

Ayman Ibrahim Seddik

Java Backend Developer

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PROFESSIONAL SUMMARY

Java Backend Developer ranked 1st in the Computer Science and Physics Department at Zagazig University, with 3 end-to-end backend systems built using Java, Spring Boot, and MySQL. Specializes in secure API development, stateless JWT authentication, and strict Clean Architecture principles. Focused on advanced concurrency handling and automated testing (JUnit/Mockito). Proficient in Docker, GitHub Actions CI/CD, and Swagger/OpenAPI.

TECHNICAL SKILLS

Programming Languages: Java (Java 21, Java 17)

Backend Frameworks: Spring Boot, Spring MVC, Spring Security, Spring Data JPA

API and Architecture: RESTful API Development, JWT Authentication, Role-Based Access Control (RBAC)

Data Access & ORM: Hibernate, JPA, JDBC, MapStruct, Flyway

Databases: MySQL, MongoDB, SQL, Relational Database Design, Data Modeling

Testing: JUnit 5, Mockito, MockMvc, Unit Testing, Integration Testing

DevOps and Tools: Docker, Git, GitHub, Maven, CI/CD, GitHub Actions, Swagger, OpenAPI, Postman

Methodologies: Agile, Scrum, SDLC, Clean Architecture, Object-Oriented Programming (OOP)

Other: Angular, HTML5, CSS3, JavaScript, TypeScript, Bootstrap

PROJECTS

Hospital Management System

[GitHub ↗](#)

Stack: Java 21, Spring Boot, Spring Security, MySQL, JWT, JPA/Hibernate, MapStruct, Docker, Swagger

- Architected 40+ secure RESTful API endpoints with JWT authentication and RBAC across 2 user roles (Admin, Doctor), establishing automatic admin account initialization on startup.
- Designed a normalized 3NF relational schema across 11 entities (Patients, Doctors, Clinics, Departments, Medications, Visits, Prescriptions, Prescription Items, Invoices, Invoice Items, Users), eliminating data redundancy and ensuring referential integrity.
- Validated 100% of API endpoints via automated JUnit 5, Mockito, and MockMvc integration tests with Swagger (OpenAPI) documentation; deployed through a GitHub Actions CI/CD pipeline with JaCoCo coverage reporting.

Mini Banking System

[GitHub ↗](#)

Technologies: Java 21, Spring Boot, Spring Security, MySQL, JWT, JPA/Hibernate, Docker, Swagger

- Delivered 12+ REST endpoints covering registration, multi-account management, deposits, withdrawals, and fund transfers with configurable per-transaction and daily transfer limits, enforcing input validation across all request payloads.
- Configured stateless JWT-based authorization via Spring Security with Java 21 Virtual Threads, removing server-side session storage and enabling scalable high-concurrency request handling without session overhead.
- Applied Pessimistic Write Locking with consistent account-ordering deadlock prevention on all balance-modifying operations, ensuring data integrity and eliminating race conditions under concurrent load.
- Modeled a highly efficient database schema across 5 tables; automated continuous integration and JaCoCo coverage via GitHub Actions CI/CD; published interactive API documentation via Swagger UI.

E-Commerce Application

[GitHub ↗](#)

Environment: Java 21, Spring Boot, Spring Security, MySQL, JWT, Spring Data JPA, Flyway, MapStruct, Docker, Swagger

- Developed 18+ RESTful endpoints across 5 core controllers (Auth, Products, Categories, Cart, Orders), applying Clean Architecture principles to decouple business logic from framework dependencies.
- Implemented a secure authentication layer using Spring Security and JSON Web Tokens, enforcing strict Role-Based Access Control (RBAC) boundaries for Admin and User workflows.
- Structured a normalized relational data model across 8 tables with Flyway migrations and strategic performance indexing, optimizing Spring Data JPA queries for scalable product catalogs and order management.
- Streamlined application deployment using multi-stage Docker builds; integrated MapStruct for type-safe DTO mapping, and documented all endpoints interactively with Swagger/OpenAPI 3.0.

EDUCATION

Bachelor of Science in Computer Science and Physics

Zagazig University, Zagazig, Egypt • Graduated 2025 • **Ranked 1st in Department**

CERTIFICATIONS

- Software Engineering Trainee — National Telecommunication Institute (NTI), 2026
- Java Development SE (Java Standard Edition) — Mahara Tech, MCIT, Egypt, 2025
- Java Database Connectivity (JDBC) — Mahara Tech, MCIT, Egypt, 2025
- Database Fundamentals (SQL, Normalization, Relational Databases) — Mahara Tech, MCIT, Egypt, 2025
- Full Stack Development Trainee — Bravo Institute, 2023

LANGUAGES

Arabic — Native • **English** — Professional Working Proficiency