Module 6 Programming Assignment Results Document

## Program Listings

### shop\_db.sql

DROP DATABASE IF EXISTS shop;

CREATE DATABASE shop;

CREATE TABLE shop.categories (

category\_id int NOT NULL AUTO\_INCREMENT,

category\_name varchar(70) NOT NULL,

PRIMARY KEY (category\_id),

KEY category\_id\_key (category\_id)

);

CREATE TABLE shop.books (

book\_id int NOT NULL AUTO\_INCREMENT,

title varchar(70) NOT NULL,

author varchar(70) DEFAULT NULL,

price double NOT NULL,

category\_id int NOT NULL,

PRIMARY KEY (book\_id),

KEY book\_id\_key (book\_id),

CONSTRAINT category\_id FOREIGN KEY (category\_id)

REFERENCES categories(category\_id)

);

CREATE TABLE shop.orders (

order\_id bigint NOT NULL AUTO\_INCREMENT,

delivery\_name varchar(70) NOT NULL,

delivery\_address varchar(70) NOT NULL,

cc\_name varchar(70) NOT NULL,

cc\_number varchar(32) NOT NULL,

cc\_expiry varchar(20) NOT NULL,

PRIMARY KEY (order\_id),

KEY order\_id\_key (order\_id)

);

CREATE TABLE shop.order\_details (

id bigint NOT NULL AUTO\_INCREMENT,

book\_id int NOT NULL,

title varchar(70) NOT NULL,

author varchar(70) NOT NULL,

quantity int NOT NULL,

price double NOT NULL,

order\_id bigint NOT NULL,

PRIMARY KEY (id),

KEY order\_details\_id\_key (id),

CONSTRAINT book\_id FOREIGN KEY (book\_id) REFERENCES books (book\_id),

CONSTRAINT order\_id FOREIGN KEY (order\_id) REFERENCES orders (order\_id)

);

INSERT INTO shop.categories (category\_id, category\_name) VALUES ('1', 'Web Development');

INSERT INTO shop.categories (category\_id, category\_name) VALUES ('2', 'Science Fiction');

INSERT INTO shop.categories (category\_id, category\_name) VALUES ('3', 'Historical Mysteries');

INSERT INTO shop.books (book\_id, title, author, price, category\_id) VALUES ('1', 'MYSQL 8 Query Performance Tuning', 'Jesper Wisborg Krogh', '34.31', '1');

INSERT INTO shop.books (book\_id, title, author, price, category\_id) VALUES ('2', 'JavaScript Next', 'Raju Gandhi', '36.70', '1');

INSERT INTO shop.books (book\_id, title, author, price, category\_id) VALUES ('3', 'The Complete Robot', 'Isaac Asimov', '12.13', '2');

INSERT INTO shop.books (book\_id, title, author, price, category\_id) VALUES ('4', 'Foundation and Earth', 'Isaac Asimov', '11.07', '2');

INSERT INTO shop.books (book\_id, title, author, price, category\_id) VALUES ('5', 'The Da Vinci Code', 'Dan Brown', '7.99', '3');

INSERT INTO shop.books (book\_id, title, author, price, category\_id) VALUES ('6', 'A Column of Fire', 'Ken Follett', '6.99', '3');

DROP USER IF EXISTS appuser@localhost;

CREATE USER appuser@localhost IDENTIFIED BY 'password';

GRANT ALL PRIVILEGES ON shop.\* TO appuser@localhost;

SHOW GRANTS FOR appuser@localhost;

### index.jsp

<%--suppress unchecked, HtmlDeprecatedAttribute --%>  
  
<%@**page** contentType="text/html"%>  
<%@**page** trimDirectiveWhitespaces="true"%>  
<%@**page** import="java.util.Vector, org.example.ebookshop.Book"%>  
<html>  
<head>  
 <title>E-bookshop</title>  
 <style type="text/css">  
 body {background-color:gray; font-size:10pt;}  
 H1 {font-size:20pt;}  
 table {background-color:white;}  
 </style>  
</head>  
<body>  
<H1>Your online Bookshop</H1>  
<hr/>  
<br>  
  
