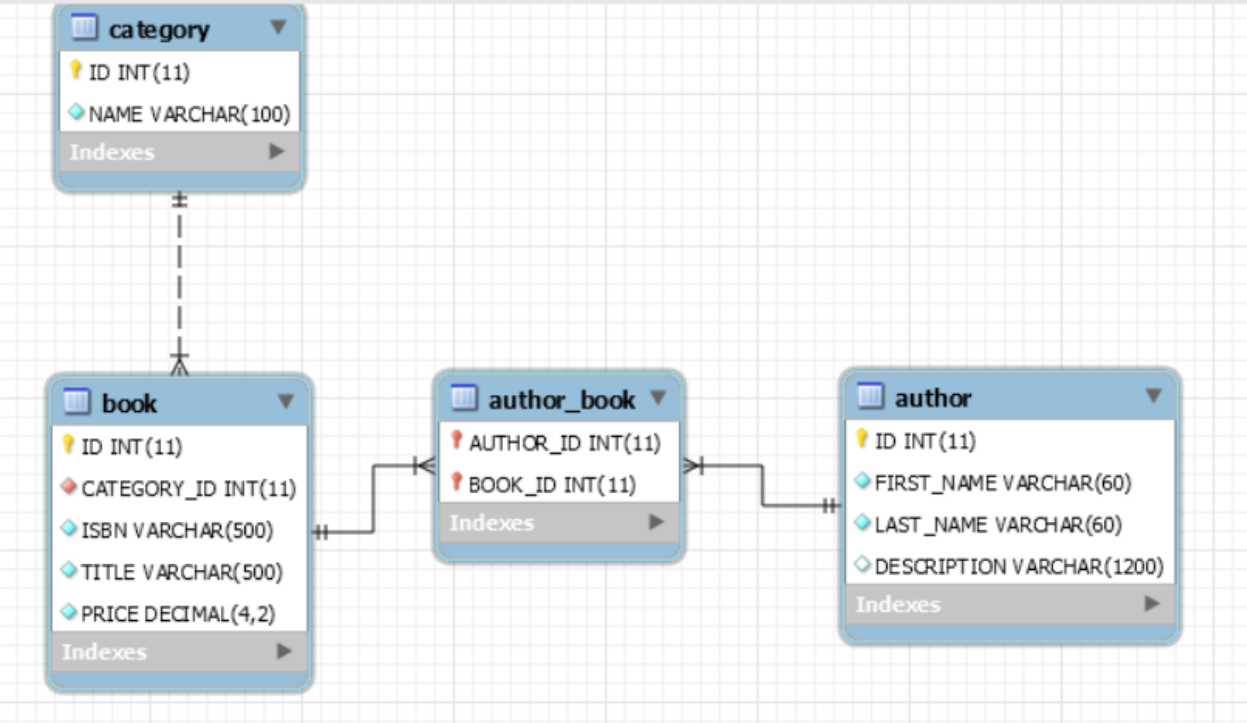
Part1-Assignment-2: Spring Hibernate

1. The program uses a databases named **hibernatedb** I created with MySql server(**User : root and password:**). We have four tables **book, author, author_book** and **category** . the schema is



2. I used the Maven command line to create my project:

mvn archetype:generate -DgroupId=edu.herve.spring.hibernate -SpringHibernate

-DarchetypeArtifactId=maven-archetype-quickstart -DinteractiveMode=false

3. I edited the **pom.xml** and I added the necessaries dependencies.
4. I created the folder **main\resources** manually .
5. I created the folder **main\resources\META-INF\sql** where I put my **shema.sql** corresponding to my database shema and **test-data.sql** to insert some data; the data are

