

# Documentatie Enterprise Web Development - Joris Van Duyse

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## TL;DR

1. This application runs online on [isbin.gwict.com](https://isbin.gwict.com)
2. Requirements
  1. java openjdk 17.0.5 or later
  2. Apache Maven 3.9.1 or later
  3. A MySQL server with an empty schema (with SSL for production)
3. To install it:
  1. clone
  2. create and fill in application.properties to `/src/main/resources`
  3. from the root build to jar with `maven install`
  4. from the root run the jar with `java -jar target/IsBin.jar`
  5. the application should start; go to [localhost:9091](http://localhost:9091)
4. Rest: this page also has a REST API that can return Authors (by first and last name) and Books(by isbn13)
5. When running the application in development, it will seed the database schema (Books, Users, Roles, Authors, Locations)
6. After running in development you can test the different roles with the Users that where seeded, see Seeded Users and data for more info

## Requirements

1. java openjdk 17.0.5 or later
2. Apache Maven 3.9.1 or later
3. A MySQL server with an empty schema (with SSL for production)

## Seeded Users and data

When starting in development, the database will be seeded by the file:

`com/qwict/isbin/repository/seeds/InitDataConfig.java`.

This seeding script will create three Users with different Roles:

1. [owner@qwict.com](mailto:owner@qwict.com) with password: `owner@qwict.com`
2. [admin@qwict.com](mailto:admin@qwict.com) with password: `admin@qwict.com`
3. [user@qwict.com](mailto:user@qwict.com) with password: `user@qwict.com`

*This means that after startup in development, you can use these accounts to test the different roles. The owner is able to change passwords. So if you want to run this page on the internet, make sure to change the passwords first!*

It will also add Books to the database, all these Books have Authors which will also be added, and some Books have Users that liked them (which makes the most-popular page work). Some Locations will also be created.

## Installation

1. Clone the repository to your device:

```
git clone https://github.com/JorisVanDuyseHogent/IsBin.git language-sh
```

2. Create the required `application.properties` file in `/src/main/resources/application.properties`, remember to replace all `{text}` with your information curly brackets included :)

```
# ----- Development settings ----- language-sh
spring.datasource.url=jdbc:mysql://localhost:3306/{your_database_name}?
serverTimezone=UTC
spring.datasource.username={your_database_username}
spring.datasource.password={your_database_password}
application.port={the_port_for_your_application}
application.env=development
spring.jpa.generate-ddl=true
spring.jpa.hibernate.ddl-auto=create-drop
spring.messages.basename=i18n/messages

# ----- Production settings -----
# ----- Uncomment these to run in production! -----
# ----- And remove the developer settings! -----
#spring.datasource.url=jdbc:mysql://{example.com}/{your_production_database_name}
#?useSSL=true&requireSSL=true&serverTimezone=UTC
#spring.datasource.username={your_production_database_username}
#spring.datasource.password={your_production_database_password}
#application.port={the_port_for_your_production_application}
#application.env=production
#spring.jpa.hibernate.ddl-auto=none
#spring.messages.basename=i18n/messages
```

3. Run the application from your favorite IDE. I will not explain this, because it is very different for each developer and operation system.
4. Build the application to jar with from the root of the git repository (this is where the `pom.xml` is located):

```
mvn install language-sh
```

