Courses/Labs Management System

https://github.com/StrugariStefan/CLMS

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Team members

- Birsan Ioana (B5)
- Ciulei Andrada-Teodora (B6)
- Loghin Alexandru (B4)
- Silistru Alexandru (A1)
- Strugari Mihai Stefan (B4)

Team of 5 logo

Project requirements

Creating a platform for the management of users, courses and laboratories that will allow:

- the registration of users who can be teachers or students
- sending notifications
- assessment of students
- uploading and downloading of courses/labs materials
- the existence of interaction between students and teachers, which consists in asking questions, providing feedback and giving answers
- authentication mechanism

Technologies involved

C#

.Net Core 2.2

OpenAPI Specification

Sql Server

Microsoft Azure Blob Storage

MSTest.TestFramework 1.3.2

Development workflow - Github

1. Checkout to master and pull the latest version from github locally before adding any other code. This should be done each time you want to make changes starting from the latest master changes:
   - `git branch` -> current branch
   - `git checkout branch-name` -> move to branch branch-name
2. Checkout to a new branch with a name that describes the feature, following the standard **name/feature**:

   ```
   git checkout -b andrei/add-animations
   ```

3. Make your desired changes to the code and make commits with those changes:

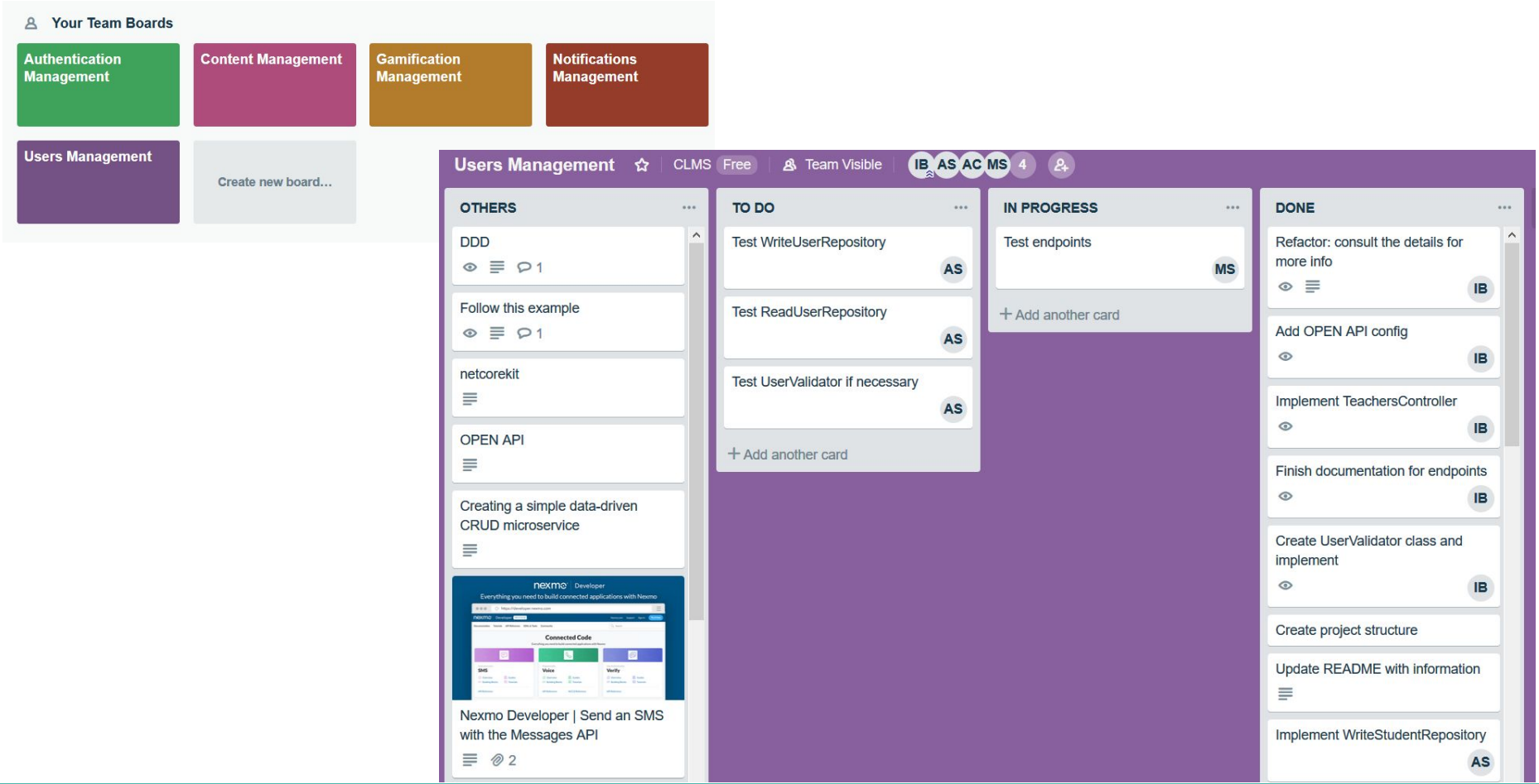
   ```
   git commit -m "message that describes commit" .
   ```

