You are required to develop a SpringBoot based web application similar to that which was developed in the lab exercises. You should start by creating a base project using the online Spring Initializr. You should use the provided generic-interface.html JavaScript interface to develop and demonstrate your application (your application must serve this as a static web page for it to work properly). The application should use JPA persistence with the H2 in-memory database for development purposes. It should offer the following API to clients:

|  |  |  |  |
| --- | --- | --- | --- |
| Method | URI | Body | Operation |
| GET | api/divisions | none | return a JSON document containing a list of names and URIs for all divisionentries in the system |
| GET | api/divisions/{*division*} | none | return a JSON document containing a list of names and URIs for all courses for the specified division |
| GET | api/divisions/{*division*}/courses/all | none | return a JSON document containing a result code, and a list of all courses for the specified divisionif the operation was successful |
| GET | api/divisions/{*division*}/courses/{*id*} | none | return a JSON document containing a result code, and the specified course for the specified division if the operation was successful |
| POST | api/divisions/{*division*}/courses | JSON description of a new course item | stores the course for the division and returns a JSON document containing a result code, and a URI suitable to get the newly stored course if the operation was successful |
| PUT | api/divisions/{*division*}/{*id*} | JSON description of a new course item | replaces the given course and return a JSON document containing a result code, and a URI suitable to get the newly stored course if the operation was successful |
| DELETE | api/divisions/{*division*}/{*id*} | none | deletes the given course and returns a JSON document containing a result code |

URI elements enclosed in { } represent places where appropriate values would be substituted.

Each course must have the following fields, described here as TYPE followed by name.

LONG id, STRING name, LONG duration, BOOLEAN undergraduate, BOOLEAN egLevel, DOUBLE bfCycle

You are strongly advised to make the division value for a course a field in the course class. While it might seem more natural to have separate collections for each value of division this will greatly increase the complexity of what you need to do. Using a field allows a single collection of objects to be persisted, read and written. The "result codes" referred to in the table above may take any form but should indicate either successful completion or an error condition.