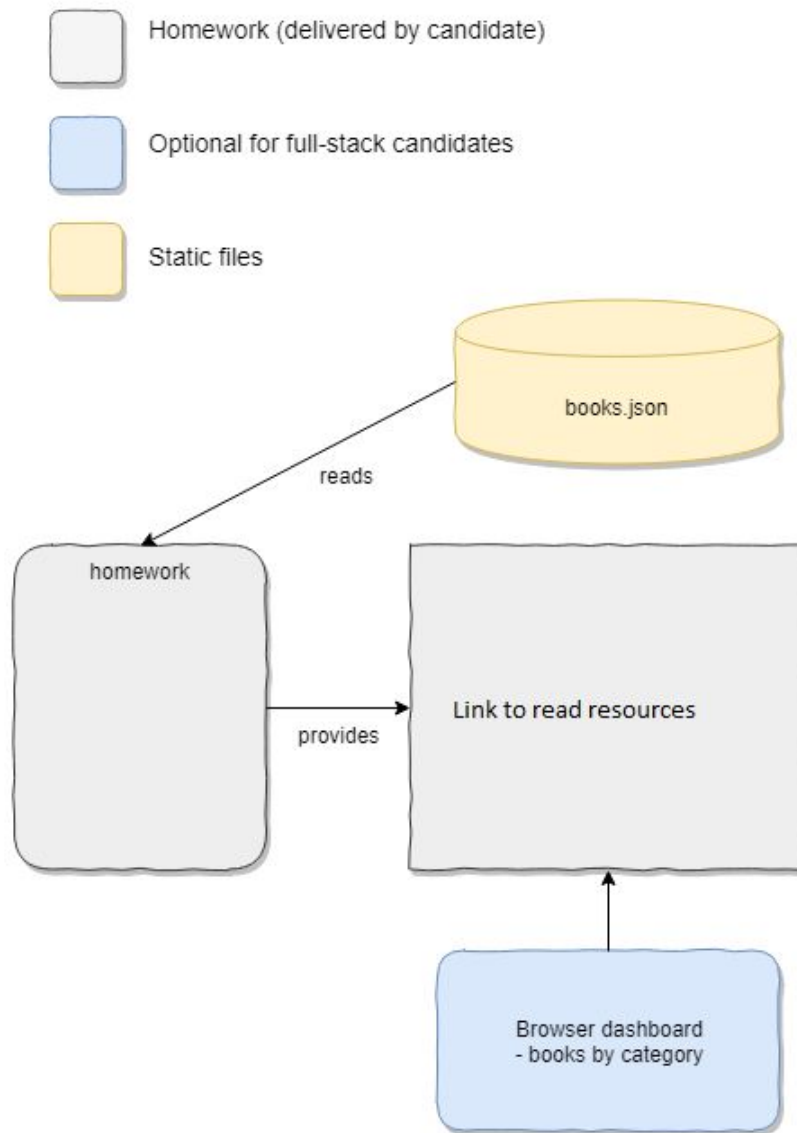


# Application architecture



Notice that file `books.json` is provided with this task. You may find it next to this instructions file.

# Endpoints

## Book by ISBN

Will return a book identified by the given ISBN number in the form of a JSON document or return a 404 if the book does not exist in the data set.

### Endpoint params

parameter	type	mandatory	description
isbn	String	YES	Unique identifier of a book

Note that `description` was shortened in examples below to make them more clear.

- URL to book with *isbn* 9780080568782 should return:

```
{
  "isbn" : "9780080568782",
  "title" : "TCP/IP Sockets in Java",
  "subtitle" : "Practical Guide for Programmers",
  "publisher" : "Morgan Kaufmann",
  "publishedDate" : 1314568800000,
  "description" : "The networking capabilities of the Java platform
have been extended considerably since the first edition of the
book.",
  "pageCount" : 192,
  "thumbnailUrl" :
"http://books.google.com/books/content?id=lfHo7uMk7r4C&printsec=front
cover&img=1&zoom=1&edge=curl&source=gbs_api",
  "language" : "en",
  "previewLink" :
"http://books.google.pl/books?id=lfHo7uMk7r4C&printsec=frontcover&dq=
java&hl=&cd=38&source=gbs_api",
  "averageRating" : 4.0,
  "authors" : [ "Kenneth L. Calvert", "Michael J. Donahoo" ],
  "categories" : [ "Computers" ]
}
```

- URL to book with isbn N1IiAQAAIAAJ (fallback to book id) should return:

```
{
  "isbn" : "N1IiAQAAIAAJ",
  "title" : "Java",
  "subtitle" : "First Contact",
  "publishedDate" : 883612800000,
  "description" : "Structured into five parts, the book introduces
students to using objects from day one, using them to introduce the
basic concepts of programming and allowing the reader to become
familiar with using objects in a variety of applications.",
  "pageCount" : 660,
  "thumbnailUrl" :
"http://books.google.com/books/content?id=N1IiAQAAIAAJ&printsec=front
cover&img=1&zoom=1&source=gbs_api",
  "language" : "en",
  "previewLink" :
"http://books.google.pl/books?id=N1IiAQAAIAAJ&q=java&dq=java&hl=&cd=1
2&source=gbs_api",
  "authors" : [ "Roger Garside", "John A. Mariani" ],
  "categories" : [ "Java (Computer program language)" ]
}
```