4. Push the changes to GitHub to a branch with the same name:

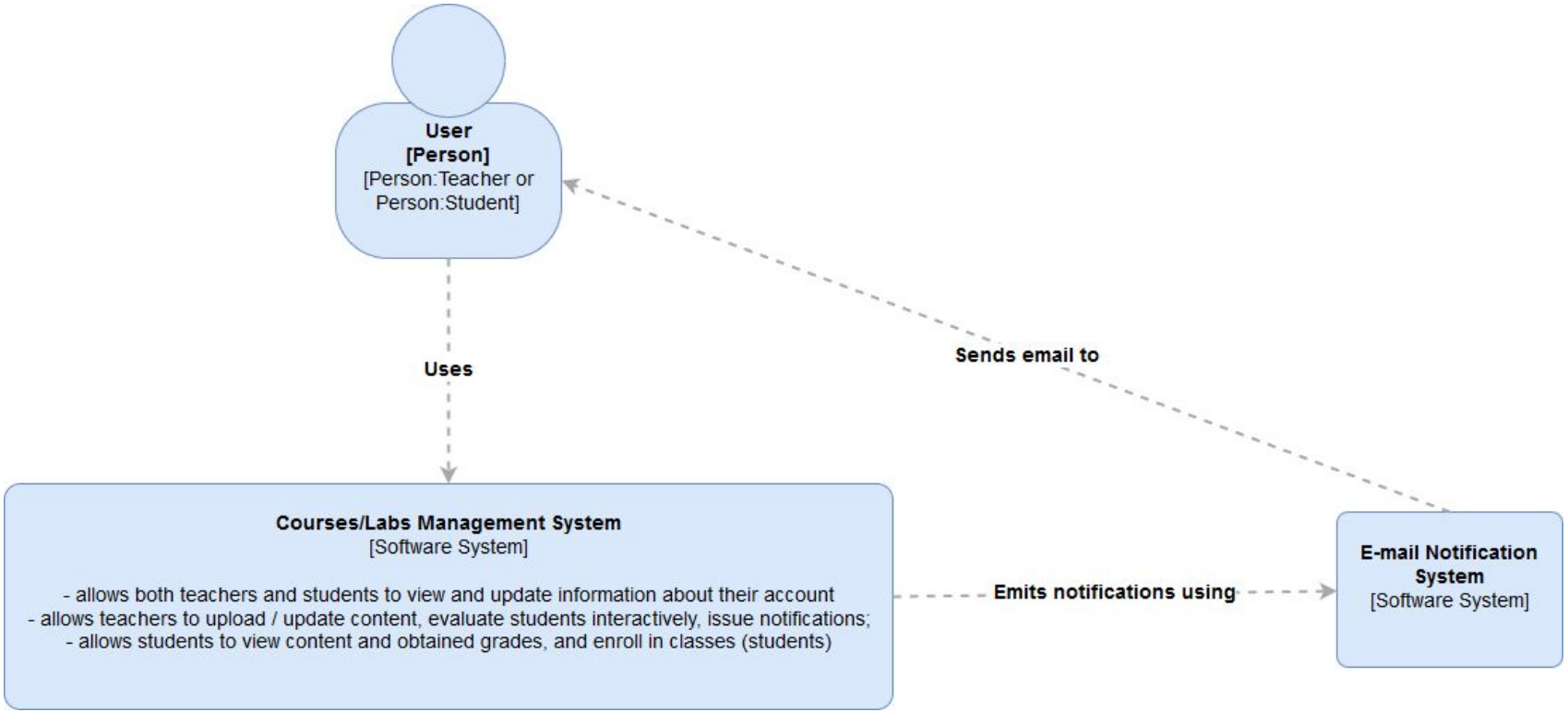
   ```
   git push -u origin local-branch-name:desired-branch-name-on-github
   ```

