## **Book Rental System**

We have developed a web application called Book Rental System. It will allow any user to create an account to become a customer. It will enable the users (customers) to view the real time inventory and extract book information and rent those books for a specific amount of time. The main objective of the application is to search and rent a book based on specific genre. The selected books are displayed with their detailed information like the Author name, Book ID, Publication Year, Genre, Ratings and Language.

Now we will go step by step to understand the working of the above web application.

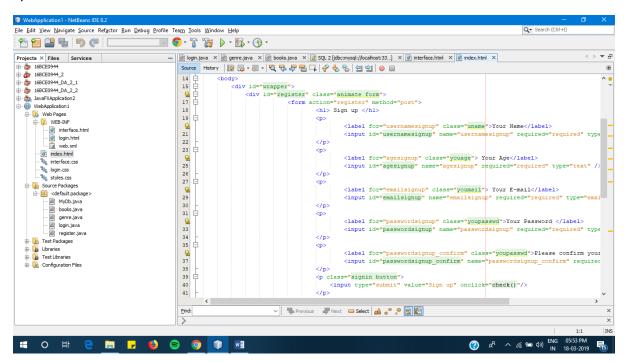
Step 1: User Registration

```
HTML code:
```

```
<!DOCTYPE html>
<html>
  <head>
    <title>JAVA Db WebApp</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="styles.css">
  </head>
  <body>
    <div id="wrapper">
      <div id="register" class="animate form">
                    <form action="register" method="post">
                           <h1> Sign up </h1>
>
             <label for="usernamesignup" class="uname">Your Name</label>
<input id="usernamesignup" name="usernamesignup" required="required" type="text" />
```

```
>
            <label for="agesignup" class="youage"> Your Age</label>
            <input id="agesignup" name="agesignup" required="required" type="text" />
>
            <label for="emailsignup" class="youmail"> Your E-mail</label>
      <input id="emailsignup" name="emailsignup" required="required" type="email" />
>
            <label for="passwordsignup" class="youpasswd">Your Password </label>
            <input id="passwordsignup" name="passwordsignup" required="required"
type="password"/>
>
<label for="passwordsignup confirm" class="youpasswd">Please confirm your password
</label>
<input id="passwordsignup confirm" name="passwordsignup confirm" required="required"
type="password" />
<input type="submit" value="Sign up" onclick="check()"/>
</form>
         <input type="button" value="Login" onclick="window.location.href='register'"/>
</div>
```

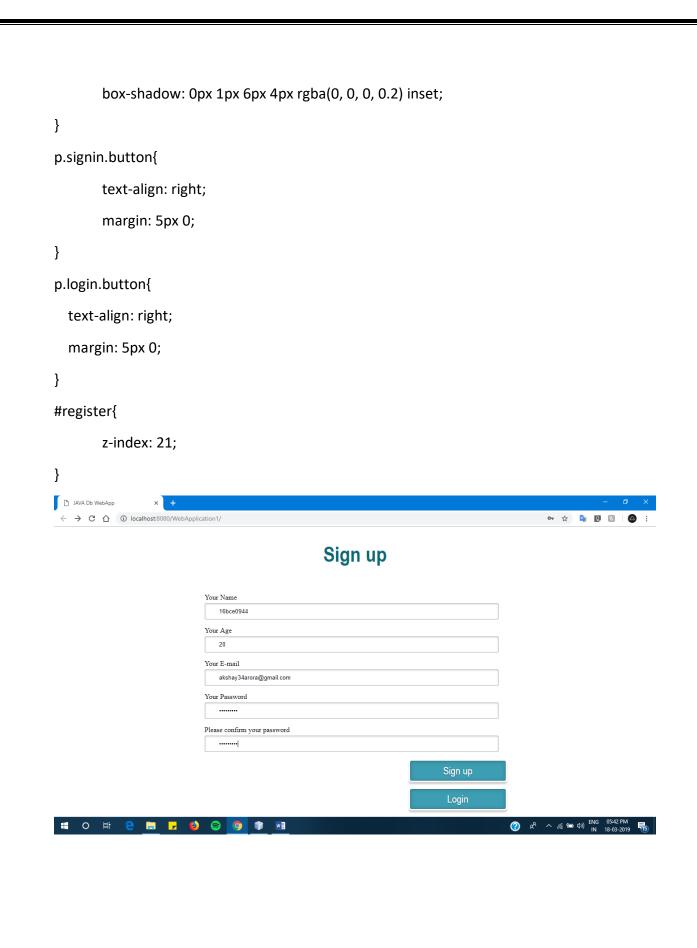
```
</div>
<script>
function check()
{
    var x=document.getElementById("passwordsignup").value;
    var y=document.getElementById("passwordsignup_confirm").value;
    if(x!=y)
    {
        alert("Passwords dont match\nPress back and register again");
    }
    </script>
    </body>
</html>
```



```
CSS code:
body{
  margin-left: 25%;
  margin-right: 25%;
}
#wrapper h1{
       font-size: 48px;
       color: rgb(6, 106, 117);
       padding: 2px 0 10px 0;
       font-family: 'FranchiseRegular','Arial Narrow', Arial, sans-serif;
       font-weight: bold;
       text-align: center;
       padding-bottom: 30px;
}
input {
outline: none;
}
#wrapper input:not([type="radiobutton"]){
       width: 92%;
       margin-top: 4px;
       padding: 10px 5px 10px 32px;
       border: 1px solid rgb(178, 178, 178);
       box-sizing : content-box;
       border-radius: 3px;
```