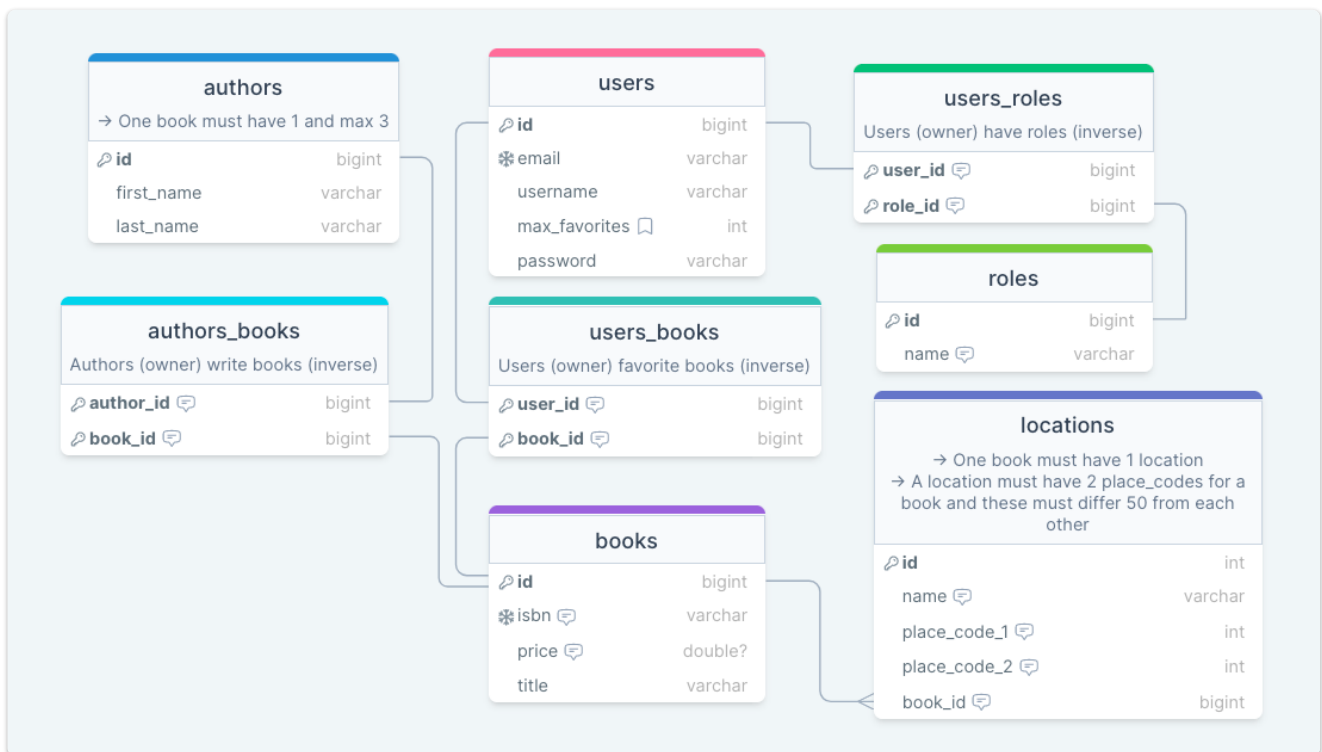
5. Run the application also from the root with (If the database schema was already used, you will get foreign key constraint errors, but you can ignore these, will only happen with development settings):

```
java -jar target/IsBin.jar language-sh
```

## IsBin database

Users are saved in the database with an encrypted password; the password is encrypted with BCrypt. In the IsBin database there are 4 tables:

1. The books table
  1. The books\_authors table
  2. The books\_users table
2. The authors table
  1. The authors\_books table
3. The users table
  1. The users\_books table
  2. The users\_roles table
4. The roles table



## Running in development versus running in production

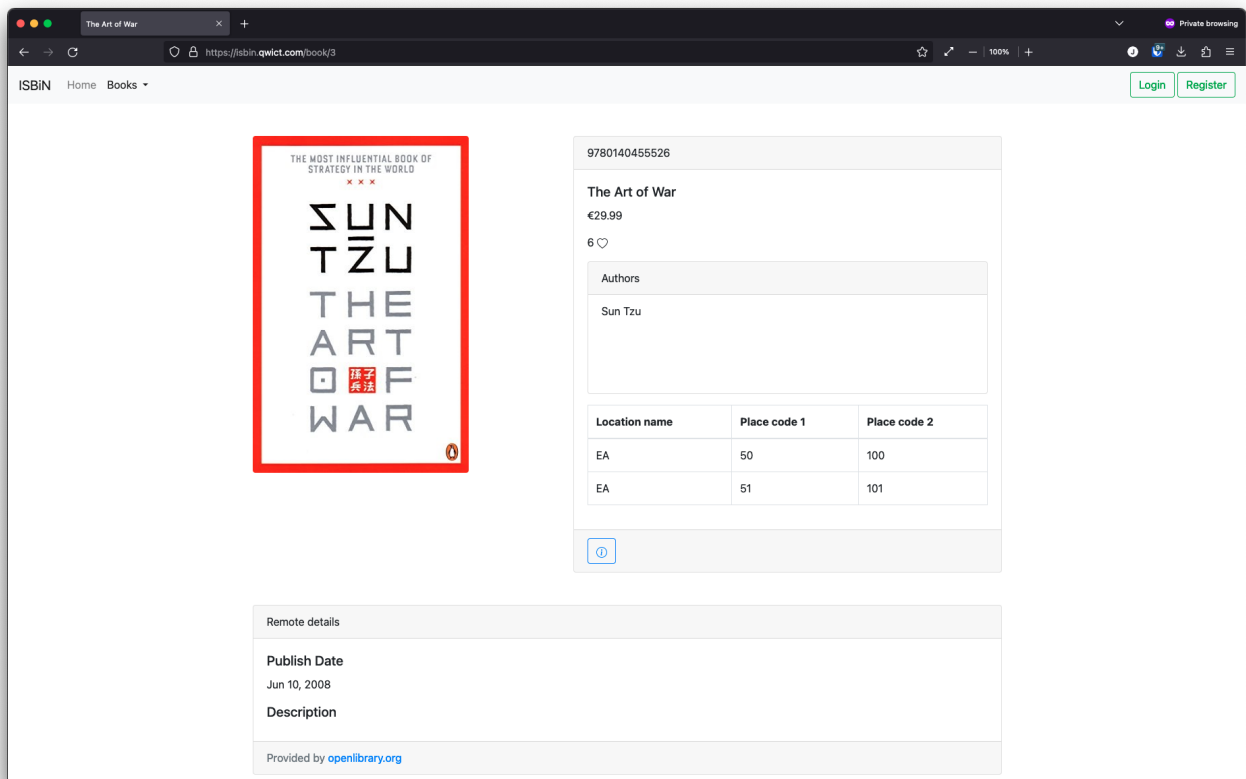
There is no big difference between running with the in development and running in production except for that in development, the database schema will be dropped after every restart and the database will be seeded with books and users.