5. Validate that the changes work as expected.
6. If your changes work as expected merge the new branch to the master branch. Merge only if the changes work as expected.

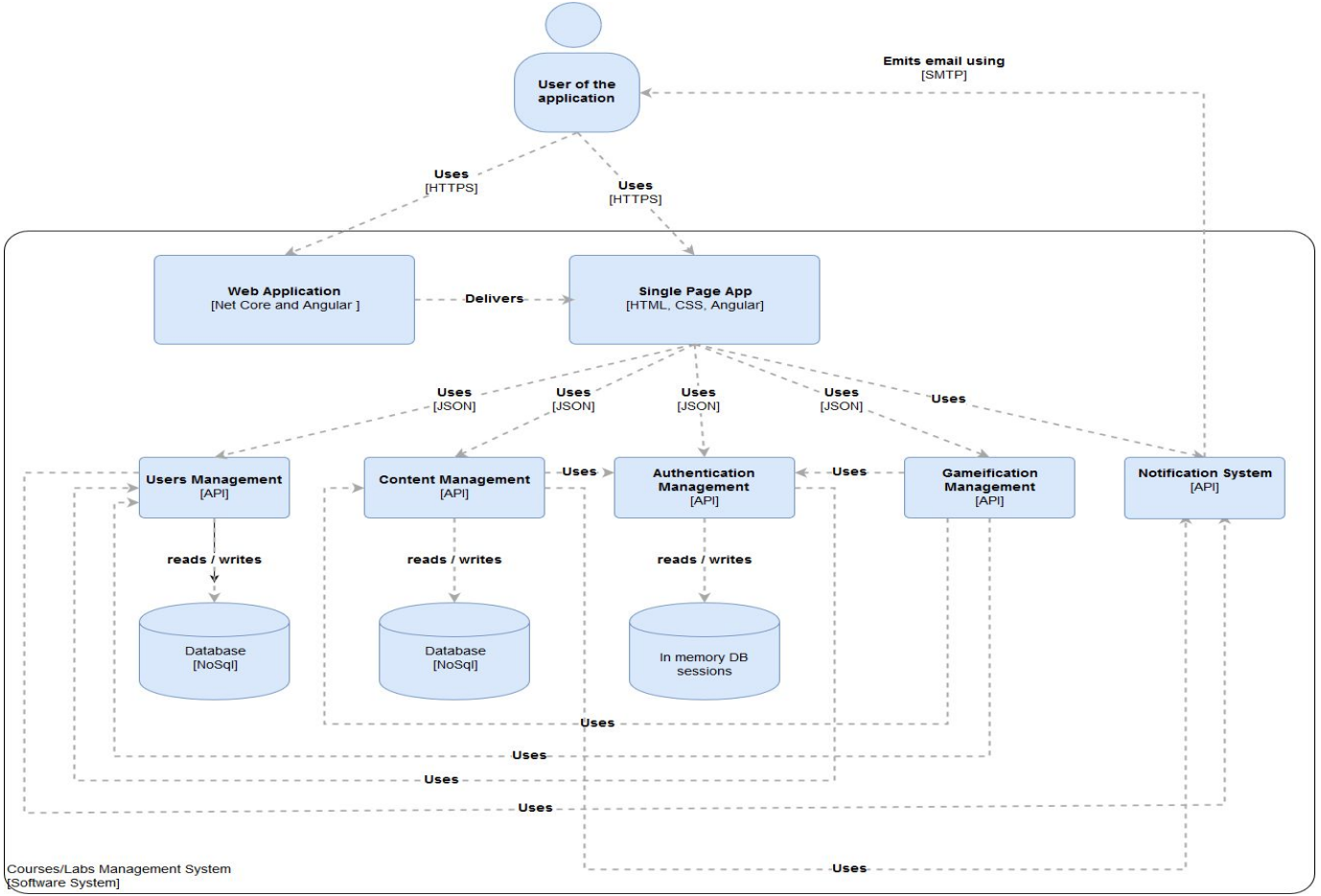
Development workflow - Trello



Architecture - level 1