<% // Scriptlet 1: check whether the book list is ready  
  
 Vector booklist =  
 (Vector<org.example.ebookshop.Book>)session.getAttribute("ebookshop.list");  
 if (booklist == null) {  
 response.sendRedirect("/ebookshop\_war\_exploded/eshop");  
 }  
 else {  
 %>  
 <form name="addForm" action="eshop" method="POST">  
 <input type="hidden" name="do\_this" value="add">  
 Book:  
 <select name=book>  
 <% // Scriptlet 2: copy the book list to the selection control  
 for (int i = 0; i < booklist.size(); i++) {  
 out.println("<option>" + booklist.elementAt(i) + "</option>");  
 }  
 %>  
 </select>  
 Quantity: <input type="text" name="qty" size="3" value="1">  
 <input type="submit" value="Add to Cart">  
</form>  
<p/>  
<% // Scriptlet 3: check whether the shopping cart is empty  
 Vector shoplist =  
 (Vector<org.example.ebookshop.Book>)session.getAttribute("ebookshop.cart");  
 if (shoplist != null && !shoplist.isEmpty()) {  
%>  
<table border="1" cellpadding="2">  
 <tr>  
 <td>TITLE</td>  
 <td>PRICE</td>  
 <td>QUANTITY</td>  
 <td></td>  
 </tr>  
 <% // Scriptlet 4: display the books in the shopping cart  
 for (int i = 0; i < shoplist.size(); i++) {  
 Book aBook = (Book) shoplist.elementAt(i);  
 %>  
 <tr>  
 <form name="removeForm" action="eshop" method="POST">  
 <input type="hidden" name="position" value="<%=i%>">  
 <input type="hidden" name="do\_this" value="remove">  
 <td><%=aBook.getTitle()%></td>  
 <td align="right">$<%=aBook.getPrice()%></td>  
 <td align="right"><%=aBook.getQuantity()%></td>  
 <td><input type="submit" value="Remove from Cart"></td>  
 </form>  
 </tr>  
 <%  
 } // for (int i..  
 %>  
</table>  
<br />  
<form name="checkoutForm" action="eshop" method="POST">  
 <input type="hidden" name="do\_this" value="checkout">  
 <input type="submit" value="Checkout">  
</form>  
<%  
 } // if (shoplist..)  
 } // if (booklist..else..)  
%>  
<hr/>  
<a href="index.jsp">Home</a> | <a href="eshop">E-shop</a> | <a href="jdbc.jsp">JDBC Test</a>  
</body>  
</html>

### DatabaseUtils.java

package org.example.ebookshop;  
  
import java.sql.Connection;  
import java.sql.DriverManager;  
import java.sql.SQLException;  
  
public class DatabaseUtils {  
  
 private static final String *DB\_DRIVER* = "com.mysql.jdbc.Driver";  
  
 public static void loadMySQLDriver() throws ClassNotFoundException{  
 Class.*forName*(*DB\_DRIVER*);  
 }  
  
 public static Connection getConnection(String url, String user, String password) throws SQLException, ClassNotFoundException {  
 *loadMySQLDriver*();  
 return DriverManager.*getConnection*(url, user, password);  
 }  
}

### jdbc.jsp

<%--suppress HtmlDeprecatedAttribute --%>  
<%--  
 Edgar D Rosales  
 11/23/2024 Time: 1:08 PM  
 CSD430-J318 Server Side Development (2245-DD)  
   
--%>  
<%@ **page** contentType="text/html;charset=UTF-8" %>  
<%@ **page** import="java.sql.\*, org.example.ebookshop.DatabaseUtils" %>  
<%@ **page** import="java.io.PrintWriter" %>  
  
<!DOCTYPE html>  
<html>  
<head>  
 <title>JDBC TEST</title>  
</head>  
<body>  
<%  
 // Database connection details  
 String url = application.getInitParameter("dbName");  
 String user = application.getInitParameter("dbUser");  
 String password = application.getInitParameter("dbPass");  
  
 Connection connection = null;  
 Statement statement = null;  
 ResultSet resultSet = null;  
  
 try {  
 connection = DatabaseUtils.*getConnection*(url, user, password);  
 statement = connection.createStatement();  
 resultSet = statement.executeQuery("SELECT \* FROM books");  
  