Recommended for production: start the application one time in development; this will seed the database with some books and users. After that enable all the production settings in the application.properties file and remove the developer settings. Reinstall the application with maven to jar and run the jar again with java.

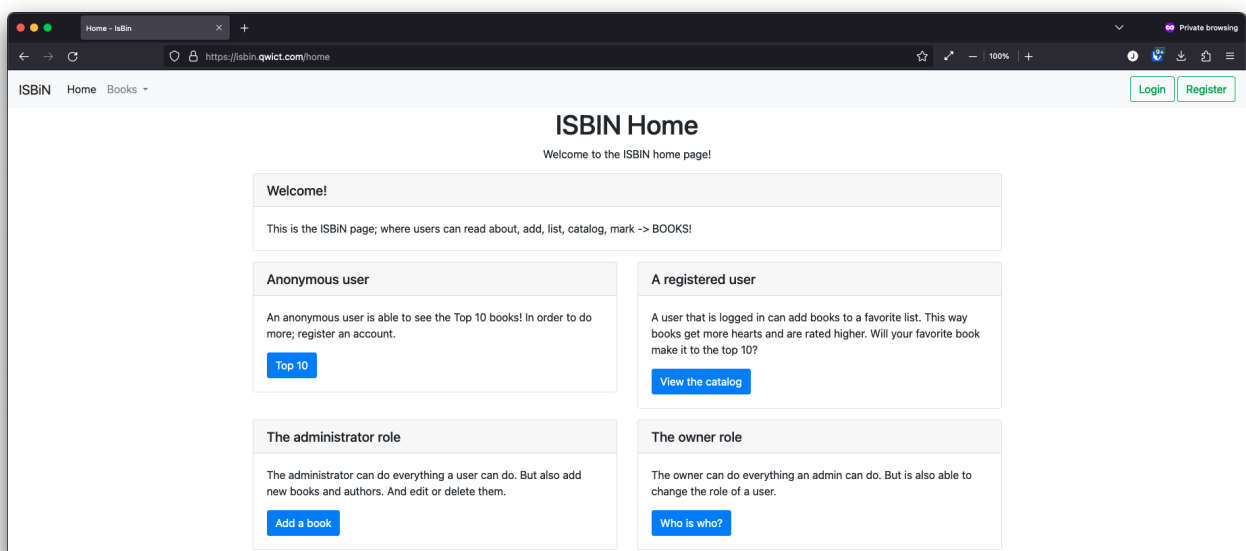
This way you will have a production server with some books, authors and users already in the database.

