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

import org.springframework.stereotype.Service;

import java.util.Optional;

@Service

public class ProductService {

@Autowired

private ProductRepository productRepository;

public List<Product> getAllProducts() {

return productRepository.findAll();

}

public Optional<Product> getProductById(Long id) {

return productRepository.findById(id);

}

}

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

import org.springframework.http.ResponseEntity;

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

import java.util.List;

import java.util.Optional;

@RestController

@RequestMapping("/products")

public class ProductController {

@Autowired

private ProductService productService;

@GetMapping

public ResponseEntity<List<Product>> getAllProducts() {

List<Product> products = productService.getAllProducts();

return ResponseEntity.ok(products);

}

// Retrieve a product by ID

@GetMapping("/{id}")

public ResponseEntity<Product> getProductById(@PathVariable Long id) {

Optional<Product> product = productService.getProductById(id);

return product.map(ResponseEntity::ok)

.orElseGet(() -> ResponseEntity.notFound().build());

}

}