**🔰 What is Swagger (OpenAPI)?**

**Swagger** is a set of open-source tools for designing, building, documenting, and consuming REST APIs. The latest specification is called **OpenAPI**.

**💡 Key Benefits:**

* Interactive API documentation (via Swagger UI)
* Auto-generation of API specs from code
* API client/server code generation
* API testing via UI

**📦 Tools in the Swagger Ecosystem**

| **Tool** | **Purpose** |
| --- | --- |
| **Swagger UI** | Renders OpenAPI docs in browser |
| **Swagger Editor** | Write/edit OpenAPI YAML/JSON |
| **Swagger Codegen** | Generate client/server code |
| **Springdoc OpenAPI** | Integration for Spring Boot |

Spring Boot **3.2.x+** (3.5 not released yet as of June 2025) works perfectly with **Springdoc OpenAPI v2**. Here’s a complete working Swagger example updated for **Spring Boot 3.2+** using **Springdoc OpenAPI 2.2.x**.

**✅ Swagger Example for Spring Boot 3.2+ (Compatible with Java 17+)**

**📁 pom.xml (Spring Boot 3.2.x + Swagger)**

<project xmlns="http://maven.apache.org/POM/4.0.0" ...>

<modelVersion>4.0.0</modelVersion>

<groupId>com.example</groupId>

<artifactId>loan-swagger-demo</artifactId>

<version>1.0.0</version>

<parent>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-parent</artifactId>

<version>3.2.5</version>

</parent>

<properties>

<java.version>17</java.version>

</properties>

<dependencies>

<!-- Web MVC -->

<dependency>

<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-starter-web</artifactId>

</dependency>

<!-- Swagger: springdoc-openapi for Spring Boot 3 -->

<dependency>

<groupId>org.springdoc</groupId>

<artifactId>springdoc-openapi-starter-webmvc-ui</artifactId>

<version>2.2.0</version>

</dependency>

</dependencies>

</project>

**🎯 Sample REST Controller with Swagger Annotations**

package com.example.loan.controller;

import com.example.loan.model.Loan;

import io.swagger.v3.oas.annotations.Operation;

import io.swagger.v3.oas.annotations.responses.ApiResponse;

import io.swagger.v3.oas.annotations.tags.Tag;

import org.springframework.http.ResponseEntity;

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

import java.util.List;

import java.util.ArrayList;

@RestController

@RequestMapping("/api/loans")

@Tag(name = "Loan APIs", description = "Operations related to loan processing")

public class LoanController {

@GetMapping

@Operation(summary = "Get all loans")

public List<Loan> getAllLoans() {

return List.of(

new Loan(1, "Home", 100000, "Alice"),

new Loan(2, "Personal", 50000, "Bob")

);

}

@GetMapping("/{id}")

@Operation(summary = "Get loan by ID", responses = {

@ApiResponse(responseCode = "200", description = "Loan found"),

@ApiResponse(responseCode = "404", description = "Loan not found")

})

public ResponseEntity<Loan> getLoanById(@PathVariable int id) {

Loan loan = new Loan(id, "Education", 75000, "Charlie");

return ResponseEntity.ok(loan);

}

@PostMapping

@Operation(summary = "Create a new loan")

public ResponseEntity<Loan> createLoan(@RequestBody Loan loan) {

loan.setId(100); // dummy id

return ResponseEntity.ok(loan);

}

}

**📦 Loan.java Model**

package com.example.loan.model;

public class Loan {

private int id;

private String type;

private double amount;

private String applicant;

// Constructor

public Loan(int id, String type, double amount, String applicant) {

this.id = id;

this.type = type;

this.amount = amount;

this.applicant = applicant;

}

public Loan() {}

// Getters and setters

public int getId() { return id; }

public void setId(int id) { this.id = id; }

public String getType() { return type; }

public void setType(String type) { this.type = type; }

public double getAmount() { return amount; }

public void setAmount(double amount) { this.amount = amount; }

public String getApplicant() { return applicant; }

public void setApplicant(String applicant) { this.applicant = applicant; }

}

**🛠️ OpenApiConfig.java (Optional Custom Metadata)**

package com.example.loan.config;

import io.swagger.v3.oas.models.info.Contact;

import io.swagger.v3.oas.models.info.Info;

import io.swagger.v3.oas.models.OpenAPI;

import org.springframework.context.annotation.Bean;

import org.springframework.context.annotation.Configuration;

@Configuration

public class OpenApiConfig {

@Bean

public OpenAPI customOpenAPI() {

return new OpenAPI().info(new Info()

.title("Loan Processing API")

.version("1.0")

.description("API for managing loan processing")

.contact(new Contact().name("Manjiri Tatke").email("manjiri@example.com")));

}

}

**🚀 Run and Access Swagger UI**

Start your app and open:

http://localhost:8080/swagger-ui.html

or:

http://localhost:8080/swagger-ui/index.html

**✅ Output**

You'll see an interactive UI listing:

* GET /api/loans
* GET /api/loans/{id}
* POST /api/loans