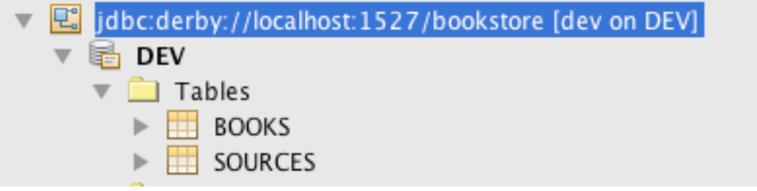
Test 1 JSTL, EL and Connection Pool

In this programming test, you are to create a very simple Web Application that will allow customers find books from a bookstore.

1. Data Source Configuration

Please create a database named as ***bookstore*** in Java DB, then use the ***bookstore.sql*** to create tables and to insert sample data records.


jdbc:derby://localhost:1527/bookstore [dev on DEV]
DEV
Tables
BOOKS
SOURCES

As shown in the above figure, you will have two tables in your bookstore database, including BOOKS and SOURCES.

You should configure a Database Resource in your application server and access this resource in your Web Application.

2. Web Application Development

Your Application should be setup as follows:

1) ShowBooks

The ShowBooks Servlet will function as the customer's primary interface to the Web Application. This controller will construct collections required to display book infromations using the BookList.jsp View.

You must make use of JavaBeans in your servlet when constructing the collections to be passed to the BookList.jsp page.

2) BookList.jsp

The BookList.jsp will show a table listing books. The table should contain the following columns:

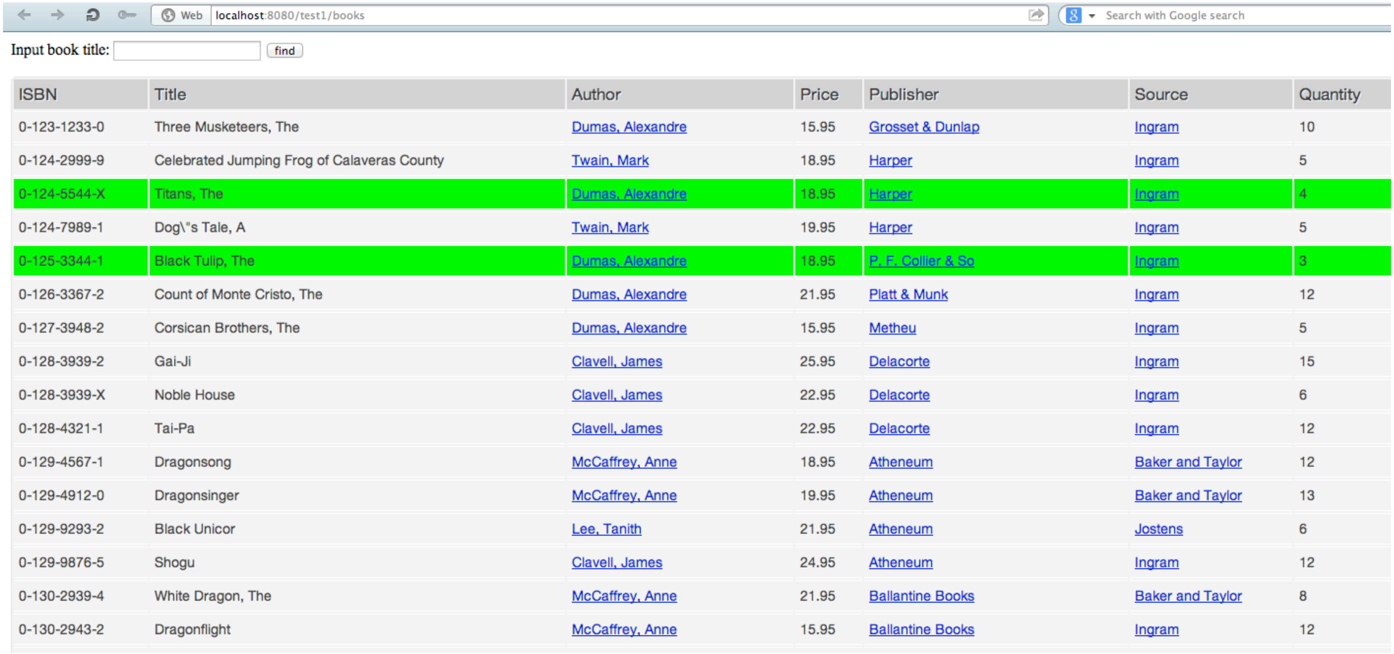
ISBN, TITLE, AUTHOR_NAME, RETAIL_PRICE,PUBLISHER_NAME, **SOURCE_NAME** and NUMBER_ON_HAND.

