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Web Technology Practical 5

Title: Implement the sample program demonstrating the use of Servlet. e.g., Create a database table ebookshop (book_id, book_title, book_author, book_price, quantity) using database like Oracle/MySQL etc. and display (use SQL select query) the table content using servlet

Ebookshop.sql

CREATE DATABASE IF NOT EXISTS ebookshop;

USE ebookshop;

CREATE TABLE IF NOT EXISTS books (

  book_id INT AUTO_INCREMENT PRIMARY KEY,

  book_title VARCHAR(255) NOT NULL,

  book_author VARCHAR(255) NOT NULL,

  book_price DECIMAL(10,2) NOT NULL,

  quantity INT NOT NULL

);

INSERT INTO books (book_title, book_author, book_price, quantity) VALUES

('The Alchemist', 'Paulo Coelho', 9.99, 10),

('To Kill a Mockingbird', 'Harper Lee', 7.99, 5),

('1984', 'George Orwell', 8.99, 8),

('The Great Gatsby', 'F. Scott Fitzgerald', 10.99, 3);

The database is as follows:

The code is as follows:

EbookShopServlet.java

```java
import java.io.*;

import javax.servlet.*;

import javax.servlet.http.*;

import java.sql.*;


public class EbookshopServlet extends HttpServlet {
    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      out.println("<html><head><title>Ebookshop</title></head><body>");
      out.println("<h1>Book List</h1>");
      try {
        Class.forName("com.mysql.cj.jdbc.Driver");
        Connection conn = DriverManager.getConnection(
          "jdbc:mysql://localhost:3306/ebookshop", "root", "");
        Statement stmt = conn.createStatement();
        ResultSet rs = stmt.executeQuery("SELECT * FROM books");
        out.println("<table border='1'>");
        out.println("<tr><th>ID</th><th>Title</th><th>Author</th><th>Price</th><th>Quantity</th></tr>");
        while (rs.next()) {
          out.println("<tr><td>" + rs.getInt("book_id") + "</td>");
          out.println("<td>" + rs.getString("book_title") + "</td>");
          out.println("<td>" + rs.getString("book_author") + "</td>");
          out.println("<td>" + rs.getDouble("book_price") + "</td>");
          out.println("<td>" + rs.getInt("quantity") + "</td></tr>");
        }
        out.println("</table>");
        rs.close();
        stmt.close();
```

```
        conn.close();

    } catch (Exception e) {

        out.println("<p>Error: " + e.getMessage() + "</p>");

    }

    out.println("</body></html>");

  }

}
```

