

Exp No: 8
Date: 22.04.25

LIBRARY MANAGEMENT SYSTEM

AIM:

Write a program to implement a library management system

PROGRAM:

LIBRARYMANAGAEMENT.JSP

```
<%@ page import="java.sql.*" %>
<%@ page contentType="text/html; charset=UTF-8" language="java" %>
<html>
<head>
<title>Library Management - Add Book</title>
<style>
body {
    font-family: Arial, sans-serif;
    background-color: #f3f3f3;
    margin: 20px;
    padding: 20px;
}

h2 {
    color: #333;
}

form {
    background-color: #fff;
    padding: 20px;
    border-radius: 8px;
    box-shadow: 0 2px 5px rgba(0,0,0,0.1);
    width: 400px;
}

input[type="text"],
input[type="number"],
select {
    width: 100%;
    padding: 8px;
    margin: 6px 0 12px 0;
    border: 1px solid #ccc;
    border-radius: 4px;
}

input[type="submit"] {
    background-color: #4CAF50;
    color: white;
    border: none;
    padding: 10px 16px;
    cursor: pointer;
    border-radius: 4px;
}

input[type="submit"]:hover {
    background-color: #45a049;
}
```

```

p {
  font-size: 16px;
}

a {
  color: #007BFF;
  text-decoration: none;
}

a:hover {
  text-decoration: underline;
}
</style>

<script>

function validateForm() {
  const bookId = document.getElementById("bookId").value.trim();
  const title = document.getElementById("title").value.trim();
  const author = document.getElementById("author").value.trim();
  const year = document.getElementById("year").value.trim();
  const category = document.getElementById("category").value;
  const copies = document.getElementById("copies").value.trim();
  const currentYear = new Date().getFullYear();

  if (!/^[a-zA-Z0-9]+$/.test(bookId)) {
    alert("Book ID must be alphanumeric.");
    return false;
  }
  if (!/^[A-Za-z0-9\s"'.\-\!\?()]+$/.test(title)) {
    alert("Title contains invalid characters.");
    return false;
  }
  if (!/^[A-Za-z ]+$/.test(author)) {
    alert("Author name must contain only letters.");
    return false;
  }
  if (!/^\d{4}$/.test(year) || parseInt(year) > currentYear) {
    alert("Year must be a valid 4-digit year.");
    return false;
  }

  if (category === "") {
    alert("Please select a category.");
    return false;
  }
  if (isNaN(copies) || parseInt(copies) <= 0) {
    alert("Copies must be a positive number.");
    return false;
  }

  return true;
}
</script>
</head>
<body>
  <h2>Add Book to Library</h2>
  <form method="post" onsubmit="return validateForm()">
    Book ID: <input type="text" name="bookId" id="bookId"/><br/>

```

```

Title: <input type="text" name="title" id="title"/><br/>
Author: <input type="text" name="author" id="author"/><br/>
Year: <input type="text" name="year" id="year"/><br/>
Category:
<select name="category" id="category">
  <option value="">--Select--</option>
  <option value="Science">Science</option>
  <option value="Fiction">Fiction</option>
  <option value="History">History</option>
</select><br/>
Copies: <input type="number" name="copies" id="copies"/><br/><br/>
<input type="submit" value="Add Book"/>

```

```

<p>
<label>Book Details:-</label>
<a href="./display_books.jsp">Click Here</a>
</p>
</form>

```

```
<%
```

```
// JSP Database logic
```

```
// TODO:Change password before run the code
```

```
// TODO: CREATE THE TABLE IN MYSQL
```

```
/**
```

```

CREATE TABLE books (
  book_id VARCHAR(20) PRIMARY KEY,
  title VARCHAR(100),
  author VARCHAR(100),
  year INT,
  category VARCHAR(50),
  copies INT
);