box-shadow: 0px 1px 4px 0px rgba(168, 168, 168, 0.6) inset;

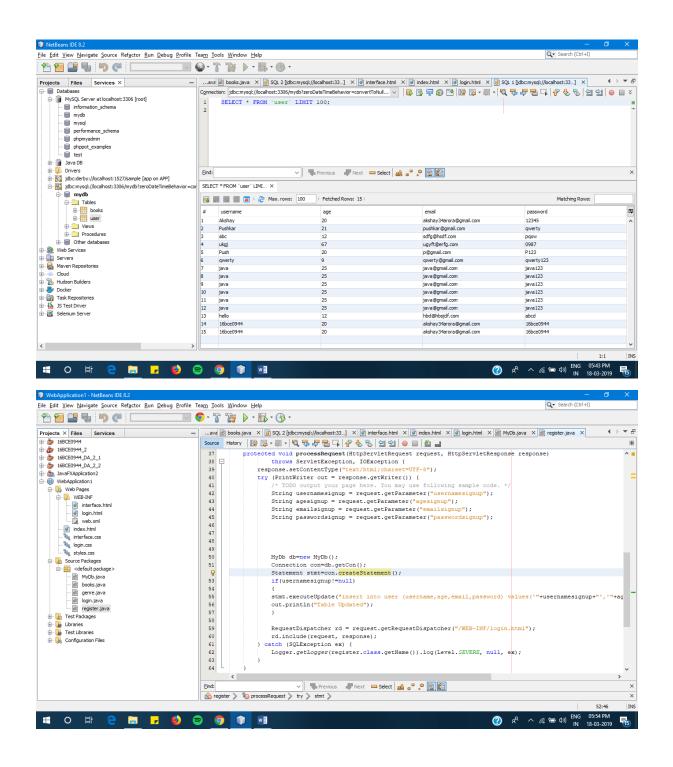
```
}
#wrapper p.button input{
       width: 30%;
       cursor: pointer;
       background: rgb(61, 157, 179);
       padding: 8px 5px;
       font-family: 'BebasNeueRegular','Arial Narrow', Arial, sans-serif;
       color: #fff;
       font-size: 24px;
       border: 1px solid rgb(28, 108, 122);
       margin-bottom: 10px;
       text-shadow: 0 1px 1px rgba(0, 0, 0, 0.5);
       border-radius: 3px;
       box-shadow:
              Opx 1px 6px 4px rgba(0, 0, 0, 0.07) inset,
              Opx Opx Opx 3px rgb(254, 254, 254),
              Opx 5px 3px 3px rgb(210, 210, 210);
#wrapper p.button input:hover{
       background: rgb(74, 179, 198);
}
#wrapper p.button input:focus{
       background: rgb(40, 137, 154);
       position: relative;
       border: 1px solid rgb(12, 76, 87);
```