Index.html

```
<!DOCTYPE html>

<html>

<head>

  <title>Ebookshop</title>

</head>

<body>

  <h1>Welcome to the Ebookshop</h1>

  <p><a href="/ebookshop">View Book List</a></p>

</body>

</html>
```
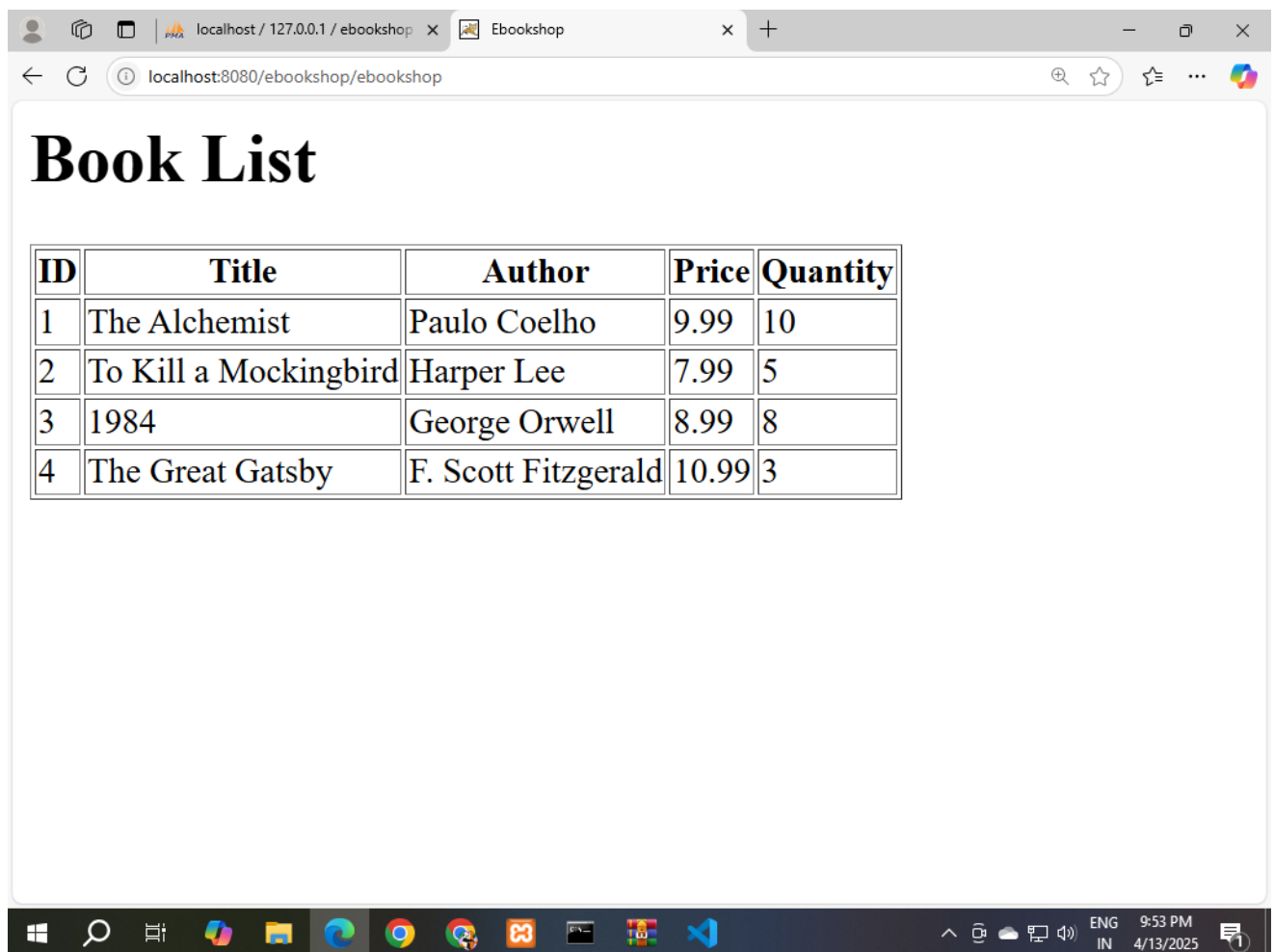
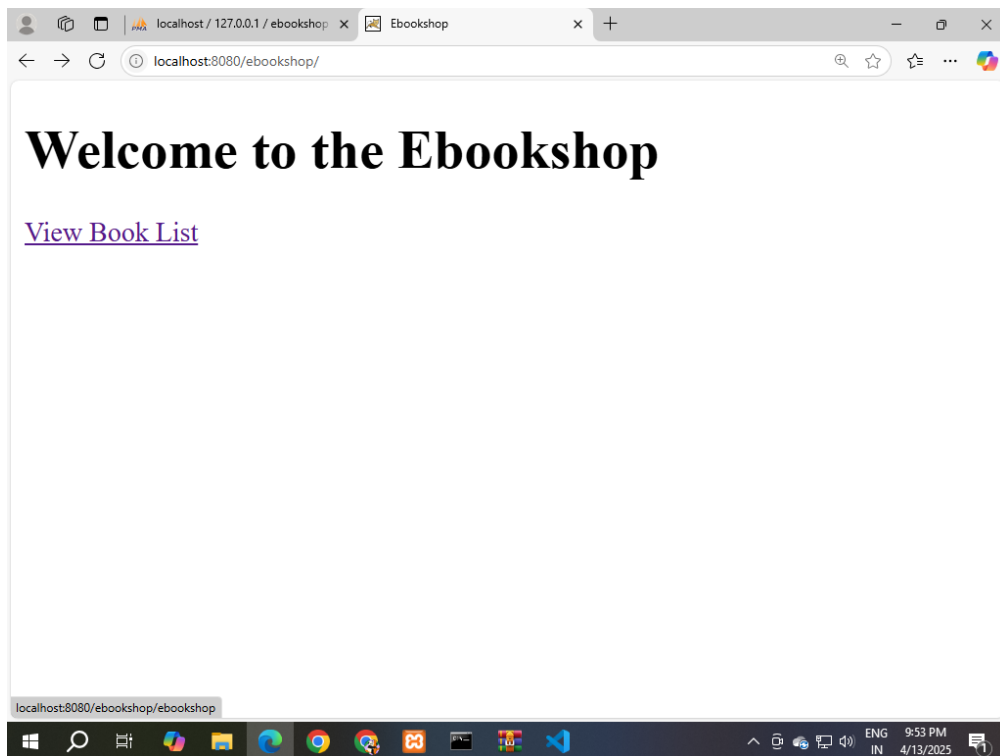**Web.xml (used for mapping the servlet class)**

```
<?xml version="1.0" encoding="UTF-8"?>

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

      version="3.1">

  <servlet>

    <servlet-name>EbookshopServlet</servlet-name>