## Screenshots

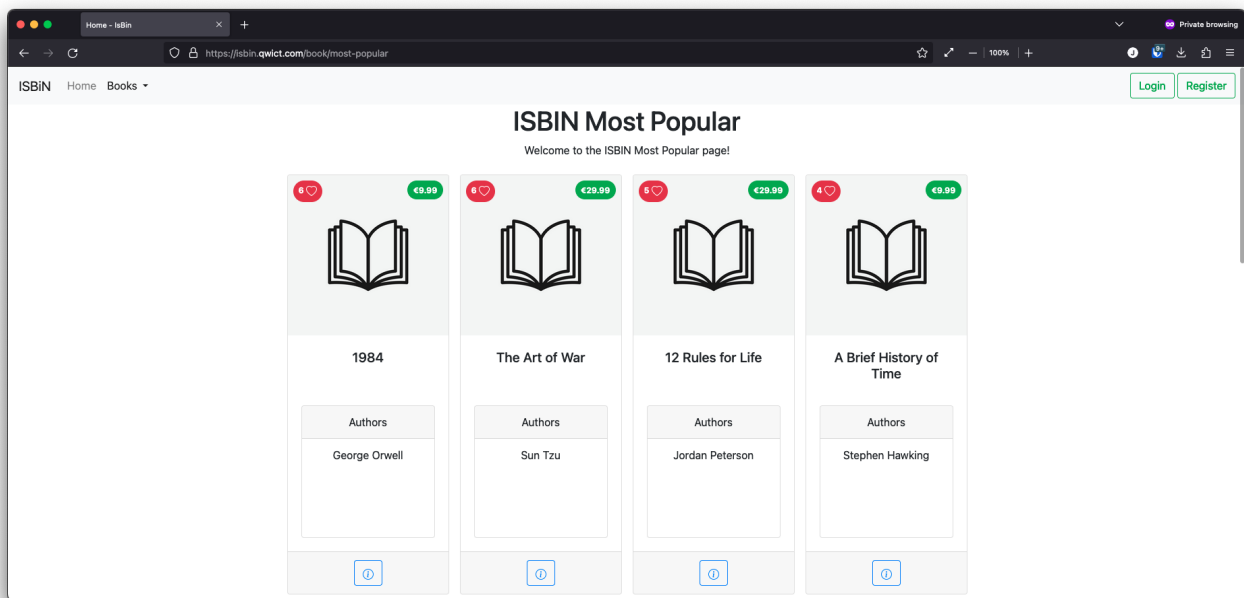
An example of the detailpage for a book ([The Art of War](#)).



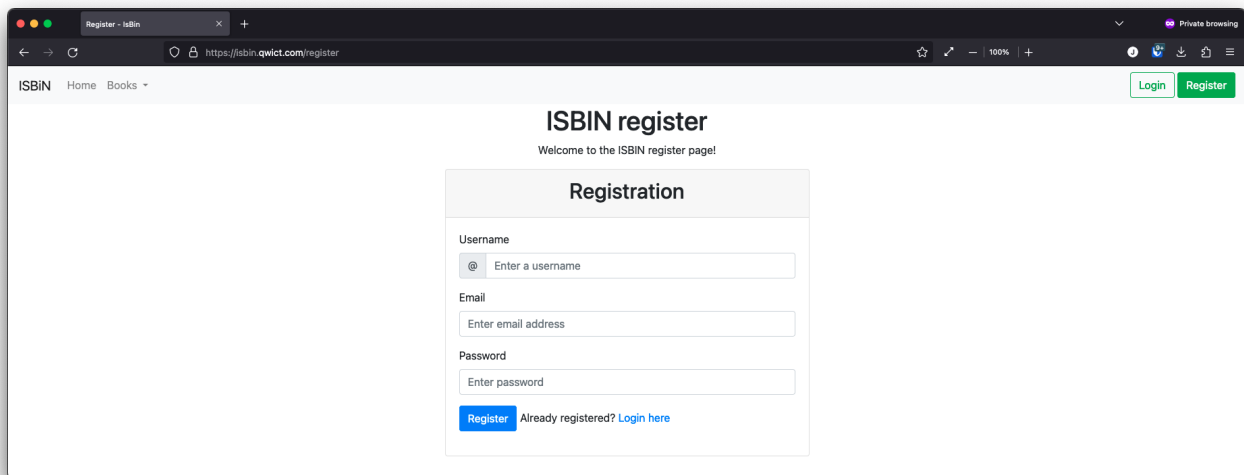
The ISBIN [home page](#) with info about different roles.