# Step 2 : Creating User Database to store the User SignUp Information. Connecting servelet file-

```
import java.io.BufferedReader;
import java.io.FileReader;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
public class register extends HttpServlet {
protected void processRequest(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
      /* TODO output your page here. You may use following sample code. */
      String usernamesignup = request.getParameter("usernamesignup");
      String agesignup = request.getParameter("agesignup");
      String emailsignup = request.getParameter("emailsignup");
      String passwordsignup = request.getParameter("passwordsignup");
      MyDb db=new MyDb();
```

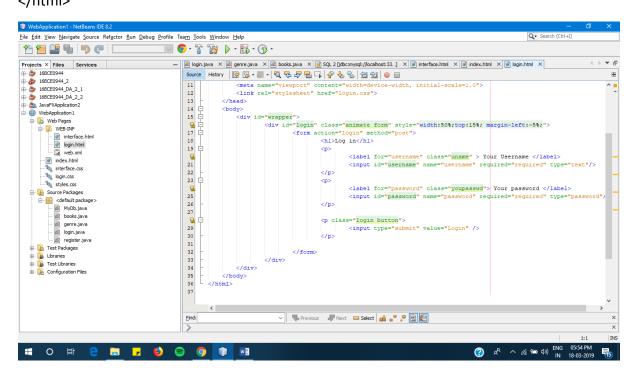
```
Connection con=db.getCon();
      Statement stmt=con.createStatement();
      if(usernamesignup!=null)
      stmt.executeUpdate("insert into user (username,age,email,password)
values(""+usernamesignup+"",""+agesignup+"",""+emailsignup+"",""+passwordsignup+"")");
      out.println("Table Updated");
      RequestDispatcher rd = request.getRequestDispatcher("/WEB-INF/login.html");
      rd.include(request, response);
    } catch (SQLException ex) {
      Logger.getLogger(register.class.getName()).log(Level.SEVERE, null, ex);
    }
 protected void doGet(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    processRequest(request, response);
  }
  protected void doPost(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    processRequest(request, response);
  } public String getServletInfo() {
    return "Short description";
  }// </editor-fold>
```

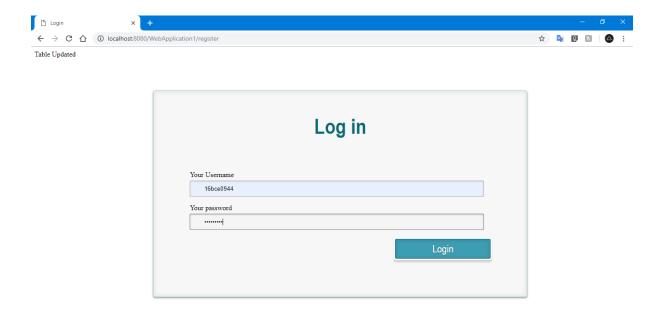


### **Step 3: Creating Login Page**

#### HTML code:

```
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<html>
  <head>
    <title>Login</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="login.css">
  </head>
  <body>
    <div id="wrapper">
      <div id="login" class="animate form" style="width:50%;top:15%; margin-left:-5%;">
<form action="login" method="post">
<h1>Log in</h1>
<label for="username" class="uname" > Your Username </label>
<input id="username" name="username" required="required" type="text"/>
>
<label for="password" class="youpasswd"> Your password </label>
       <input id="password" name="password" required="required" type="password"/>
```





#### SERVELET FILE-

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

protected void processRequest(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