    <servlet-class>EbookshopServlet</servlet-class>

  </servlet>

  <servlet-mapping>

    <servlet-name>EbookshopServlet</servlet-name>

    <url-pattern>/ebookshop</url-pattern>

  </servlet-mapping>

</web-app>
```
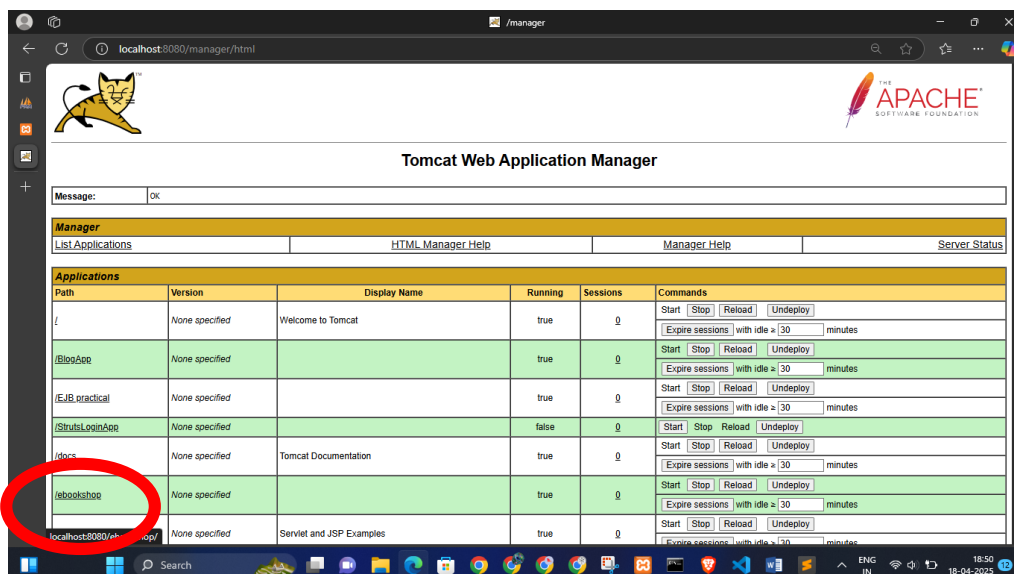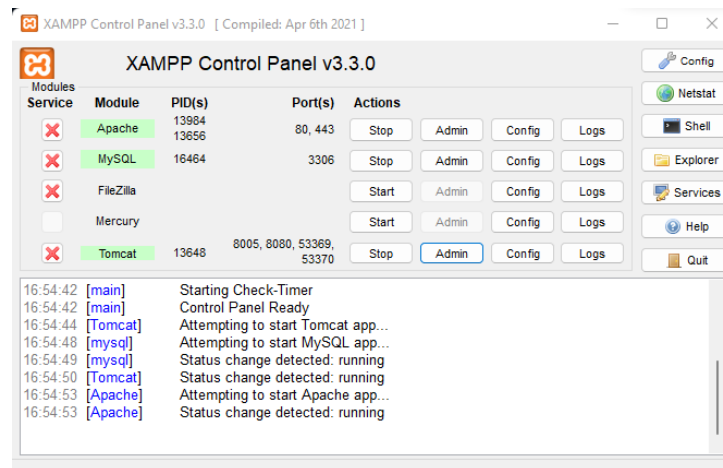
The output is as follows:

The directory structure is as follows:

The servlet is run using the XAMPP server TOMCAT server available inside it:

Conclusion: Thus in this way I have successfully created a servlet and retrieved information through it