Most popular books ordered by number of "hearts". Also available to all (anonymous) users on [book/most-popular](https://isbin.qwict.com/book/most-popular)



The registration page; registration is required to view the catalog



## The favorites page available for users

**My Favorites**

This table represents all the books that you have added to favorites.

**List of Books that you added to your favorites!**

80.0% (6/10)

ISBN 13	Title	Price	Actions
9781432839680	1984	€9.99	<a href="#">Info</a> <a href="#">Heart</a>
9780140455526	The Art of War	€29.99	<a href="#">Info</a> <a href="#">Heart</a>
9781986799270	Animal Farm	€9.99	<a href="#">Info</a> <a href="#">Heart</a>
9780857501004	A Brief History of Time	€9.99	<a href="#">Info</a> <a href="#">Heart</a>
9789028223035	Willem die Madoc maakte	€27.5	<a href="#">Info</a> <a href="#">Heart</a>
9780345816023	12 Rules for Life	€29.99	<a href="#">Info</a> <a href="#">Heart</a>
9781400052929	The Hitchhiker's Guide to the Galaxy	€42.52	<a href="#">Info</a> <a href="#">Heart</a>
9780007492541	The Painted Man	€11.49	<a href="#">Info</a> <a href="#">Heart</a>

## The search page that supports author lookup by first and lastname, but also isbn lookup

**ISBIN Search**

Welcome to the ISBIN Search page!

**Authors found**

First name	Last name	Number of books	Actions
George	Orwell	2	<a href="#">Info</a>

**Books found for author**

1984

Authors

George Orwell

[Info](#) [Heart](#)

Animal Farm

Authors

George Orwell

[Info](#) [Heart](#)

The book form that allows administrators to add books to the catalog; in this case the administrator tried to submit a book without filling in any information.

ISBiN Home Books

Search for author or isbn Search Profile Logout

admin  
admin@qwict.com  
admin user  
Favorite list

### Book Form

Title  Enter the book's title  
Title should not be empty

ISBN13  Enter the book's ISBN13  
ISBN cannot be empty

price

Author 1:  First name  Last name  
The primary author must have a first and last name.

Author 2:  First name  Last name

Author 3:  First name  Last name

Location 1:  Name  0  0  
A book needs at least one location.

Location 2:  Name  0  0

Location 3:  Name  0  0

Submit

## The navigation bar

The right side of the navigation bar with a normal user logged in.

Search for author or isbn Search Profile Logout

Joris Van Duyse  
joris@qwict.com

user

Favorite list

The left side of the navigation bar with the owner logged in.

ISBiN Home Books Owner functions

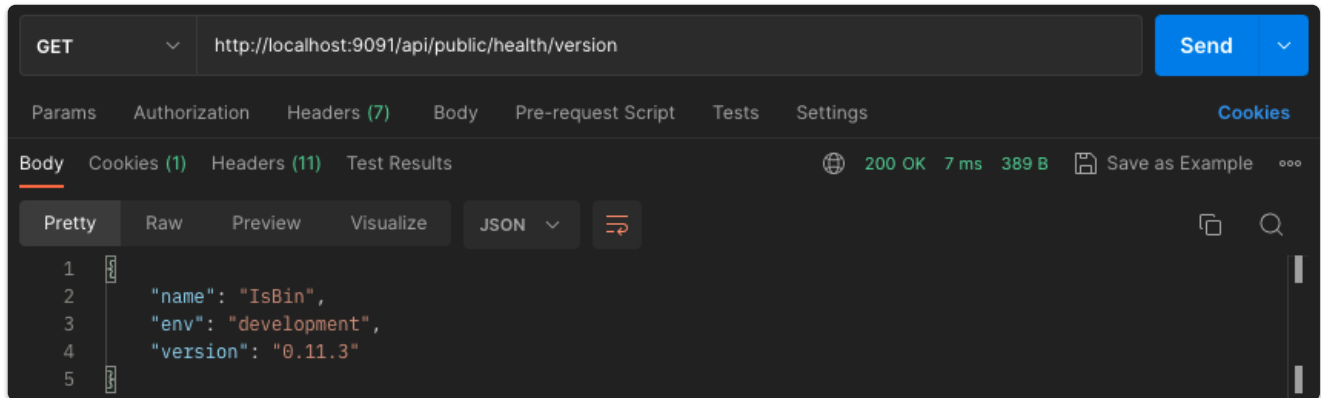
- ☆ Most Popular
- ♥ My Favorites
- 📖 Catalog
- 📖 Add book