Architecture - level 2



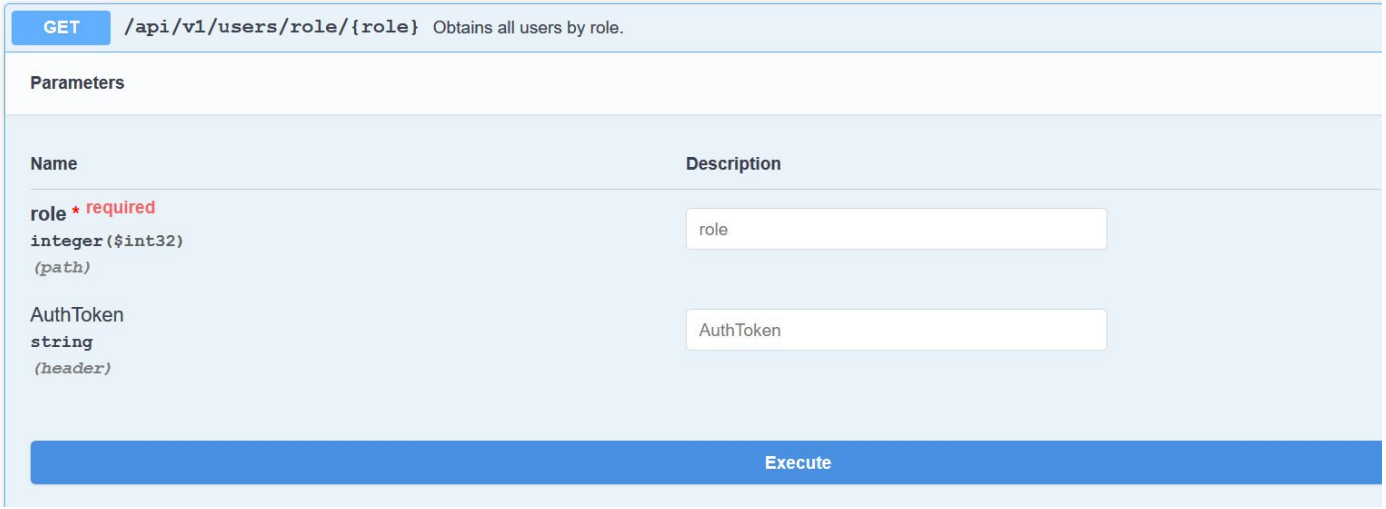
Microservices - Auth.API

Auth

GET `/api/v1/auth/loggedIn/{token}` Checks if a user is logged in.

POST `/api/v1/auth/login` Logins a user.

POST `/api/v1/auth/logout` Disconnects a user.