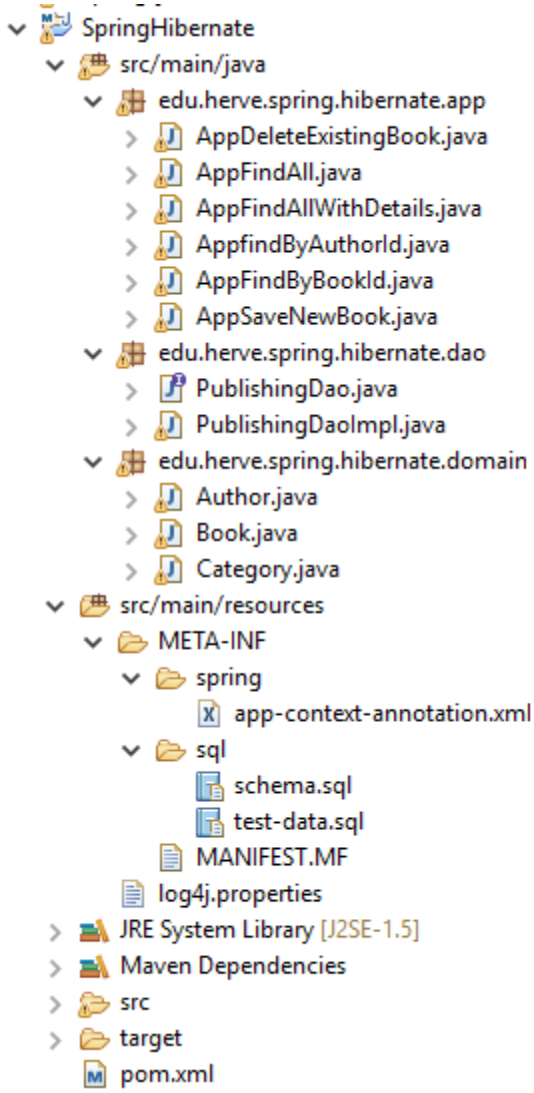
```
mysql> select * from book;
+----+-------------+------------+----------------------+-------+
| ID | CATEGORY_ID | ISBN       | TITLE                | PRICE |
+----+-------------+------------+----------------------+-------+
|  1 |           1 | 1457896545 | Beegining Java       |    61 |
|  2 |           1 | 5485632322 | Java Entreprise Edit |    70 |
|  3 |           2 | 5765522262 | Mysql Concepts       |    46 |
|  4 |           2 | 7523232223 | Beegining Mysql      |    49 |
|  5 |           1 | 4875656565 | Java for non program |    86 |
|  6 |           1 | 457565656  | Advanced Java Concep |    66 |
+----+-------------+------------+----------------------+-------+
6 rows in set (0.00 sec)

mysql> select * from category;
+----+-------+
| ID | NAME  |
+----+-------+
|  1 | Java  |
|  2 | Mysql |
+----+-------+
2 rows in set (0.00 sec)
```

```
mysql> select * from author;
+----+------------+-----------+-----------------------------------------------------------------+
| ID | FIRST_NAME | LAST_NAME | DESCRIPTION                                                     |
+----+------------+-----------+-----------------------------------------------------------------+
|  1 | John       | Smith     | very young and popular author                                   |
|  2 | Daniel     | Perkins   | new and revolutionary author                                    |
|  3 | Jet        | Li        | From China and very well established in the authors list         |
|  4 | Marcus     | Wall      | specialized in Mysql and brought a huge plus to this community  |
+----+------------+-----------+-----------------------------------------------------------------+
4 rows in set (0.00 sec)
```

```
mysql> select * from author_book;
+-----------+---------+
| AUTHOR_ID | BOOK_ID |
+-----------+---------+
|         1 |       1 |
|         1 |       2 |
|         1 |       7 |
|         2 |       1 |
|         2 |       2 |
|         2 |       7 |
|         3 |       1 |
|         3 |       2 |
|         3 |       3 |
|         3 |       5 |
|         3 |       6 |
|         4 |       2 |
|         4 |       3 |
|         4 |       4 |
|         4 |       5 |
|         4 |       6 |
|         4 |       7 |
+-----------+---------+
17 rows in set (0.00 sec)
```

6. I created the folder **main\resources\META-INF\spring** where I put my **app-context-xml.xml**
7. I imported my project into Eclipse IDE and I created the packages:
   - **edu.herve.spring.jdbc.domain** containing the classes **Book.java, Author.java** and **Category.java** corresponding to the tree tables book, author and category on the database.
   - **edu.herve.spring.jdbc.dao** containing the interface **PublishingDao.java where i created the methods corresponding to the functionalities of my program.** The class **PublishingDao DaoImpl.java** implementing the interface **PublishingDao Dao.java**.
   - **edu.herve.spring.jdbc.app** Containing the classes executing each of the functionalities listed in the assignment.
     - **AppFindAll.java :** find all books without authors and categories
     - **AppFindAllWithDetails.java:** find all books with authors and categories.
     - **AppFindByBookId.java:** find a book with authors and category by book's ID
     - **AppfindByAuthorId.java:** Find all books for one author id who has more than one book in the database.
     - **AppSaveNewBook.java:** add and save in your database a new book.
     - **AppDeleteExistingBook.java:** delete the saved book from the database.