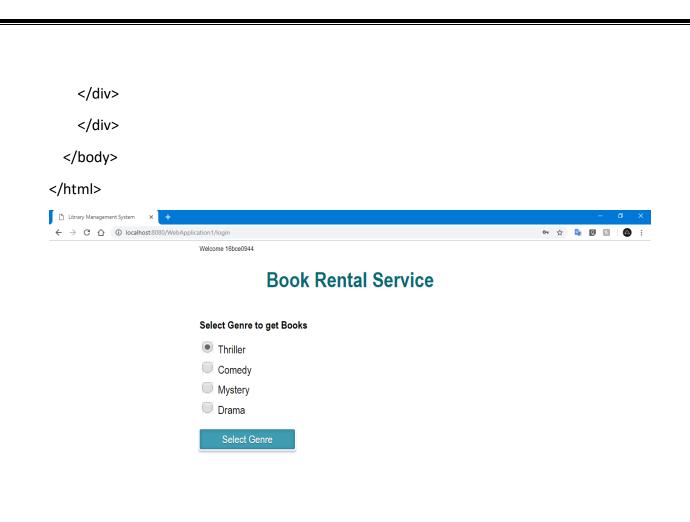
```
response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
      String username = request.getParameter("username");
      String password = request.getParameter("password");
      MyDb db=new MyDb();
      Connection con=db.getCon();
      Statement stmt=con.createStatement();
      ResultSet rs=stmt.executeQuery("select username,password from user");
      int flag=0;
      while(rs.next())
      {
        String uname=rs.getString("username");
        String pass=rs.getString("password");
        if(uname.compareTo(username)==0)
          if(pass.compareTo(password)==0)
            out.println("Welcome "+username);
            RequestDispatcher rd = request.getRequestDispatcher("/WEB-
INF/interface.html");
            rd.include(request, response);
            flag=1;
            break;
```

```
}
    if(flag==0)
    {
      out.println("Wrong Username or Password");
    }
  } catch (SQLException ex) {
    Logger.getLogger(register.class.getName()).log(Level.SEVERE, null, ex);
  }
}
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
  processRequest(request, response);
}
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
  processRequest(request, response);
}
public String getServletInfo() {
  return "Short description";
}// </editor-fold>
```

### Step 4: Creating an interface for selecting specific genre of book.

#### HTML code:

```
<!DOCTYPE html>
<html>
 <head>
   <title>Library Management System</title>
    <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <link rel="stylesheet" href="styles.css">
 </head>
 <body style="font-family: 'FranchiseRegular','Arial Narrow',Arial,sans-serif;">
   <div id="wrapper">
   <h1>Book Rental Service</h1>
   <h2>Select Genre to get Books</h2>
    <div id="genres">
      <form action="genre" method="post">
        <input type="radio" name="genre" value="thriller" style="width:2em; height:2em;
margin-bottom: 15px; margin-right: 10px;" checked><span style="font-
size:25px;">Thriller</span><br>
        <input type="radio" name="genre" value="comedy" style="width:2em; height:2em;
margin-bottom: 15px;margin-right: 10px;"><span style="font-size:25px;">Comedy</span><br>
        <input type="radio" name="genre" value="mystery" style="width:2em; height:2em;
margin-bottom: 15px;margin-right: 10px;"><span style="font-size:25px;">Mystery</span><br>
        <input type="radio" name="genre" value="drama" style="width:2em; height:2em;
margin-bottom: 15px;margin-right: 10px;"><span style="font-size:25px;">Drama</span>
        <input type="submit" value="Select Genre" />
        </form>
```





# **Step 5 : Displaying the books of selected genre SERVELET FILE-**

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.logging.Level;

import java.util.logging.Logger;

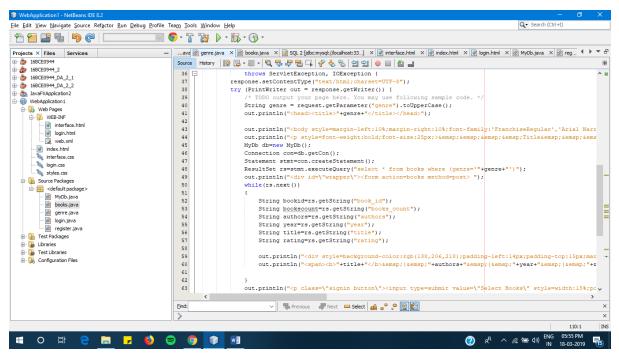
import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