## Book by category

- URL to books from category *Computers*

```
[
  {
    "isbn" : "9780471721260",
    "title" : "Concurrent and Distributed Computing in Java",
    "publisher" : "John Wiley & Sons",
    "publishedDate" : 1106866800000,
    "description" : "Concurrent and Distributed Computing in Java
addresses fundamental concepts in concurrent computing with Java
examples.",
    "pageCount" : 336,
    "thumbnailUrl" :
"http://books.google.com/books/content?id=2pKCnc6-UAEC&printsec=frontco
ver&img=1&zoom=1&edge=curl&source=gbs_api",
    "language" : "en",
    "previewLink" :
"http://books.google.pl/books?id=2pKCnc6-UAEC&printsec=frontcover&dq=ja
va&hl=&cd=36&source=gbs_api",
    "authors" : [ "Vijay K. Garg" ],
    "categories" : [ "Computers", "Science" ]
  },
  {
    "isbn" : "9780071606325",
    "title" : "Java, A Beginner's Guide, 5th Edition",
    "publisher" : "McGraw Hill Professional",
  }
]
```

```

    "publishedDate" : 1313445600000,
    "description" : "Essential Skills--Made Easy! Learn the
fundamentals of Java programming in no time from bestselling
programming author Herb Schildt.",
    "pageCount" : 640,
    "thumbnailUrl" :
"http://books.google.com/books/content?id=L7HoaI4yyREC&printsec=frontco
ver&img=1&zoom=1&source=gbs_api",
    "language" : "en",
    "previewLink" :
"http://books.google.pl/books?id=L7HoaI4yyREC&q=java&dq=java&hl=&cd=23&
source=gbs_api",
    "authors" : [ "Herbert Schildt" ],
    "categories" : [ "Computers" ]
  },
  {
    "isbn" : "9781575211534",
    "title" : "Java unleashed",
    "publishedDate" : 820450800000,
    "pageCount" : 971,
    "thumbnailUrl" :
"http://books.google.com/books/content?id=w7BmPTFgBXIC&printsec=frontco
ver&img=1&zoom=1&source=gbs_api",
    "language" : "en",
    "previewLink" :
"http://books.google.pl/books?id=w7BmPTFgBXIC&q=java&dq=java&hl=&cd=31&
source=gbs_api",
    "categories" : [ "Computers", "Java" ]
  },
  {
    "isbn" : "9781119235583",
    "title" : "Java For Dummies",
    "publisher" : "John Wiley & Sons",
    "publishedDate" : 1488841200000,
    "description" : "A new edition of the bestselling guide to Java If
you want to learn to speak the world's most popular programming
language like a native, Java For Dummies is your ideal companion.",
    "pageCount" : 504,
    "thumbnailUrl" :
"http://books.google.com/books/content?id=8y9MDgAAQBAJ&printsec=frontco
ver&img=1&zoom=1&edge=curl&source=gbs_api",
    "language" : "en",
    "previewLink" :
"http://books.google.pl/books?id=8y9MDgAAQBAJ&printsec=frontcover&dq=ja
va&hl=&cd=20&source=gbs_api",
    "authors" : [ "Barry A. Burd" ],
    "categories" : [ "Dummies", "Computers" ]
  },
  {
    "isbn" : "9781592730056",
    "title" : "Developing Games in Java",
    "publisher" : "New Riders",
    "publishedDate" : 1072911600000,

```

```

    "description" : "A guide to Java game programming techniques covers
such topics as 2D and 3D graphics, sound, artificial intelligence,
multi-player games, collision detection, game scripting and customizing
keyboard and mouse controls.",
    "pageCount" : 972,
    "thumbnailUrl" :
"http://books.google.com/books/content?id=7S4ZpTR0DGwC&printsec=frontco
ver&img=1&zoom=1&edge=curl&source=gbs_api",
    "language" : "en",
    "previewLink" :
"http://books.google.pl/books?id=7S4ZpTR0DGwC&printsec=frontcover&dq=ja
va&hl=&cd=32&source=gbs_api",
    "authors" : [ "David Brackeen", "Bret Barker", "Laurence
Vanhelsuwé" ],
    "categories" : [ "Computers" ]
  }
]

```

## Author rating

### Example

- URL to *rating* should return following response:

```

[
  {
    "author": "Nell B. Dale",
    "averageRating": 4.1
  },
  {
    "author": "John Doe",
    "averageRating": 3.0
  },
  {
    "author": "Jim Smith",
    "averageRating": 2.9
  }
]