This is the image of the structure of my project in Eclipse



8. the building and the execution of my application has the following results.
    - for the methods **findAll()**

```
Hibernate: select category0_.ID as ID1_3_0_, category0_.NAME as NAME2_3_0_ fr
*********************************************************************************
Listing books without details:
Book [id=1, isbn=1457896545, title=Beegining Java, price=61.0]
---------------------------------------------------------------------------
Book [id=2, isbn=5485632322, title=Java Entreprise Edit, price=70.0]
---------------------------------------------------------------------------
Book [id=3, isbn=5765522262, title=Mysql Concepts , price=46.0]
---------------------------------------------------------------------------
Book [id=4, isbn=7523232223, title=Beegining Mysql , price=49.0]
---------------------------------------------------------------------------
Book [id=5, isbn=4875656565, title=Java for non program, price=86.0]
---------------------------------------------------------------------------
Book [id=6, isbn=457565656, title=Advanced Java Concep, price=66.0]
---------------------------------------------------------------------------
[WARNING] thread Thread[MySQL Statement Cancellation Timer,5,edu.herve.spring
```

- for the method **findAllWithDetail()**

```
*********************************************
Listing books with details:
Book [id=1, isbn=1457896545, title=Beegining Java, price=61.0]
Category - Id: 1, Name: Java
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
------------------------------------
Book [id=2, isbn=5485632322, title=Java Entreprise Edit, price=70.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
------------------------------------
Book [id=5, isbn=4875656565, title=Java for non program, price=86.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
------------------------------------
Book [id=6, isbn=457565656, title=Advanced Java Concep, price=66.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
------------------------------------
Book [id=3, isbn=5765522262, title=Mysql Concepts , price=46.0]
Category - Id: 2, Name: Mysql
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
------------------------------------
Book [id=4, isbn=7523232223, title=Beegining Mysql , price=49.0]
Category - Id: 2, Name: Mysql
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
------------------------------------
```

- For the method **findById(int id)**

```
thor3_.ID where book0_.ID=?
**************************************************
Book, cathegory and authors with Book id 1:
Book [id=1, isbn=1457896545, title=Beegining Java, price=61.0]
Category - Id: 1, Name: Java
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
```

- For the method **save(Book newBook)**

```
Book saved with id: 7
Hibernate: select distinct book0_.ID as ID1_2_0_, category1_.ID as ID1_3_1_, author3_.ID as ID1_0_2_, book0_.CATEGORY_ID as CA
0_, book0_.PRICE as PRICE3_2_0_, book0_.TITLE as TITLE4_2_0_, category1_.NAME as NAME2_3_1_, author3_.DESCRIPTION as DESCRIPT2
0_2_, author3_.LAST_NAME as LAST4_0_2_, authors2_.BOOK_ID as BOOK1_2_0__, authors2_.AUTHOR_ID as AUTHOR2_1_0__ from book book0
 on book0_.CATEGORY_ID=category1_.ID left outer join author_book authors2_ on book0_.ID=authors2_.BOOK_ID left outer join auth
thor3_.ID
**************************************************
Listing books with details:
Book [id=1, isbn=1457896545, title=Beegining Java, price=61.0]
Category - Id: 1, Name: Java
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
--------------------------------------------------
Book [id=2, isbn=5485632322, title=Java Entreprise Edit, price=70.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
--------------------------------------------------
Book [id=5, isbn=4875656565, title=Java for non program, price=86.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
--------------------------------------------------
Book [id=6, isbn=457565656, title=Advanced Java Concep, price=66.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
--------------------------------------------------
Book [id=7, isbn=1457522GF, title=NEW BOOK, price=46.0]
Category - Id: 1, Name: Java
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
--------------------------------------------------
Book [id=3, isbn=5765522262, title=Mysql Concepts , price=46.0]
Category - Id: 2, Name: Mysql
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
--------------------------------------------------
Book [id=4, isbn=7523232223, title=Beegining Mysql , price=49.0]
Category - Id: 2, Name: Mysql
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
--------------------------------------------------
```

```
mysql> select * from book;
+----+-------------+------------+----------------------+-------+
| ID | CATEGORY_ID | ISBN       | TITLE                | PRICE |
+----+-------------+------------+----------------------+-------+
|  1 |           1 | 1457896545 | Beegining Java       |    61 |
|  2 |           1 | 5485632322 | Java Entreprise Edit |    70 |
|  3 |           2 | 5765522262 | Mysql Concepts       |    46 |
|  4 |           2 | 7523232223 | Beegining Mysql      |    49 |
|  5 |           1 | 4875656565 | Java for non program |    86 |
|  6 |           1 | 457565656  | Advanced Java Concep |    66 |
|  7 |           1 | 1457522GF  | NEW BOOK             |    46 |
+----+-------------+------------+----------------------+-------+
7 rows in set (0.00 sec)
```