```

```

**/

```

```

String bookId = request.getParameter("bookId");
if (bookId != null) {
  String title = request.getParameter("title");
  String author = request.getParameter("author");
  String year = request.getParameter("year");
  String isbn = request.getParameter("isbn");
  String category = request.getParameter("category");
  String copies = request.getParameter("copies");

  try {
    Class.forName("com.mysql.cj.jdbc.Driver");
    Connection conn = DriverManager.getConnection(
      "jdbc:mysql://localhost:3306/library_management", "root", "");
    PreparedStatement ps = conn.prepareStatement(
      "INSERT INTO books (book_id, title, author, year, category, copies) VALUES (?, ?, ?, ?, ?, ?)");
    ps.setString(1, bookId);
    ps.setString(2, title);
    ps.setString(3, author);
    ps.setInt(4, Integer.parseInt(year));
    ps.setString(5, category);
    ps.setInt(6, Integer.parseInt(copies));

    int result = ps.executeUpdate();
    if (result > 0) {

```

```

    %>
    <script>alert("Book Added Successfully!!")</script>
    <%
    } else {
        %>
        <script>alert("Failed to add book!!")</script>
        <%
        out.println("<p style='color:red;'>Failed to add book.</p>");
        }

        ps.close();
        conn.close();
    } catch (Exception e) {
        out.println("<p style='color:red;'>Error: " + e.getMessage() + "</p>");
    }
    }
    %>
</body>
</html>

```

DISPLAYBOOKS.JSP

```

<%@ page import="java.sql.*" %>

<%@ page contentType="text/html;charset=UTF-8" language="java" %>

<html>

<head>

    <title>Library Books List</title>

    <style>

        table {

            border-collapse: collapse;

            width: 90%;

            margin: 20px auto;

        }

        th, td {

            border: 1px solid #333;

            padding: 10px;

            text-align: center;

        }

        th {

            background-color: #f2f2f2;

        }
    
```

```

    h2 {
        text-align: center;
    }
</style>
</head>
<body>
    <h2>All Books in Library</h2>
    <%
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection conn = DriverManager.getConnection(
                "jdbc:mysql://localhost:3306/library_management", "root", "");

            Statement stmt = conn.createStatement();
            ResultSet rs = stmt.executeQuery("SELECT * FROM books");

            out.println("<table>");
            out.println("<tr><th>Book
ID</th><th>Title</th><th>Author</th><th>Year</th><th>Category</th><th>Copies</th></tr>");

            while (rs.next()) {
                out.println("<tr>");
                out.println("<td>" + rs.getString("book_id") + "</td>");
                out.println("<td>" + rs.getString("title") + "</td>");
                out.println("<td>" + rs.getString("author") + "</td>");
                out.println("<td>" + rs.getInt("year") + "</td>");
                out.println("<td>" + rs.getString("category") + "</td>");
                out.println("<td>" + rs.getInt("copies") + "</td>");
                out.println("</tr>");
            }
        }
    %>

```

```

        out.println("</table>");

        rs.close();

        stmt.close();

        conn.close();

    } catch (Exception e) {

        out.println("<p style='color:red;text-align:center;'>Error: " + e.getMessage() + "</p>");

    }

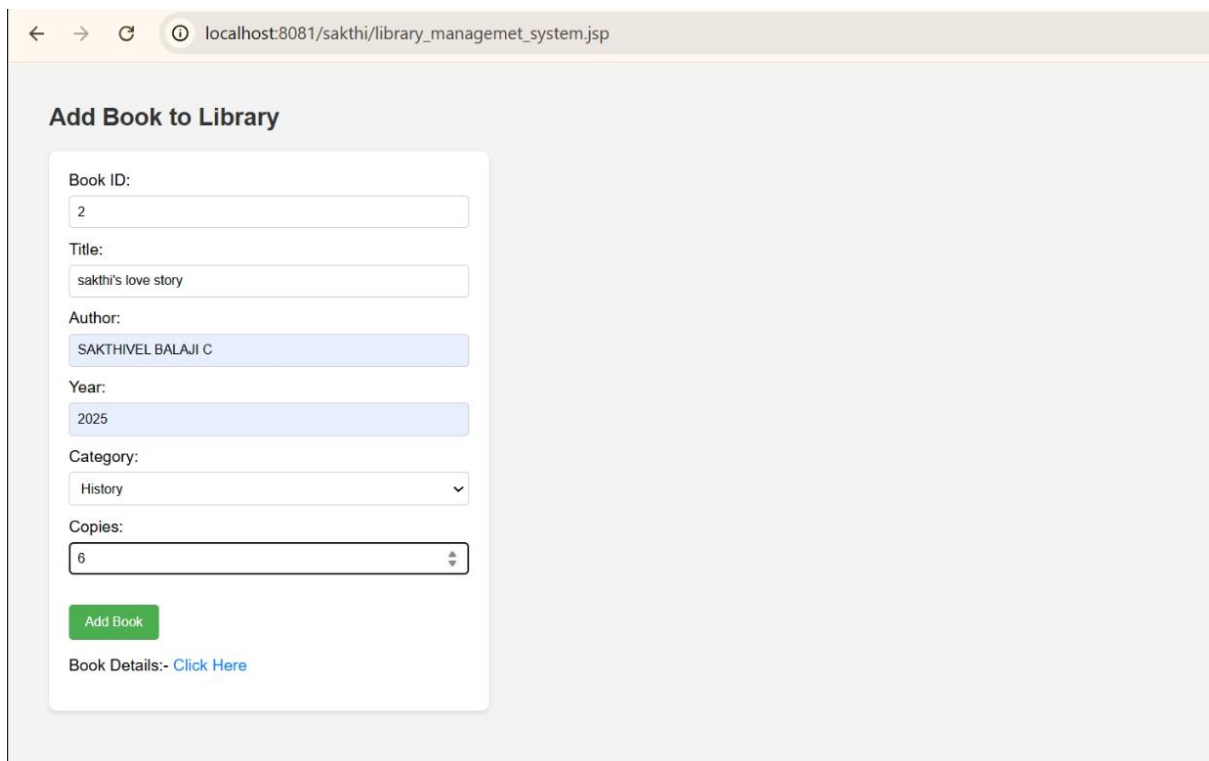
%>

</body>

</html>

