

Node.js and Angular Application for User and Course Management

The goal of this project is to develop a web application using Node.js and Angular that allows users to manage courses and users within a system. The project will involve creating various interfaces and implementing specific functionalities for each user role.

Interface Definitions:

1. **UserRole Enum:** This enumeration defines the roles a user can have within the system. The roles include Admin and End User.
2. **User Interface:** The User interface represents the user entity and contains properties such as role, email, password, first name, last name, age, city, country, phone, repository, languages, picture, resume, and courseIds. The languages property is an array of label-value pairs representing the user's language proficiency. The picture and resume (this must be uploaded as a PDF) properties will be stored as binary data.
3. **Course Interface:** The Course interface represents a course and includes properties like title, description, modules, startDate, endDate, and userIds. The modules property is an array of CourseModule objects, and the userIds property represents the users assigned to the course.
4. **CourseModule Interface:** The CourseModule interface represents a module within a course. It includes properties such as title, description, lectures, startDate, and endDate. The lectures property is an array of CourseModuleLecture objects.
5. **CourseModuleLecture Interface:** The CourseModuleLecture interface represents a lecture within a module. It includes properties like title, date, and userGrades. The userGrades property is an array of UserGrade objects.
6. **UserGrade Interface:** The UserGrade interface represents the grade assigned to a user for a specific lecture. It includes properties such as userId and grade.

Functionality Based on User Roles:

1. Admin Role:

- **Create User:** Can create a new user with all the required details. When a user is created, an email should be sent to the user with the email and password inside.
- **User Management:** Admins have access to a separate page displaying a table with all users. The table will have columns for user information such as picture, email, first name, last name, and phone and button columns for updating, deleting a user and a button for downloading the user resume.
- **Create Course:** Can create a course with all the necessary information, excluding the grades.
- **Course Management:** Admins have access to a separate page displaying a table with all courses. The table columns include title, startDate, endDate, and button columns for updating, deleting a course and a button column for grade assignment .
- **Grade Assignment:** Admins have the ability to assign grades to users for specific lectures within a course:
 - When an admin clicks on the grade assignment button in the above table it navigates to the grade assignment page, where they see a table displaying all the lectures available for a selected course. The table will have columns for lecture information, such as title and date.
 - Each row in the table represents a lecture, and the Admin can click on a lecture to navigate to a separate page for grade assignment.
 - Upon clicking on a lecture, the Admin will be redirected to a new page specifically for assigning grades to users for that selected lecture.
 - The new page will display a table with all the users enrolled in the course, including columns for user information such as picture, email, first name, last name, and phone.
 - In addition to the user information columns, there will be an additional column for entering the grade.
 - The grade column will contain input fields, allowing the Admin to input the grade for each user in the corresponding lecture row.
 - The Admin can input the grades for multiple users at once by filling in the respective input fields.

- After assigning the grades, the Admin can save the changes, which will update the grades for the selected lecture and users.
- The Admin can then navigate back to the lecture table page to assign grades for other lectures within the course.

2. End User Role:

- Course Overview: When an End User logs in, they can view a table displaying all their assigned courses. The table columns should be the titles of the course modules.
- Combined Grade Display: The cell values in the table representing the user's assigned courses should display the combined grade from all the lectures within each module.
- The end user should be able to change his/her password.