- ➢ By default, the BookList.jsp will show all the books available.
- ➢ It should also allow the user to find books by title.
- ➢ All of the books with NUMBER_ON_HAND less than 5 should be shown with special background color.
- ➢ All author names and publisher names shown in the BookList.jsp will link to ShowBooks servlet to retrive books from the same author or publisher.

The BookList.jsp page should not be directly accessible via the client's browser. The 'ShowBooks' should forward the request and response as well as data collections.

You are only allowed to use Beans, JSTL and EL to display data.

Below is an example of the page layout of BookList.jsp



Input book title: find

ISBN	Title	Author	Price	Publisher	Source	Quantity
0-123-1233-0	Three Musketeers, The	Dumas, Alexandre	15.95	Grosset & Dunlap	Ingram	10
0-124-2999-9	Celebrated Jumping Frog of Calaveras County	Twain, Mark	18.95	Harper	Ingram	5
0-124-5544-X	Titans, The	Dumas, Alexandre	18.95	Harper	Ingram	4
0-124-7989-1	Dog\"s Tale, A	Twain, Mark	19.95	Harper	Ingram	5
0-125-3344-1	Black Tulip, The	Dumas, Alexandre	18.95	P. F. Collier & So	Ingram	3
0-126-3367-2	Count of Monte Cristo, The	Dumas, Alexandre	21.95	Platt & Munk	Ingram	12
0-127-3948-2	Corsican Brothers, The	Dumas, Alexandre	15.95	Metheu	Ingram	5
0-128-3939-2	Gai-Ji	Clavell, James	25.95	Delacorte	Ingram	15
0-128-3939-X	Noble House	Clavell, James	22.95	Delacorte	Ingram	6
0-128-4321-1	Tai-Pa	Clavell, James	22.95	Delacorte	Ingram	12
0-129-4567-1	Dragonsong	McCaffrey, Anne	18.95	Atheneum	Baker and Taylor	12
0-129-4912-0	Dragonsinger	McCaffrey, Anne	19.95	Atheneum	Baker and Taylor	13
0-129-9293-2	Black Unicor	Lee, Tanith	21.95	Atheneum	Jostens	6
0-129-9876-5	Shogu	Clavell, James	24.95	Atheneum	Ingram	12
0-130-2939-4	White Dragon, The	McCaffrey, Anne	21.95	Ballantine Books	Baker and Taylor	8
0-130-2943-2	Dragonflight	McCaffrey, Anne	15.95	Ballantine Books	Ingram	12

3) BookBean

Please design the propoerties of this JavaBean by yourself.

Notes:

- In order to save time, you can use ShowBooks.html given in the attached files as a template to construct your ShowBooks.jsp.
- You may configure URL patterns for your servlets and JSPs to provide a more convinient access path.
- You needn't handle multiple pages output.
- You may use INNER JOIN in your SQL Statement. Here is one example for your reference:

```
select * from Books inner join Sources
   on Books.SOURCE_NUMB=Sources.SOURCE_NUMB
```

- To add a hyperlink, you can use standard HTML markup <a href=""/a>

```
<td>
    <a href="books?author=<c:out value="${book.author}"/>">
        <c:out value="${book.author}"/>
    </a>
</td>
```

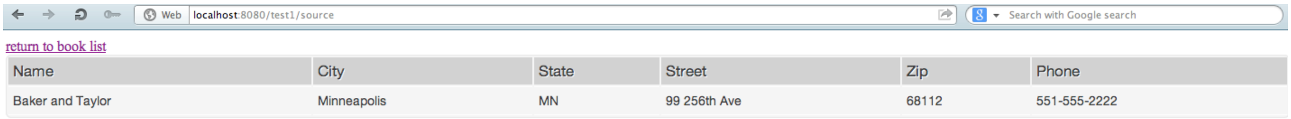
- To avoid problems when passing paramter with special character such as '&', you can use <c:url> tag to encode your parameter.

```
<c:url value="books" var="publisherURL">
    <c:param name="publisher"   value="${book.publisher}" />
</c:url>

<td>
    <a href="<c:out value="${publisherURL}"/>">
        <c:out value="${book.publisher}"/>
    </a>
</td>
```

Optional Task:

If you have enough time, please try to make source names shown in the BookList.jsp link to a servlet named as ShowSource which can retrive the source information from the database; and then use SourceInfo.jsp to show the detailed information of a source.



return to book list

Name	City	State	Street	Zip	Phone
Baker and Taylor	Minneapolis	MN	99 256th Ave	68112	551-555-2222

/************************************ THE END***/