E-Learning Platform Project Summary

E-Learning Platform Progress Summary

1. Project Overview:

The E-Learning Platform is being built using a microservices architecture powered by Java and Spring Boot. It is designed to manage user registration, authentication, and service discovery, with plans to add more modules later.

2. Architecture and Tools Used:

- Java 17 (JDK 17.0.12)
- Spring Boot 3.4.4
- Spring Cloud (2024.0.1)
- Microservices: User Service, API Gateway, Eureka Server
- Database: MySQL with Workbench setup locally
- Build Tool: Maven (3.9.9)
- IDE: Eclipse
- Source Control: Git & GitHub

3. Implemented Components:

- Eureka Server (Port 8761): For service registration and discovery.
- API Gateway (Port 8080): Central routing entry point to forward requests to microservices.
- User Service (Port 8081):
  * Includes REST controllers for user registration and login.
  * Connected to a MySQL database ('user_service_db').
  * Uses Spring Data JPA, Lombok, and Security.
  * Registration endpoint: POST /auth/register
  * Login endpoint: POST /auth/login

4. Configuration Highlights:

- application.yml is configured for each service with proper ports and Eureka registration.
- MySQL connection is configured in User Service.

- Spring Security added for basic authentication.
- Maven dependencies managed in pom.xml for each module.

5. GitHub Setup:

- Local project initialized with Git.
- Repository name: E-learning (https://github.com/sivasaikiranakula/E-learning)
- Initial commit pushed with all services.

6. Issues Resolved:

- Missing dependencies and build failures due to incorrect connector versions.
- Annotation scanning issues resolved by correcting package structure.
- Database and entityManagerFactory setup fixed for JPA compatibility.
- Maven & JDK version mismatches resolved by switching to JDK 17.

7. What's Next:

- Add more services like Course, Enrollment, and Notification.
- Implement frontend or expose APIs via Swagger/OpenAPI.
- Secure services with JWT tokens.