```

## Technical requirements

### Response form and structure

Each 200 API response should be a valid JSON document. Each book record data should contain the following information that comes from the data set (`books.json` file):

## Book record

field	type	description	source (mapping)
isbn	String	book unique identifier	volumeInfo.industryIdentifiers list under "type": "ISBN_13" key, if the "ISBN_13" value is not present in the record, use id property of the record instead
title	String	book title	volumeInfo.title
subtitle	String	book subtitle	volumeInfo.subtitle
publisher	String	book publisher	volumeInfo.publisher
publishedDate	long	book published date in a form of a UNIX timestamp	volumeInfo.publishedDate
description	String	book description	volumeInfo.description
pageCount	int	number of book pages	volumeInfo.pageCount
thumbnailUrl	String	a url to the book cover thumbnail	volumeInfo.imageLinks.thumbnail
language	String	book language	volumeInfo.language
previewLink	String	preview link	volumeInfo.previewLink

averageRating	double	book rating	volumeInfo.averageRating
authors	Array of Strings	array of book authors	volumeInfo.authors
categories	Array of Strings	array of book categories	volumeInfo.categories

Notice that not always is every property present in the data set. If a property is not present, it should not appear in the response (e.g. if a book does not have a subtitle defined in the `volumeInfo.subtitle` field, there will be no subtitle property in the book record).

## Run instructions template

To make it easier for you to describe how to run the program and for us to understand how to run it we provide a template for the setup instructions we expect you to deliver.

Please fill the gaps and provide, together with your solution, a file named *instructions* (in any popular format like doc, pdf, txt, md).

Please mind that the servers where your homework will be checked only have JDK 8, Maven 3.3.3 and Gradle 4.5.1 installed.

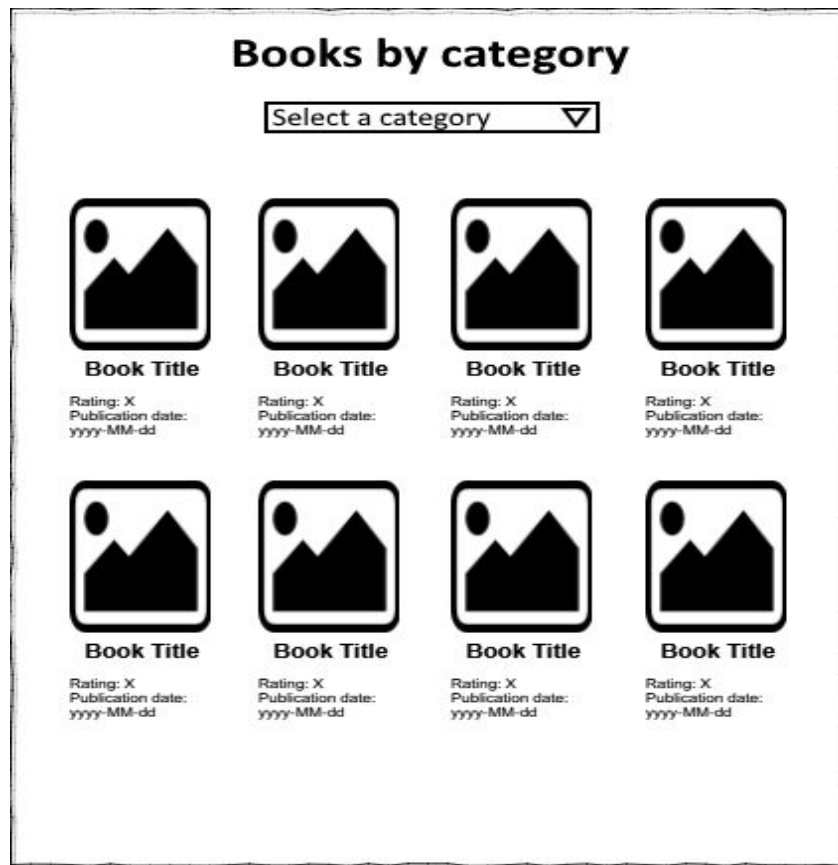
### Building

To build the project use following command:  
 .....  
 // e.g. ``mvn clean package``

### Running

After building the application run following command to start it:  
 .....  
 // e.g. ``java -jar target/homework-app.jar -Ddatasource=misc/books.json``  
 // Provide here any info about the port on which application runs and any assumptions/defaults.

## Example mockup for bonus full-stack task



Please add note in the *instructions* file with the following information:

### Building

To build the dashboard use following command:

```
.....  
// e.g. `mvn clean package`, if there is no need to build the dashboard, skip  
this step
```

### Running

After building the dashboard run following command to start it:

```
.....  
// e.g. `java -jar target/dashboard-app.jar`
```

### Access

After running dashboard is available at the url:

```
// e.g. http://localhost:8080/dashboard
```