- For the method **delete(Book newBook)**

```
Book deleted with id: 7
Hibernate: delete from author_book where BOOK_ID=?
Hibernate: delete from book where ID=?
Hibernate: select distinct book0_.ID as ID1_2_0_, category1_.ID as ID1_3_1_, author3_.ID as ID1_0_2_, book0_.CATEGORY_ID as C
0_, book0_.PRICE as PRICE3_2_0_, book0_.TITLE as TITLE4_2_0_, category1_.NAME as NAME2_3_1_, author3_.DESCRIPTION as DESCRIPT
0_2_, author3_.LAST_NAME as LAST4_0_2_, authors2_.BOOK_ID as BOOK1_2_0__, authors2_.AUTHOR_ID as AUTHOR2_1_0__ from book book
 on book0_.CATEGORY_ID=category1_.ID left outer join author_book authors2_ on book0_.ID=authors2_.BOOK_ID left outer join aut
thor3_.ID
*****************************************
Listing books with details:
Book [id=1, isbn=1457896545, title=Beegining Java, price=61.0]
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Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
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Book [id=2, isbn=5485632322, title=Java Entreprise Edit, price=70.0]
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Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
Author [id=2, firstName=Daniel , lastName=Perkins , description=new and revolutionary author]
Author [id=1, firstName=John , lastName=Smith, description=very young and popular author]
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Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
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Category - Id: 2, Name: Mysql
Author [id=4, firstName=Marcus, lastName=Wall, description=specialized in Mysql and brought a huge plus to this community]
-------------------------------------
```

```
mysql> select * from book;
+----+-------------+------------+--------------------------+-------+
| ID | CATEGORY_ID | ISBN       | TITLE                    | PRICE |
+----+-------------+------------+--------------------------+-------+
|  1 |           1 | 1457896545 | Beegining Java           | 60.59 |
|  2 |           1 | 5485632322 | Java Entreprise Edition  | 69.99 |
|  3 |           2 | 5765522262 | Mysql Concepts           | 45.98 |
|  4 |           2 | 7523232223 | Beegining Mysql          | 48.99 |
|  5 |           1 | 4875656565 | Java for non programmers | 85.65 |
|  6 |           1 | 457565656  | Advanced Java Concepts   | 65.99 |
+----+-------------+------------+--------------------------+-------+
6 rows in set (0.00 sec)
```

- For the method **`findByAuthorId(int id)`**

```
*********************************************
Book, cathegory and authors with Author id 3 :
Book [id=1, isbn=1457896545, title=Beegining Java, price=61.0]
Category - Id: 1, Name: Java
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
---------------------------------------
Book [id=2, isbn=5485632322, title=Java Entreprise Edit, price=70.0]
Category - Id: 1, Name: Java
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
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Book [id=5, isbn=4875656565, title=Java for non program, price=86.0]
Category - Id: 1, Name: Java
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
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Book [id=6, isbn=457565656, title=Advanced Java Concep, price=66.0]
Category - Id: 1, Name: Java
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
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Category - Id: 2, Name: Mysql
Author [id=3, firstName=Jet, lastName=Li, description=From China and very well established in the authors list]
---------------------------------------
```