Microservices - Users.API

Users

GET	`/api/v1/users/{id}`	Obtains an user by id.
DELETE	`/api/v1/users/{id}`	Deletes an user by id.
GET	`/api/v1/users/role/{role}`	Obtains all users by role.
GET	`/api/v1/users`	Returns all users.
POST	`/api/v1/users`	Registers an user. Roles: 1 = student, 2 = teacher.
POST	`/api/v1/users/registered`	Checks if a user is registered.

Microservices - Courses.API

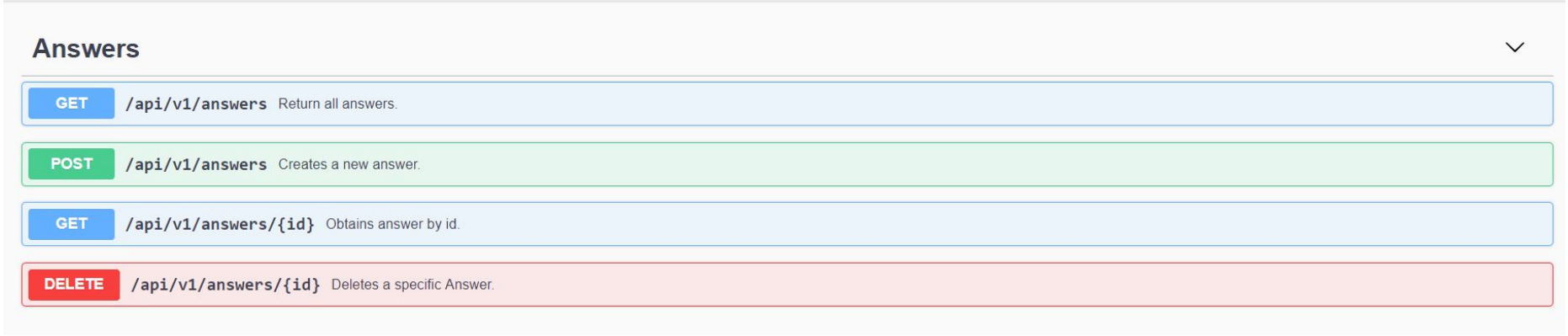
Courses

GET	`/api/v1/courses`	Return all courses.
POST	`/api/v1/courses`	Creates a new course.
GET	`/api/v1/courses/{id}`	Obtains course by id.
DELETE	`/api/v1/courses/{id}`	Deletes a specific Course.
GET	`/api/v1/courses/{name}`	Obtains course by name.

