

Gradebook

CS5004 Summer 2022 Final Project

Vincent Tam

Sprint Initializr (Spring Boot Framework for Java)

- <https://start.spring.io/>
- Website to generate starter Java projects
- Dependencies used:
 - Spring Web
 - Spring Data JPA
 - H2 Database
 - Thymeleaf



Project

- ☒ Maven Project
- ☐ Gradle Project

Language

- ☒ Java ☐ Kotlin
- ☐ Groovy

Spring Boot

- ☐ 3.0.0 (SNAPSHOT) ☐ 3.0.0 (M4) ☐ 2.7.3 (SNAPSHOT)
- ☒ 2.7.2 ☐ 2.6.11 (SNAPSHOT) ☐ 2.6.10

JPA (Java Persistence API)

- <https://docs.spring.io/spring-data/jpa/docs/current/reference/html/>
 - @Entity
 - CrudRepository Interface
 - For interacting with our Postgres SQL Database
 - Create
 - Read
 - Update
 - Delete
- Methods provided: save(), findAll(), findById(), deleteAll(), deleteById()

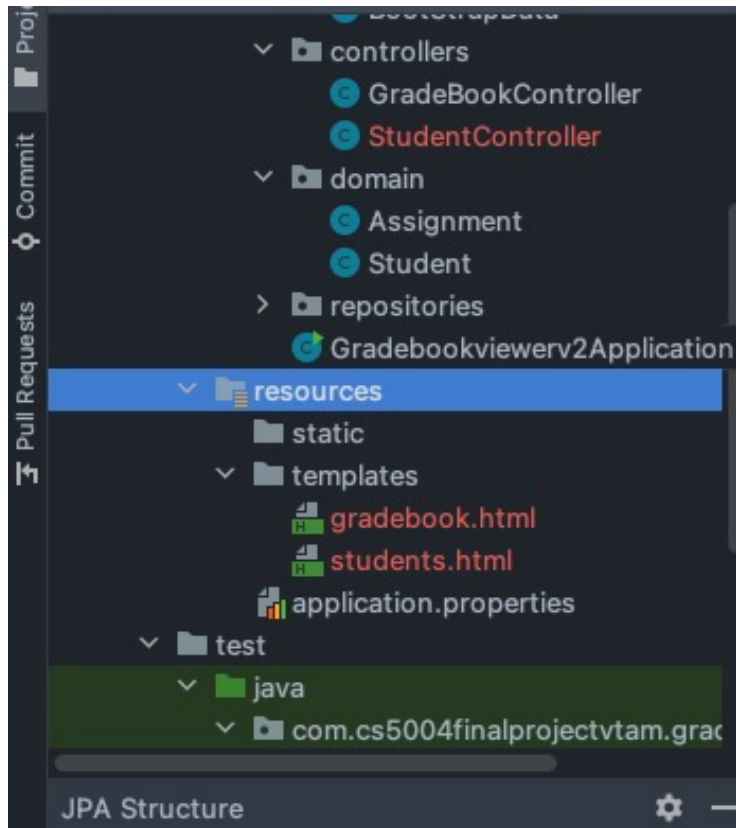
H2 Database

- In-memory database (created when application starts up, destroyed when application shuts down)
- Localhost:8080/h2-console



