

# Web API Design with Spring Boot Week 16 Coding Assignment

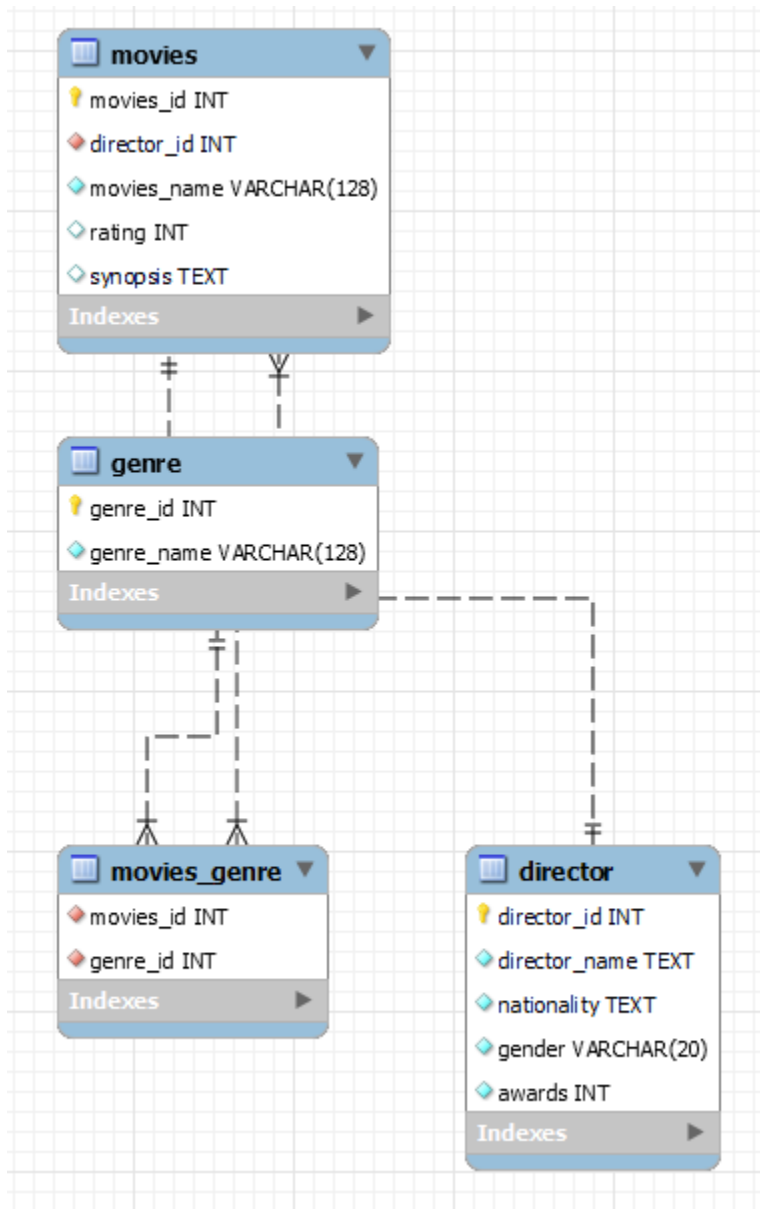
**Points possible: 200**

**URL to GitHub Repository:** <https://github.com/AvannR/Final-Project-Promineo-Fall-22-/tree/main>

**URL to Public Link of your Video:** <https://youtu.be/hwQmPwhcT-k>

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## Spring Boot Proposal for Final Project



Overview:

# Web API Design with Spring Boot Week 16 Coding Assignment

This Final Project spans the final few weeks of the bootcamp, including 1-2 weeks for design and approval, and two full weeks for implementation. The Project will implement a RESTful Web API with full CRUD (Create, Read, Update and Delete) operations on a MySQL database.

The Spring Final Project is worth 200 points, and accounts for 25% of your final course grade.

**Instructions:** For this assignment, you will begin brainstorming and creating a proposal for your Spring Boot Final Project. Begin brainstorming ideas and come up with one you (and your group if you choose) feel fulfills all the requirements listed below. Your proposal will need to be approved during class in Week 16 by your instructor and finalized by the end of Week 16. Below, you will find a simple template for your proposal.

**NOTE:** You will not be turning anything in for this assignment this week.

## Requirements:

### **Project Requirements:**

#### **1-person Project:**

- Database design which contains at least 3 entities and 3 tables
- Contains all CRUD operations (Create, Read, Update & Delete)
- **Each entity** should have **CRUD operations** with one entity having all 4 CRUD operations (Create, Read, Update & Delete).
- Contains at least 1 one-to-many relationship
- Contains at least 1 many-to-many relationship with one or more CRUD operations on this relationship

#### **Group Project (max 3 people):**

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- Database should have at least two tables per group member + one.
- Contains 2 entities per person, plus 1 entity done together at the beginning to solidify the structure expected for the project.
- Each member of the group is required **to code their entities top to bottom**, including entity, controller, service, & DAO.
- Each member of the group is required have CRUD operations on both of their entities, and implement all 4 CRUD operations (Create, Read, Update, & Delete) on one of their 2 entities
- Contains at least 1 one-to-many relationship
- Contains at least 1 many-to-many relationship with one or more CRUD operations on this relationship

### **Proposal Template:**

(copy and paste into a Word Document)

#### **Project Participants:**

List all group members here. Just write your name if you are working solo.

#### **Title:**

Come up with a simple title.

#### **Executive Summary:**

This is where you will describe what your project is intended to do. Remember, this project should be completed in 2 weeks time. If you can't explain it in 1-2 paragraphs, you may need to scale it back so you can complete your initial features on time.

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## **Initial Features:**

Create a bulleted list of planned features you plan to have completed in your project by the deadline. This should include a list of API endpoints for each feature. If you are working in a group, please note which team member will be assigned to each feature.

Example of list of Features/Endpoints for a Library API:

- Entities: Users, Administration, Books, Genre, Checkout, BookReviews, etc.
- A User can perform the following operations:
  - Login, and use system
  - Browse all Books (GET on Books)
  - Browse Books by genre (GET on Books with genre specified)
  - View all details about a specific Book (GET on Books by primary key)
  - Leave review on a Book (POST in BookReviews)
  - Read reviews on a Book (GET on BookReviews)
  - Checkout X amount of books at a time (POST in Checkout), set dueDate for 2 weeks from today (e.g. Checkout Date) and (PUT Change Status of Book to Unavailable)
  - Return a Book (PUT Change Status of Book to Available, PUT Checkout to RETURNED status, POST Fee on Users, by primary key, if the book is past due, etc.)

## **Stretch Goals (to be completed if time allows, or after graduation):**

Create a bulleted list of planned features you plan to have once you have completed your initial features. These should be features that may require more research in how to implement or features that would take longer than the allotted time frame.