Spring Core and Maven

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Exercise 9: Creating a Spring Boot Application

Book.java

package com.library.entity;

import jakarta.persistence.\*;

@Entity

public class Book {

@Id

@GeneratedValue(strategy = GenerationType.IDENTITY)

private Long id;

private String title;

private String author;

public Book() {}

public Book(String title, String author) {

this.title = title;

this.author = author;

}

public Long getId() {

return id;

}

public void setId(Long id) {

this.id = id;

}

public String getTitle() {

return title;

}

public void setTitle(String title) {

this.title = title;

}

public String getAuthor() {

return author;

}

public void setAuthor(String author) {

this.author = author;

}

}

BookRepository.java

package com.library.repository;

import com.library.entity.Book;

import org.springframework.data.jpa.repository.JpaRepository;

public interface BookRepository extends JpaRepository<Book, Long> {

}

BookController.java

package com.library.controller;

import com.library.entity.Book;

import com.library.repository.BookRepository;

import org.springframework.beans.factory.annotation.Autowired;

import org.springframework.web.bind.annotation.\*;

import java.util.List;

import java.util.Optional;

@RestController

@RequestMapping("/books")

public class BookController {

@Autowired

private BookRepository bookRepository;

@GetMapping

public List<Book> getAllBooks() {

return bookRepository.findAll();

}

@PostMapping

public Book createBook(@RequestBody Book book) {

return bookRepository.save(book);

}

@GetMapping("/{id}")

public Optional<Book> getBookById(@PathVariable Long id) {

return bookRepository.findById(id);

}

@PutMapping("/{id}")

public Book updateBook(@PathVariable Long id, @RequestBody Book updatedBook) {

return bookRepository.findById(id).map(book -> {

book.setTitle(updatedBook.getTitle());

book.setAuthor(updatedBook.getAuthor());

return bookRepository.save(book);

}).orElseGet(() -> {

updatedBook.setId(id);

return bookRepository.save(updatedBook);

});

}

@DeleteMapping("/{id}")

public void deleteBook(@PathVariable Long id) {

bookRepository.deleteById(id);

}

}

application.properties

server.port=8001

spring.datasource.url=jdbc:h2:mem:librarydb

spring.datasource.driverClassName=org.h2.Driver

spring.datasource.username=sa

spring.datasource.password=

spring.jpa.database-platform=org.hibernate.dialect.H2Dialect

spring.h2.console.enabled=true

spring.jpa.hibernate.ddl-auto=update

LibraryManagementApplication.java

package com.library;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class LibraryManagementApplication {

public static void main(String[] args) {

SpringApplication.run(LibraryManagementApplication.class, args);

System.out.println("✅ Library Management Application is running on port 8000");

}

}

Output:

A screenshot of a computer

Description automatically generated

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