# REST

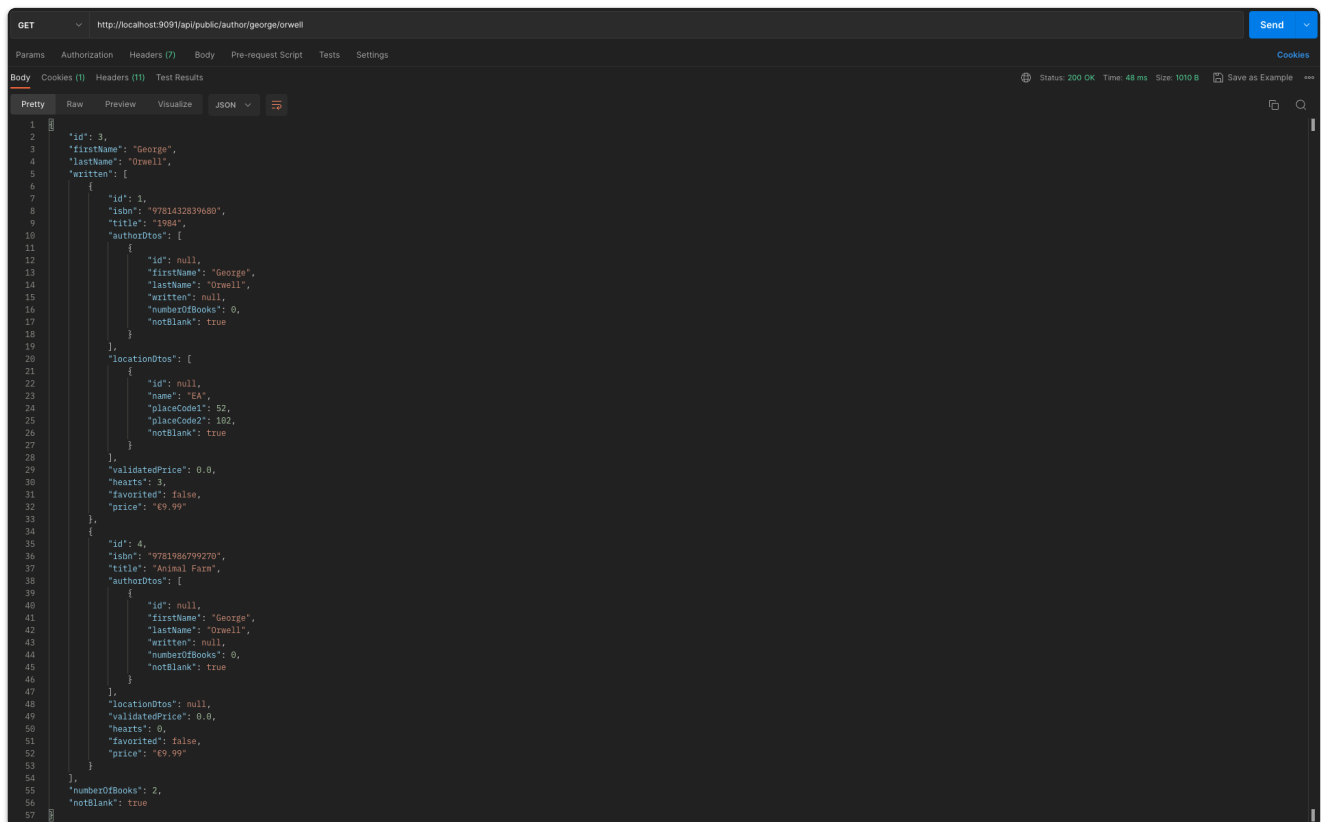
## Get request voor health van de server

To get information about the spring boot application you can [GET /api/public/health/version](http://localhost:9091/api/public/health/version)



## Get request for author

Call [GET /api/public/author/george/orwell](http://localhost:9091/api/public/author/george/orwell) to look up a specific author by entering their first and last name; This will return a JSON



## Get request for a book

By calling [GET /api/public/book/9780140455526](http://localhost:9091/api/public/book/9780140455526) it is possible to look up a book by its isbn number.

