

MicroProfile Open API

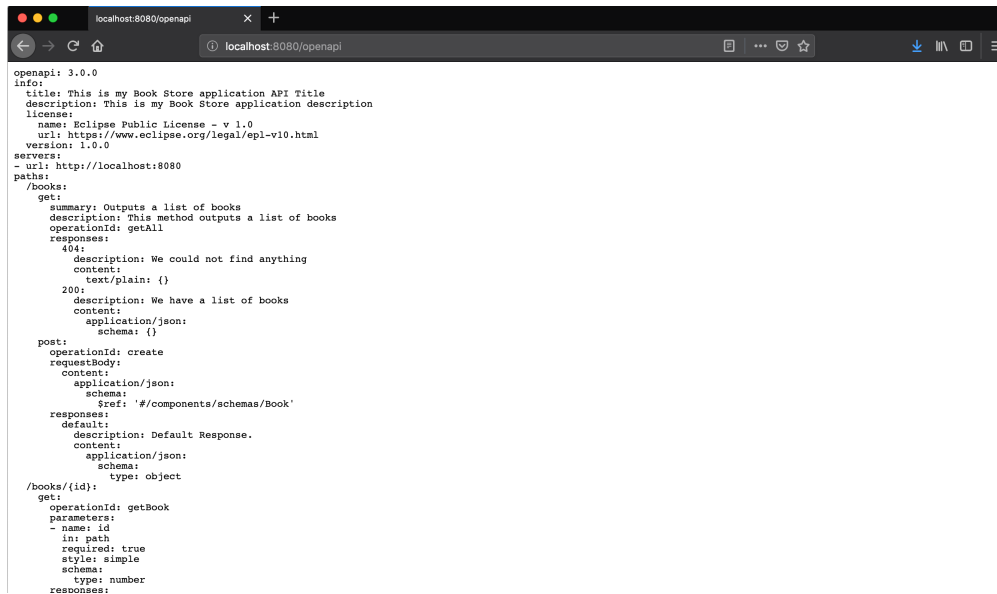
In this chapter, we will learn how to document our RESTful APIs. MicroProfile OpenAPI defines interfaces to produce OpenAPI documentation from JAX-RS applications. We will add documentation to our `book-store` service application. Inside `src/main/resources/META-INF` create the `openapi.yaml` file and add the following :

```
openapi: 3.0.0
info:
  title: This is my Book Store application API Title
  description: This is my Book Store application description
  license:
    name: Eclipse Public License - v 1.0
    url: https://www.eclipse.org/legal/epl-v10.html
  version: 1.0.0
servers:
- url: http://localhost:8080
```

This is our configuration for our API documentation, here we add title, description and license if we want. Restart the `book-store` application and go to <http://localhost:8080/openapi>, and you will see your RESTful API documentation generated, it doesn't say much about the endpoint and we can add more to the generated documentation. Open `BookStoreEndpoint.java` and make the `getAll()` method to look like this:

```
@APIResponses(
    value = {
        @APIResponse(
            responseCode = "404",
            description = "We could not find anything",
            content = @Content(mediaType = "text/plain"))
        ,
        @APIResponse(
            responseCode = "200",
            description = "We have a list of books",
            content = @Content(mediaType = "application/json",
                schema = @Schema(implementation = Properties.class))))
@Operation(summary = "Outputs a list of books",
    description = "This method outputs a list of books")
@Timed(name = "get-all-books",
    description = "Monitor the time getAll Method takes",
    unit = MetricUnits.MILLISECONDS,
    absolute = true)
@GET
public Response getAll() {
    return Response.ok(bookService.getAll()).build();
}
```

Restart the **book-store** service and refresh the <http://localhost:8080/openapi> endpoint and see the new generated OpenAPI documentation.

A screenshot of a web browser window displaying the OpenAPI documentation for a book store API. The browser's address bar shows 'localhost:8080/openapi'. The page content is a JSON-formatted OpenAPI specification. It includes an 'info' section with title, description, license (Eclipse Public License), and version (1.0.0). The 'servers' section lists the API endpoint as 'http://localhost:8080'. The 'paths' section defines two endpoints: a GET endpoint for '/books' and a POST endpoint for '/books/{id}'. The GET endpoint has a summary 'Outputs a list of books', a description 'This method outputs a list of books', and an operationId 'getAll'. It lists two responses: a 404 response with description 'We could not find anything' and a 200 response with description 'We have a list of books'. The POST endpoint has an operationId 'create', a request body of type 'application/json', and a response of type 'application/json'. The schema for the response is defined as an object with a 'type' property. The GET endpoint for '/books/{id}' has a summary 'getBook', a description 'Default Response', and a response of type 'application/json'.

@APIResponses annotation describes multiple responses **@APIResponse** annotation describes a single response **@Operation** annotation describes a single operation on a path **@Parameter** annotation describes a single operation parameter

Phillip Krüger have an excellent blog post on how to add Swagger UI to your OpenAPI documentation. https://www.phillip-kruger.com/post/microprofile_openapi_swaggerui/

Summary

In this chapter, we learned how to document our RESTful APIs using MicroProfile OpenAPI.