIs that power modern web applications. Using Python with the Django framework alongside Node.js/Express, students learn how to design RESTful APIs, model relational and non-relational databases, implement authentication systems, and deploy production-ready applications. The course covers software engineering best practices including testing, CI/CD, and cloud deployment.

Course Curriculum

Week	Topic	What You Will Learn
Wk 1	**Python for Backend Development**	Python refresher, OOP principles, modules, pip, virtual environments, file I/O, error handling
Wk 2	**Databases & SQL**	Relational databases, SQL (DDL/DML), CRUD operations, joins, indexing, PostgreSQL setup
Wk 3	**Django Fundamentals**	MTV architecture, URL routing, views, templates, models, Django ORM, migrations, admin panel
Wk 4	**Django REST Framework (DRF)**	Serializers, API views, ViewSets, routers, pagination, filtering, authentication (Token/JWT)
Wk 5	**Node.js & Express.js**	Node.js runtime, event loop, NPM, Express routing, middleware, request/response cycle
Wk 6	**NoSQL Databases & MongoDB**	Document model, CRUD in MongoDB, Mongoose ODM, schema design, aggregation pipelines
Wk 7	**Authentication & Security**	Password hashing (bcrypt), JWT, OAuth 2.0, session management, API rate limiting, CORS
Wk 8	**Software Testing**	Unit tests, integration tests, Pytest/Jest, TDD principles, mocking, test coverage

Wk 9	**Deployment & DevOps Basics**	Linux CLI, Docker containers, Nginx, Gunicorn, CI/CD pipelines, Heroku / Railway / AWS EC2
Wk 10	**Capstone Project & Career Prep**	Full REST API project (Django or Node), documentation with Swagger, GitHub portfolio, interviews

Learning Outcomes

By the end of this course, students will be able to:

- ✓ Design and build RESTful APIs with Django and Node.js
- ✓ Model relational and non-relational databases effectively
- ✓ Implement secure authentication and authorisation systems
- ✓ Write automated tests for backend applications
- ✓ Deploy applications to cloud platforms using Docker
- ✓ Manage code with Git and follow CI/CD best practices
- ✓ Write clear API documentation for frontend teams
- ✓ Solve real-world backend engineering problems

Tools & Technologies Covered

Python	**Django / DRF**	**Node.js / Express**	**PostgreSQL**
MongoDB	**Docker**	**Nginx**	**Git / GitHub**
Postman	**Pytest / Jest**		

Career Opportunities

- ➤ Backend Developer
- ➤ API Developer
- ➤ Django Developer
- ➤ Node.js Developer
- ➤ Junior DevOps Engineer
- ➤ Junior Full-Stack Developer

Ready to enrol? Visit wotmerstechnologies.com/register.html | Email: wotmersinfo@gmail.com | WhatsApp: +234 8125604035