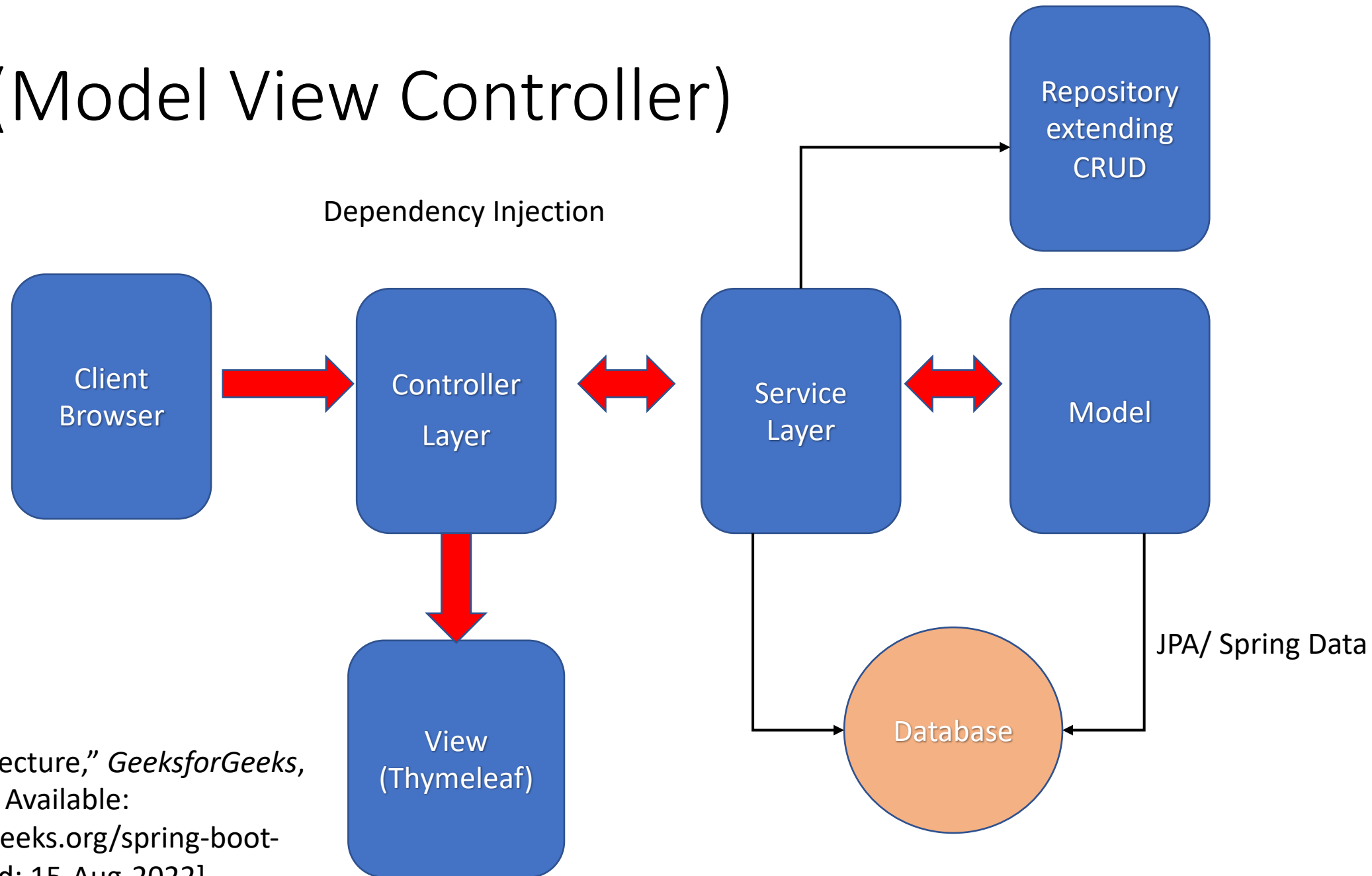
Thymeleaf

- Serves as the View in the MVC model
- Integrated with HTML



```
1 <!DOCTYPE html>
2 <html lang="en" xmlns:th="http://www.thymeleaf.org">
3 <head>
4   <meta charset="UTF-8">
5   <title>List of Students</title>
6 </head>
7 <body>
8   <h1>List of Students</h1>
9   <table>
10    <thead>
11      <tr>
12        <th style="padding: 5px;">ID</th>
13        <th style="padding: 5px;">First Name</th>
14        <th style="padding: 5px;">Last Name</th>
15      </tr>
16    </thead>
17    <tbody>
18      <tr style="padding-left: 5px;" th:each="student : ${student}">
19        <td style="padding: 5px;" th:text="${student.id}"></td>
20        <td style="padding: 5px;" th:text="${student.firstName}"></td>
21        <td style="padding: 5px;" th:text="${student.lastName}"></td>
22      </tr>
23    </tbody>
24  </table>
25 </body>
26 </html>
```

MVC (Model View Controller)



[4] "Spring boot - architecture," *GeeksforGeeks*, 11-Mar-2022. [Online]. Available: <https://www.geeksforgeeks.org/spring-boot-architecture/>. [Accessed: 15-Aug-2022].

Works Cited

- 1) Ratnesh, P. R. B, Seth, Kirtana, Siva, Vivek, Ramkesh, Vamy, S. Shekhar, L. Gupta, S. Mani, S. Shinde, Abvd, R. Phang, G, S. Das, S. arya, and T5750, "Spring Boot with H2 database," *HowToDoInJava*, 26-Oct-2021. [Online]. Available: <https://howtodoinjava.com/spring-boot2/h2-database-example/>. [Accessed: 15-Aug-2022].
- 2) "Spring Quickstart Guide," *Spring*. [Online]. Available: <https://spring.io/quickstart>. [Accessed: 15-Aug-2022].
- 3) "Thymeleaf," *Tutorial: Thymeleaf + Spring*. [Online]. Available: <https://www.thymeleaf.org/doc/tutorials/3.0/thymeleafspring.html>. [Accessed: 15-Aug-2022].
- 4) "Spring boot - architecture," *GeeksforGeeks*, 11-Mar-2022. [Online]. Available: <https://www.geeksforgeeks.org/spring-boot-architecture/>. [Accessed: 15-Aug-2022].