

Swagger

Swagger is a set of tools and a specification for designing, building, documenting, and consuming RESTful APIs.

Today, Swagger has evolved into the OpenAPI Specification (OAS) — a widely adopted industry standard for defining APIs in a machine-readable way (usually in YAML or JSON).

Swagger is:

- A **specification format**: It defines APIs using a structured, standardized format.
- A set of **tools**: For generating API documentation, client SDKs, and server stubs from the API definition.

Step-by-Step Guide: Integrating Swagger (OpenAPI) in Spring Boot

1. Add Dependency (Maven)

Add the Springdoc OpenAPI dependency to your pom.xml:

```
<dependency>
  <groupId>org.springdoc</groupId>
  <artifactId>springdoc-openapi-starter-webmvc-ui</artifactId>
  <version>2.5.0</version> <!-- use latest -->
</dependency>
```

2. Access Swagger UI

Once you start your Spring Boot app, go to:

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

You'll see a nice interface showing your API endpoints.

3. Example Controller

```
@RestController
@RequestMapping("/api/users")
public class UserController {

    @GetMapping
    public List<String> getAllUsers() {
        return List.of("Shekhar", "Vijay", "Ravi");
    }

    @PostMapping
    public String createUser(@RequestBody String name) {
        return "User " + name + " created";
    }
}
```

Swagger will automatically document these endpoints.

Summary

- Use **springdoc-openapi** to integrate Swagger in Spring Boot.
 - Automatically generates docs from your controller classes.
 - Access the UI at /swagger-ui.html.
 - Supports rich customization via annotations and OpenAPI config.
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