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package p5;

import jakarta.servlet.http.*;
import jakarta.servlet.*;
import java.io.*;
import jakarta.servlet.annotation.*;
import java.sql.*;

@WebServlet(name = "DBServlet", value = "/DBServlet")
public class DBServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;
    private static final String jdbcUrl = "jdbc:mysql://localhost:3306/test1";
    private static final String uname = "root";
    private static final String password = "Kunal@123";

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
        try{
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection con = DriverManager.getConnection(jdbcUrl, uname,
password);
            response.getWriter().println("Connection established");
            response.setContentType("text/html");
            createTable(con);
            insertData(con, "The Alchemist", "Paulo Coelho", 100, 10);
            insertData(con, "The Great Gatsby", "F. Scott Fitzgerald", 150, 5);
            insertData(con, "The Lord of the Rings", "J. R. R. Tolkien", 200,
20);
            displayDataOnSite(con, response.getWriter());
            con.close();
        }catch(Exception e){
            e.printStackTrace();
        }
    }

    private static void createTable(Connection con) throws Exception {
        String query = "CREATE TABLE IF NOT EXISTS bookshop ( id int
auto_increment primary key,bname varchar(200), author varchar(200), price
int, quantity int);";
        PreparedStatement ps = con.prepareStatement(query);
        ps.executeUpdate();
        ps.close();
        System.out.println("Table created");
    }

    private static int insertData(Connection con, String bname, String author,
int price, int quantity) throws Exception {
        String query = "INSERT INTO bookshop(bname, author, price, quantity)
values(?,?,?,?)";
        PreparedStatement ps = con.prepareStatement(query);
        ps.setString(1, bname);
        ps.setString(2, author);

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        ps.setInt(3, price);
        ps.setInt(4, quantity);
        int i = ps.executeUpdate();
        ps.close();
        System.out.println("Data inserted");
        return i;
    }

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private static int updateData(Connection con, String bname, String author,
    int price, int quantity, int id) throws Exception {
    String query = "UPDATE bookshop SET bname=?, author=?, price=?,
        quantity=? WHERE id=?";
    PreparedStatement ps = con.prepareStatement(query);
    ps.setString(1, bname);
    ps.setString(2, author);
    ps.setInt(3, price);
    ps.setInt(4, quantity);
    ps.setInt(5, id);
    int i = ps.executeUpdate();
    ps.close();
    System.out.println("Data updated");
    return i;
}

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private static int deleteData(Connection con, int id) throws Exception {
    String query = "DELETE FROM bookshop WHERE id=?";
    PreparedStatement ps = con.prepareStatement(query);
    ps.setInt(1, id);
    int i = ps.executeUpdate();
    ps.close();
    System.out.println("Data deleted");
    return i;
}

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private static void displayData(Connection con) throws Exception {
    String query = "SELECT * FROM bookshop";
    PreparedStatement ps = con.prepareStatement(query);
    ResultSet rs = ps.executeQuery();
    while (rs.next()) {
        int id = rs.getInt(1);
        String bname = rs.getString(2);
        String author = rs.getString(3);
        int price = rs.getInt(4);
        int quantity = rs.getInt(5);
        System.out.println(id + " " + bname + " " + author + " " + price + "
            " + quantity);
    }
    ps.close();
    System.out.println("Data displayed");
}

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private static void displayDataOnSite(Connection con, PrintWriter out) throws
Exception {

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String query = "SELECT * FROM bookshop";
PreparedStatement ps = con.prepareStatement(query);
ResultSet rs = ps.executeQuery();
out.println("<html><head> <style> table { font-family: arial, sans-serif;
border-collapse: collapse; width: 100%; } td, th { border: 1px solid
#dddddd; text-align: left; padding: 8px; } tr:nth-child(even)
{ background-color: #dddddd; } </style> </head><body><table
border='1'>");
out.println("<tr><td>id</td><td>bname</td><td>author</td><td>price</
td><td>quantity</td></tr>");
while (rs.next()) {
    int id = rs.getInt(1);
    String bname = rs.getString(2);
    String author = rs.getString(3);
    int price = rs.getInt(4);
    int quantity = rs.getInt(5);
    out.println("<tr><td>" + id + "</td><td>" + bname + "</td><td>" +
author +
"</td><td>" + price + "</td><td>" + quantity + "</td></tr>");
}
out.println("</table>");
ps.close();
System.out.println("Data displayed");
}
}

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Output

Connection established				
id	bname	author	price	quantity
1	The Alchemist	Paulo Coelho	100	10
2	The Great Gatsby	F. Scott Fitzgerald	150	5
3	The Lord of the Rings	J. R. R. Tolkien	200	20