# PRD: Coupon Code System with Authentication and UI (Senior Role)

**Deadline**

24 Hours

**Objective**

As a Senior Software Engineer, you are expected to architect, implement, and document a full coupon system with secure authentication, scalable backend (Flask), frontend (React), and detailed documentation. The system should be robust, secure, and follow modern software design patterns.

**Requirements**

1. JWT-based Auth with Role Management

2. Coupon Management for Admins

3. Public and Private Coupons

4. Redemption tracking

5. Modular, scalable code structure

6. Optional: Docker setup and database migrations

**Bonus Expectations**

- ERD diagram

- High-level architectural diagram

- Well-documented codebase

- Test coverage (unit/integration)

- CI/CD script or explanation

**Architecture Overview**

Create an architecture diagram showing:

- Flask backend

- PostgreSQL or SQLite database

- React frontend

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- JWT flow

- Admin vs. User separation


Diagram should illustrate:

- Auth flow

- API gateway or Flask routes

- Data flow during coupon creation and redemption


## ERD (Entity Relationship Diagram)

Include an ERD showing:

- Users table

- Coupons table (with public/private and metadata)

- Redemptions table (many-to-one to coupons and users)

- Admin/user role distinction


## Deliverables (within 24 hrs)

- Flask backend (JWT, modularized, testable)

- React UI with basic design

- README with setup instructions and API documentation

- Architecture Diagram (PNG/JPG)

- ERD (PDF or PNG)

- Postman Collection or API script

- Bonus: Docker Compose and Test Coverage Report