The screenshot shows a REST client interface with the following details:

- Method:** GET
- URL:** http://localhost:9091/api/public/book/9780140455526
- Status:** 200 OK
- Response Time:** 178 ms
- Response Size:** 733 B
- Body:** A JSON object representing a book.

```
1  {
2    "id": 3,
3    "isbn": "9780140455526",
4    "title": "The Art of War",
5    "authorDtos": [
6      {
7        "id": null,
8        "firstName": "Sun",
9        "lastName": "Tzu",
10       "written": null,
11       "numberOfBooks": 0,
12       "notBlank": true
13     }
14   ],
15   "locationDtos": [
16     {
17       "id": null,
18       "name": "EA",
19       "placeCode1": 50,
20       "placeCode2": 100,
21       "notBlank": true
22     },
23     {
24       "id": null,
25       "name": "EA",
26       "placeCode1": 51,
27       "placeCode2": 101,
28       "notBlank": true
29     }
30   ],
31   "validatedPrice": 0.0,
32   "hearts": 3,
33   "favorited": false,
34   "price": "€29.99"
35 }
```

## Tests

### ApiControllerTests

✓ RestControllerTest (com.qwict.isbin)	157 ms
✓ test_GetAuthor()	138 ms
✓ test_GetBook()	19 ms

```

      .  ____  _
     / \  / __ \'____( )____  \ \ \ \
    ( ( \___ | ' | ' | ' | ' \ ' | \ \ \ \
   \ \ ___| | | | | | | | | ( | | ) ) ) )
    '  |____| ._| | |_| |_\_, | / / / /
   =====|_|=====|_/_/_/_/_/
   :: Spring Boot ::                (v3.0.5)

```

The `GetBook()` test runs the `GET /api/public/book/{isbn}` endpoint and checks if the status is OK. It also checks if the `bookServiceMock` is called with the correct isbn number.

```

@Test
public void test_GetBook() throws Exception {
    MockitoAnnotations.openMocks(this);
    apiController = new ApiController();
    mockMvc = standaloneSetup(apiController).build();
    ReflectionTestUtils.setField(apiController, "bookService",
bookServiceMock);
    Book book = new Book("9780201633610", "Design Patterns", 28.99);
    Mockito.when(bookServiceMock.findBookByIsbn("9780201633610")).thenReturn(
book);
    mockMvc.perform(MockMvcRequestBuilders.get("/api/public/book/978020163361
0")).andExpect(status().isOk());
    Mockito.verify(bookServiceMock).findBookByIsbn("9780201633610");
    mockMvc.perform(MockMvcRequestBuilders.get("/api/public/book/978020163361
0"))
        .andExpect(status().isOk());
}

```

*The `GetAuthor()` test runs the `GET /api/public/author/{firstName}/{lastName}` endpoint and checks if the status is OK. It also checks if the `authorServiceMock` is called with the correct first and last name.*

```
@Test                                                                 language-java
public void test_GetAuthor() throws Exception {
    MockitoAnnotations.openMocks(this);
    apiController = new ApiController();
    mockMvc = standaloneSetup(apiController).build();
    ReflectionTestUtils.setField(apiController, "bookService",
bookServiceMock);
    ReflectionTestUtils.setField(apiController, "authorService",
authorServiceMock);
    ReflectionTestUtils.setField(apiController, "authorRepository",
authorRepositoryMock);

    Book book = new Book("9780201633610", "Design Patterns", 28.99);
    Mockito.when(bookServiceMock.findBookByIsbn("9780201633610")).thenReturn(
book);
    bookServiceMock.mapToBookDto(book);

    Author author1 = new Author("Erich", "Gamma");
    author1.setWritten(List.of(book));
    Author author2 = new Author("Richard", "Helm");
    author2.setWritten(List.of(book));
    Author author3 = new Author("Ralph", "Johnson");
    author3.setWritten(List.of(book));
    Mockito.when(authorRepositoryMock.saveAll(List.of(author1, author2,
author3))).thenReturn(List.of(author1, author2, author3));

    AuthorDto author1Dto = authorServiceMock.mapToAuthorDto(author1);
    Mockito.when(authorServiceMock.getByFirstNameAndLastName("Erich",
"Gamma")).thenReturn(author1Dto);
    mockMvc.perform(MockMvcRequestBuilders.get("/api/public/author/Erich/Gamm
a")).andExpect(status().isOk());

    Mockito.verify(authorServiceMock).getByFirstNameAndLastName("Erich",
"Gamma");
}
```