

**Objective:**

Build the backend for a basic **Learning Management System (LMS)** where users can sign up, view courses, enroll, and track their learning progress.

**Requirements:****1. User Authentication**

- Users can **sign up** and **log in** (JWT-based).
- Only logged-in users can enroll in courses or track progress.

**2. Courses**

- Admin can create courses with:
  - Title, description, instructor name, and price.
- Any user can:
  - View all available courses.
  - View a single course with its **lessons** and **quizzes**.
  - Enroll in a course.

**3. Lessons**

- Each course contains multiple lessons.
- Each lesson includes:
  - A title
  - A video URL
  - Optional resource links

#### 4. Quizzes

- Each course includes one or more quizzes.
- Each quiz contains multiple **questions**.
- Each question has:
  - Text
  - Multiple-choice options (with one correct answer)

#### 5. Progress Tracking

- Users can:
  - Mark lessons as completed.
  - Attempt quizzes (multiple attempts allowed).
  - See their quiz **scores per attempt**.
  - View their overall course progress (e.g., % completed).

#### Tech Stack (Recommended)

- **Backend:** Node.js with Express (or Python with FastAPI)
- **Database:** PostgreSQL or MongoDB
- **Auth:** JWT

#### Bonus Points:

- Pagination for task listing
- API rate-limiting or basic input validation middleware
- **Deploy the API on Heroku** (or any hosting service) and provide the live API URL