```

OUTPUT:



The screenshot shows a web browser window with the address bar displaying 'localhost:8081/sakthi/library_managemet_system.jsp'. The main content area features a form titled 'Add Book to Library'. The form contains the following fields and elements:

- Book ID:** A text input field containing the value '2'.
- Title:** A text input field containing the value 'sakthi's love story'.
- Author:** A text input field containing the value 'SAKTHIVEL BALAJI C'.
- Year:** A text input field containing the value '2025'.
- Category:** A dropdown menu with 'History' selected.
- Copies:** A text input field containing the value '6'.
- Add Book:** A green button with the text 'Add Book'.
- Book Details:-** A link labeled 'Click Here' in blue text.

All Books in Library

Book ID	Title	Author	Year	Category	Copies
1	sakthi mayangal	SAKTHIVEL BALAJI C	2025	History	5
2	sakthi's love story	SAKTHIVEL BALAJI C	2025	History	6

XAMPP Control Panel v3.3.0 [Compiled: Apr 6th 2021]

XAMPP Control Panel v3.3.0

Modules

Service	Module	PID(s)	Port(s)	Actions
<input type="checkbox"/>	Apache	15472 16364	80, 443	Stop Admin Config Logs
<input type="checkbox"/>	MySQL	4780	3306	Stop Admin Config Logs
<input type="checkbox"/>	FileZilla			Start Admin Config Logs
<input type="checkbox"/>	Mercury			Start Admin Config Logs
<input type="checkbox"/>	Tomcat			Start Admin Config Logs

Config Netstat Shell Explorer Services Help Quit

```

16:53:18 [main] Initializing Control Panel
16:53:18 [main] Windows Version: Home 64-bit
16:53:18 [main] XAMPP Version: 8.2.12
16:53:18 [main] Control Panel Version: 3.3.0 [ Compiled: Apr 6th 2021 ]
16:53:18 [main] You are not running with administrator rights! This will work for
16:53:18 [main] most application stuff but whenever you do something with services
16:53:18 [main] there will be a security dialogue or things will break! So think
16:53:18 [main] about running this application with administrator rights!
16:53:18 [main] XAMPP Installation Directory: "d:\xampp\"
16:53:18 [main] Checking for prerequisites
16:53:19 [main] All prerequisites found
16:53:19 [main] Initializing Modules
16:53:19 [main] Starting Check-Timer
16:53:19 [main] Control Panel Ready
16:53:24 [Apache] Attempting to start Apache app...
16:53:24 [Apache] Status change detected: running
16:53:32 [mysql] Attempting to start MySQL app...
16:53:33 [mysql] Status change detected: running
  
```

RESULT :

Thus the experiment to implement the library management system has been successfully implemented and verified