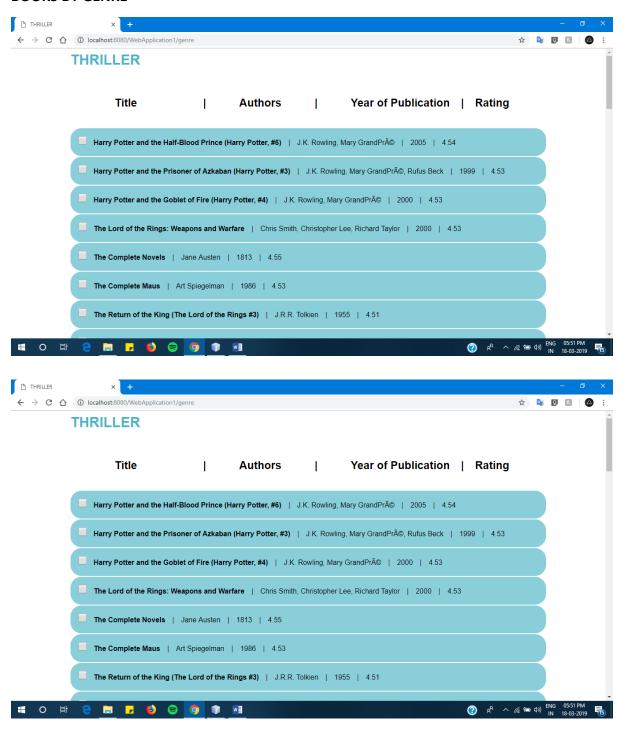
```
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
  protected void processRequest(HttpServletRequest request, HttpServletResponse response)
     throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
   try (PrintWriter out = response.getWriter()) {
     /* TODO output your page here. You may use following sample code. */
     String genre = request.getParameter("genre").toUpperCase();
     out.println("<head><title>"+genre+"</title></head>");
     out.println("<body style=margin-left:10%;margin-right:10%;font-
family: 'FranchiseRegular', 'Arial Narrow', Arial, sans-serif; >< h1
style=color:rgb(74,179,198);>"+genre+"</h1><br>");
     out.println("<p style=font-weight:bold;font-
size:25px;>         
         
Publication  |   Rating<br>");
     MyDb db=new MyDb();
     Connection con=db.getCon();
     Statement stmt=con.createStatement();
     ResultSet rs=stmt.executeQuery("select * from books where (genre=""+genre+"")");
     out.println("<div id=\"wrapper\"><form action=books method=post>");
     while(rs.next())
       String bookid=rs.getString("book id");
       String bookscount=rs.getString("books count");
       String authors=rs.getString("authors");
       String year=rs.getString("year");
       String title=rs.getString("title");
```

```
String rating=rs.getString("rating");
                     out.println("<div style=background-color:rgb(138,206,218);padding-left:14px;padding-
top:15px;margin-bottom:2px;border-radius:25px;><input type=checkbox name=book
value=""+bookid+" style=\"width:1.5em; height:1.5em; margin-bottom: 25px; margin-right:
10px;\">");
out.println("<span><b>"+title+"</b>&emsp; | &emsp; | authors+"&emsp; | &emsp; | &ems
sp; |   "+rating+"</span><br></div>");
                }
                out.println("<input type=submit value=\"Select Books\"
style=width:15%;position:absolute;left:0;margin-left:10%;margin-top:3%;margin-
bottom:5%;cursor:pointer;background:rgb(61,157,179);padding-left:5px;padding-
right:5px;padding-top:8px;padding-bottom:8px;color:#000;font-size:24px;border-
radius:15px;></form></div>");
          } catch (SQLException ex) {
                Logger.getLogger(genre.class.getName()).log(Level.SEVERE, null, ex);
          }
     }
     @Override
     protected void doGet(HttpServletRequest request, HttpServletResponse response)
                throws ServletException, IOException {
           processRequest(request, response);
     }
     @Override
     protected void doPost(HttpServletRequest request, HttpServletResponse response)
                throws ServletException, IOException {
           processRequest(request, response);
```

