

ONLINE COURSE HUB

The project entitled as “Online Course Hub” is a full-stack web application developed for building an interactive platform where students can explore, enroll in, and complete online courses, while instructors can create and manage course content. This system is developed to mimic a mini version of e-learning platforms such as Udemy or Coursera, supporting multi-user interaction and role-based functionalities.

The platform consists of three main roles—Admin, Instructor, and Student. Instructors can create courses with multiple modules and lessons, upload educational videos, and attach supplementary documents. Students can browse available courses, enroll, view lessons, and track their progress. Admin users can monitor all activity on the platform, manage users and content, and generate platform-wide reports.

The application is developed using Django as the backend framework with Django REST Framework to provide RESTful APIs, and Angular for building a dynamic and responsive frontend interface. JSON Web Tokens (JWT) are used for secure user authentication, while PostgreSQL (or SQLite for development) is used as the relational database for persistent storage.

This project demonstrates the implementation of user roles, authentication, file uploads, course content structuring, progress tracking, and responsive UI design using modern web technologies.

Technologies used: HTML, CSS, Angular, TypeScript, Django, Django REST Framework, PostgreSQL

Requirements

Hardware:

1. Processor: 2.0 GHz Pentium or higher
2. RAM: Minimum 4GB
3. Hard Disk: Minimum 250GB

Software:

1. PyCharm (Community Edition)
2. VSCode
3. Angular CLI
4. PostgreSQL (or SQLite for development)

Modules

1. Admin
 - a. Manage users and roles
 - b. Manage all courses and content
 - c. View reports and statistics
2. Instructor
 - a. Create and manage courses/modules/lessons
 - b. Upload video lessons and files
3. Student
 - a. Browse and enroll in courses
 - b. View lessons and Track course progress

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