Backend Task

Classroom Assignments!

Task:

Create a docker image for a micro-service with the below API endpoints:
- Authentication endpoint
- REST API endpoints for a Student Assignments app that manages student assignments (details below)

Technologies:

- You are free to use any language (Java, Nodejs, Python, etc ..)
- You are free to use any **RDBMS**. NoSQL databases are not allowed.
- There are no restrictions on the frameworks to use / database design schema. Choose whichever seems best suited for the task.

API Details:

1. Authentication endpoints for Login:
   - Treat the endpoint as a mock authentication service and accept any username/password.
   - The request body can contain an arbitrary username/password pair.
   - Return a signed JSON Web Token (JWT, https://jwt.io/) which can be used for validation of subsequent requests.
2. Assignment REST API endpoints:
   - Creates new assignment with data provided in the request body
   - Returns all assignments based on data provided in the request body
   - Updates assignment with data provided in the request body
   - Deletes the assignment
3. Create and publish the private docker image of the above micro-service on any docker repository (Docker Hub, Amazon ECR, etc)

Important:

- Attach API documentation with a request which can be executed directly. You can use Postam Collection, Swagger, etc for documentation.
- Attach README instructions that contain all required information
- SQL files to create required tables should be present in the project.

Bonus: Extra points for attempting this.

1. Add validation for existing API endpoints for enhanced security. For example, the only teacher who created the assignment should be able to delete or update the assignment. If the validation fails, the API should return an error message.
2. Add the ability to filter and sort the student assignments like due date, total score, etc.
3. Add the ability for students to submit the assignment
4. Add the ability for teachers to grade these assignments and view student reports.
5. Send a notification email to students when an assignment is created.
6. Deploy the docker image on a third-party hosting service (Heroku, DigitalOcean, AWS, etc)
7. Integrate caching layer mechanism (e.g., Redis) for reduced API latency while fetching assignments.

Things we are interested in:

- Completeness of the APIs - authentication & survey
- Knowledge of REST APIs, SQL, and JWT & using libraries
- Your database design
- Modularity & readability of code
- Attention to detail and quality

How to submit:

Please email your submission to the following address.

To: assessments@playpowerlabs.com
Subject: <Your Name> - <College shortname> Backend Task

Along with:
1. Google drive link of your source code zip (Be careful of the sharing permission)
2. Hosted URL (Optional) [Heroku, DigitalOcean, etc.]

For any clarifications contact: manthan@playpowerlabs.com

Important:

- We condemn plagiarism. Please maintain the dignity and originality of your work. If we suspect any attempt towards copying, we will disqualify your submission.
- Don't submit without implementing the minimum required functionalities, all such submissions will be rejected.
- Don't put your code on GitHub.