

ASSIGNMENT NO. 5

JSP Experiments: Write a JSP application to input book information and store in the database. Application must provide facility to search book based on title of book or author or ISBN number.

```
mysql> create database bookdb;
Query OK, 1 row affected (0.01 sec)

mysql> use bookdb;
Database changed
mysql> CREATE TABLE books (
    ->     id INT AUTO_INCREMENT PRIMARY KEY,
    ->     title VARCHAR(255),
    ->     author VARCHAR(255),
    ->     isbn VARCHAR(50),
    ->     pub_year INT
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> desc books;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key  | Default | Extra       |
+-----+-----+-----+-----+-----+
| id   | int    | NO   | PRI  | NULL    | auto_increment |
| title | varchar(255) | YES  |      | NULL    |              |
| author | varchar(255) | YES  |      | NULL    |              |
| isbn  | varchar(50)  | YES  |      | NULL    |              |
| pub_year | int    | YES  |      | NULL    |              |
+-----+-----+-----+-----+-----+
5 rows in set (0.02 sec)
```

BookApp.jsp

```
<%@ page import="java.sql.*" %>
<html>
<head>
    <title>Book Management Application</title>
</head>
<body>
    <h1> Book Management System</h1>

    <!-- Menu -->
    <a href="BookApp.jsp?action=add">Add Book</a> |
    <a href="BookApp.jsp?action=search">Search Book</a>
    <hr>

    <%
        String action = request.getParameter("action");

        // Database connection variables
        String url = "jdbc:mysql://localhost:3306/bookdb";
        String user = "root"; // change if needed
```

```

String pass = "root"; // change if needed
Class.forName("com.mysql.cj.jdbc.Driver");
Connection conn = DriverManager.getConnection(url, user, pass);

if("add".equals(action)) {
%>
<!-- Add Book Form -->
<h2>Add a New Book</h2>
<form method="post" action="BookApp.jsp?action=add">
    Title: <input type="text" name="title" required><br><br>
    Author: <input type="text" name="author" required><br><br>
    ISBN: <input type="text" name="isbn" required><br><br>
    Publication Year: <input type="number" name="pub_year" required><br><br>
    <input type="submit" value="Add Book">
</form>

<%
    String title = request.getParameter("title");
    String author = request.getParameter("author");
    String isbn = request.getParameter("isbn");
    String pub_year = request.getParameter("pub_year");

    if(title != null && author != null && isbn != null && pub_year != null) {
        try {
            String sql = "INSERT INTO books (title, author, isbn, pub_year) VALUES (?, ?, ?, ?)";
            PreparedStatement ps = conn.prepareStatement(sql);
            ps.setString(1, title);
            ps.setString(2, author);
            ps.setString(3, isbn);
            ps.setInt(4, Integer.parseInt(pub_year));

            int i = ps.executeUpdate();
            if(i > 0) {
                out.println("<p style='color:green;'> 

```

```

<form method="get" action="BookApp.jsp">
    <input type="hidden" name="action" value="search">
    Enter keyword (Title / Author / ISBN):
    <input type="text" name="keyword" required>
    <input type="submit" value="Search">
</form>

<%
    String keyword = request.getParameter("keyword");
    if(keyword != null && !keyword.trim().equals("")) {
        try {
            String sql = "SELECT * FROM books WHERE title LIKE ? OR author LIKE ? OR
isbn LIKE ?";
            PreparedStatement ps = conn.prepareStatement(sql);
            String likeKeyword = "%" + keyword + "%";
            ps.setString(1, likeKeyword);
            ps.setString(2, likeKeyword);
            ps.setString(3, likeKeyword);

            ResultSet rs = ps.executeQuery();

            if(rs.isBeforeFirst()) {
                out.println("<h3>Search Results:</h3>");
                out.println("<table border='1' cellpadding='5'>");
                out.println("<tr><th>Title</th><th>Author</th><th>ISBN</th><th>Publication
Year</th></tr>");
                while(rs.next()) {
                    out.println("<tr>");
                    out.println("<td>" + rs.getString("title") + "</td>");
                    out.println("<td>" + rs.getString("author") + "</td>");
                    out.println("<td>" + rs.getString("isbn") + "</td>");
                    out.println("<td>" + rs.getInt("pub_year") + "</td>");
                    out.println("</tr>");
                }
                out.println("</table>");
            } else {
                out.println("<p style='color:red;'>✖ No books found matching your
search.</p>");
            }
        } catch(Exception e) {
            out.println("<p style='color:red;'>Error: " + e.getMessage() + "</p>");
        }
    }
%>

<%
} else {

```

```

        out.println("<p>👉 Choose an option above to proceed.</p>");
    }

    conn.close();
%>
</body>
</html>

```

localhost:8085/EXP5/BookApp.jsp?action=add

Book Management System

[Add Book](#) | [Search Book](#)

Add a New Book

Title:

Author:

ISBN:

Publication Year:

localhost:8085/EXP5/BookApp.jsp?action=add

Book Management System

[Add Book](#) | [Search Book](#)

Add a New Book

Title:

Author:

ISBN:

Publication Year:

... Book successfully added!

Book Management System

[Add Book](#) | [Search Book](#)

Search Book

Enter keyword (Title / Author / ISBN):

Book Management System

[Add Book](#) | [Search Book](#)

Search Book

Enter keyword (Title / Author / ISBN):

Search Results:

| Title | Author | ISBN | Publication Year |
|---------------|-------------------|------|------------------|
| wings of fire | A P J Abdul Kalam | 101 | 1999 |