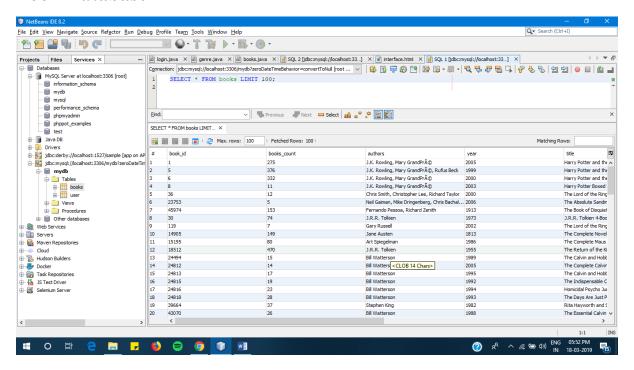
```
}
@Override
public String getServletInfo() {
   return "Short description";
}// </editor-fold>
}
```



#### **BOOKS BY GENRE**



#### **Book Database**



Step 6: Displaying the details of selected books.

#### **SERVELET**

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.sql.Statement;

import java.util.Arrays;

import java.util.List;

import java.util.logging.Level;

import java.util.logging.Logger;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

```
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
  protected void processRequest(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
      /* TODO output your page here. You may use following sample code. */
      out.println("<head><title>Books Selected</title></head>");
      out.println("<body style=margin-left:10%;margin-right:10%;font-
family: 'FranchiseRegular', 'Arial Narrow', Arial, sans-serif; >< h1
style=color:rgb(74,179,198);>Books Selected</h1><br>");
      String[] book = request.getParameterValues("book");
      MyDb db=new MyDb();
      Connection con=db.getCon();
      Statement stmt=con.createStatement();
      for(String s:book)
        ResultSet rs=stmt.executeQuery("select * from books where (book_id=""+s+"")");
        while(rs.next())
        {
        String bookid=rs.getString("book id");
        String bookscount=rs.getString("books_count");
        String authors=rs.getString("authors");
        String year=rs.getString("year");
        String title=rs.getString("title");
        String genre=rs.getString("genre");
        String language=rs.getString("language");
```

```
String rating=rs.getString("rating");
        String image url=rs.getString("image url");
        out.println("<img src=""+image url+"' style=margin-bottom:5%;><span style=font-
weight:bold;position:absolute;margin-left:5%;font-size:20px;>"+title+"</span><span
style=position:absolute;margin-top:3%;margin-left:5%;><b>BookID =
</b>"+bookid+"</span><span style=position:absolute;margin-top:5%;margin-
left:5%;><b>Books Available = </b>"+bookscount+"</span><span
style=position:absolute;margin-top:7%;margin-left:5%;><b>Author(s) =
</b>"+authors+"</span><span style=position:absolute;margin-top:3%;margin-
left:25%;><b>Pubication Year = </b>"+year+"</span><span style=position:absolute;margin-
top:9%;margin-left:5%;><b>Book Genre = </b>"+genre+"</span><span
style=position:absolute;margin-top:5%;margin-left:25%;><b>Language =
</b>"+language+"</span><span style=position:absolute;margin-top:9%;margin-
left:25%;><b>Rating = </b>"+rating+"</span><br>");
        //out.println(bookid+" "+bookscount+" "+authors+" "+year+" "+title+" "+genre+"
"+language+" "+rating+"<br>");
      }
    } catch (SQLException ex) {
      Logger.getLogger(books.class.getName()).log(Level.SEVERE, null, ex);
    }
  }
  @Override
  protected void doGet(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    processRequest(request, response);
  }
  @Override
  protected void doPost(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {
    processRequest(request, response);
```

```
}
@Override
public String getServletInfo() {
   return "Short description";
}// </editor-fold>
}
```