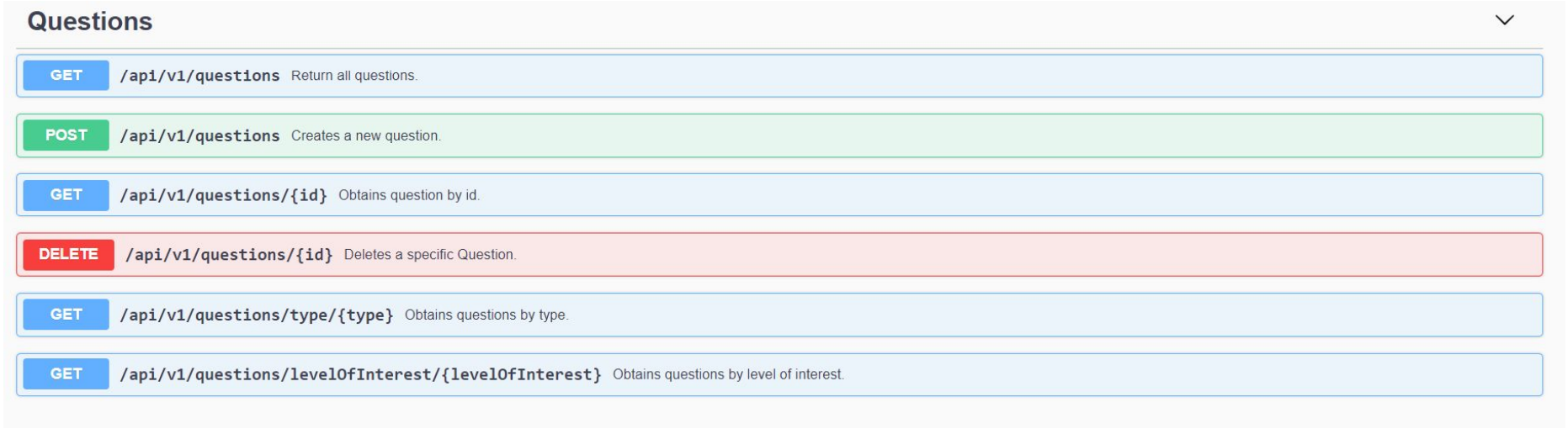
ResourceFiles

GET	`/api/v1/resourceFiles`	Return all resourceFiles.
POST	`/api/v1/resourceFiles`	Creates a new resourceFile.
GET	`/api/v1/resourceFiles/{id}`	Obtains resourceFile by id.
DELETE	`/api/v1/resourceFiles/{id}`	Deletes a specific resourceFile.
GET	`/api/v1/resourceFiles/download/{id}`	Downloads a specified resource file

Microservices - Gamification.API



Microservices - Gamification.API



Microservices - Gamification.API

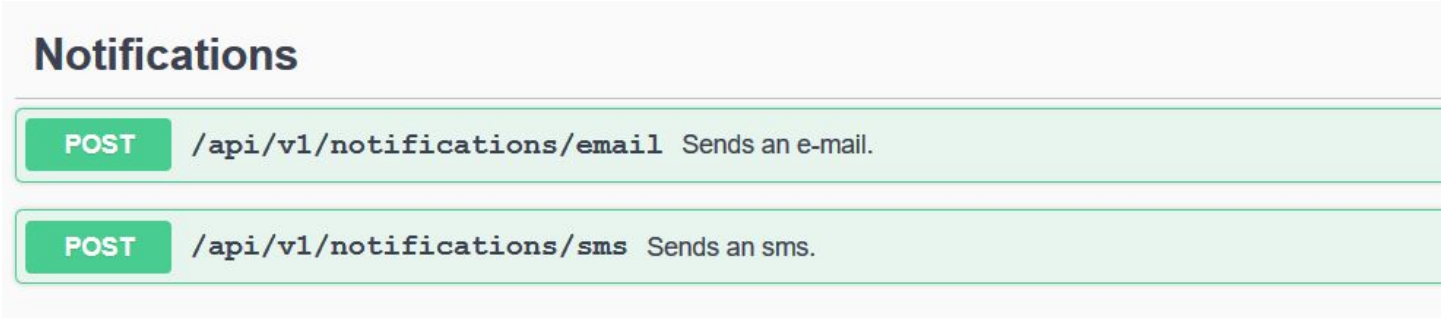
Scores

GET	`/api/v1/scores`	Return all scores.
GET	`/api/v1/scores/user/{userId}`	Return all scores by userId.
GET	`/api/v1/scores/course/{courseId}`	Return all scores by courseId.
GET	`/api/v1/scores/user/{userId}/course/{courseId}`	Obtains score by userId and courseId.
DELETE	`/api/v1/scores/user/{userId}/course/{courseId}`	Deletes a specific Score.
PUT	`/api/v1/scores/user/{userId}/course/{courseId}/addpoints`	Adds points to score, creates new score if it doesn't exists.

Microservices - Notifications.API

The functionality displayed by this service consists in sending emails and sms.
As far as implementation is concerned, we have used the services outlined by:

Mailgun API
Twilio Programmable SMS



CLMS application characteristics

- **Flexibility and extensibility**

  CLMS application can be easily modified,continued and improved

- **Modularity and scalability**

  The microservices architecture gives us flexibility in terms of how we can scale the whole application.

- **Easy to use and understand by the user**