

IBM FizzBuzz Java server-side application documentation – English

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Project description:

I have made a REST API with a single endpoint using the Spring Boot Java framework. To build, run, and test the project you need Java JDK version 11.0.14 and Maven.

Design decisions:

I have used a three-layer implementation, namely the API / Controller layer which can be found in the „api” package, the actual logic is implemented in the „dao” package, with the FizzBuzzDAO interface declaring the „generateSequence” function, which is implemented in the FizzBuzzGeneratingService.java file, found in the same package. The function takes in the last element of the sequence (number) and returns a list of Strings. I chose this data structure, because numbers can easily be parsed from strings, and this solution can store the converted values (multiplies of three and five) too. The „dao” is usually for the data access layer, but I don't need to access data from any database, so I just use this package to implement my logic. I also have made a Service layer, which is responsible for providing the business logic function to the Controller. In my implementation I have used Dependency Injection. The only endpoint of this rest API is found at “%host%/api/fizzbuzz/{lastElementOfSequence}”. The most meaningful data structure I could think of was simply returning a string array in JSON, since that could be the easiest way to parse this response in case of further use in the future.

Testing:

I have implemented several unit tests, which all ran successful. I used the AssertJ library for testing. The test can be found in “src/test/java/com.fizzbuzz.demo/dao/FizzBuzzGeneratingServiceTest.java”

Build, Run, and Test:

For the building, testing, and running procedures you need to have Maven installed.

To build and run the application:

1. Navigate to the project directory.
2. In the command line, type the following command: `mvn spring-boot:run`

To test the application:

1. Navigate to the project directory.
2. In the command line, type the following command: `mvn test`