 // Get metadata and print column headers  
 ResultSetMetaData resMetaData = resultSet.getMetaData();  
 int nCols = resMetaData.getColumnCount();  
%><table border="1"><tr><%  
 for (int kCol = 1; kCol <= nCols; kCol++) {  
 out.print("<td><b>" + resMetaData.getColumnName(kCol) + "</b></td>");  
 }  
%></tr><%  
 // Print data rows  
 while (resultSet.next()) {  
%><tr><%  
 for (int kCol = 1; kCol <= nCols; kCol++) {  
 out.print("<td>" + resultSet.getString(kCol) + "</td>");  
 }  
%></tr><%  
 }  
%></table><%  
 } catch (ClassNotFoundException e) {  
 out.println("MySQL Driver not found: " + e.getMessage());  
 e.printStackTrace(new PrintWriter(out));  
 } catch (SQLException e) {  
 out.println("Database error: " + e.getMessage());  
 e.printStackTrace(new PrintWriter(out));  
 } finally {  
 try {  
 if (resultSet != null) resultSet.close();  
 if (statement != null) statement.close();  
 if (connection != null) connection.close();  
 } catch (SQLException e) {  
 e.printStackTrace(new PrintWriter(out));  
 }  
 }  
%>  
<br>  
<br>  
<hr>  
<a href="index.jsp">Back to Home</a>  
</body>  
</html>

### web.xml

<?xml version="1.0" encoding="UTF-8"?>  
<web-app xmlns="https://jakarta.ee/xml/ns/jakartaee"  
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
 xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee https://jakarta.ee/xml/ns/jakartaee/web-app\_6\_0.xsd"  
 version="6.0">  
  
 <display-name>conn</display-name>  
 <welcome-file-list>  
 <welcome-file>index.html</welcome-file>  
 <welcome-file>index.htm</welcome-file>  
 <welcome-file>index.jsp</welcome-file>  
 <welcome-file>default.html</welcome-file>  
 <welcome-file>default.htm</welcome-file>  
 <welcome-file>default.jsp</welcome-file>  
 </welcome-file-list>  
  
 <context-param>  
 <param-name>dbName</param-name>  
 <param-value>jdbc:mysql://localhost:3306/shop</param-value>  
 </context-param>  
 <context-param>  
 <param-name>dbUser</param-name>  
 <param-value>appuser</param-value>  
 </context-param>  
 <context-param>  
 <param-name>dbPass</param-name>  
 <param-value>password</param-value>  
 </context-param>  
  
  
</web-app>

### pom.xlm

<?xml version="1.0" encoding="UTF-8"?>  
<project xmlns="http://maven.apache.org/POM/4.0.0"  
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">  
 <modelVersion>4.0.0</modelVersion>  
  
 <groupId>org.example</groupId>  
 <artifactId>ebookshop</artifactId>  
 <version>1.0-SNAPSHOT</version>  
 <name>ebookshop</name>  
 <packaging>war</packaging>  
  
 <properties>  
 <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>  
 <maven.compiler.target>21</maven.compiler.target>  
 <maven.compiler.source>21</maven.compiler.source>  
 <junit.version>5.11.0-M2</junit.version>  
 </properties>  
  
 <dependencies>  
 <dependency>  
 <groupId>jakarta.servlet</groupId>  
 <artifactId>jakarta.servlet-api</artifactId>  
 <version>6.1.0</version>  
 <scope>provided</scope>  
 </dependency>  
 <dependency>  
 <groupId>org.junit.jupiter</groupId>  
 <artifactId>junit-jupiter-api</artifactId>  
 <version>${junit.version}</version>  
 <scope>test</scope>  
 </dependency>  
 <dependency>  
 <groupId>jakarta.servlet.jsp</groupId>  
 <artifactId>jakarta.servlet.jsp-api</artifactId>  
 <version>4.0.0</version>  
 </dependency>  
 <dependency>  
 <groupId>org.junit.jupiter</groupId>  
 <artifactId>junit-jupiter-engine</artifactId>  
 <version>${junit.version}</version>  
 <scope>test</scope>  
 </dependency>  
 <dependency>  
 <groupId>javax.servlet.jsp</groupId>  
 <artifactId>javax.servlet.jsp-api</artifactId>  
 <version>2.3.3</version>  
 </dependency>  
 <dependency>  
 <groupId>com.mysql</groupId>  
 <artifactId>mysql-connector-j</artifactId>  
 <version>9.0.0</version>  
 </dependency>  
 </dependencies>  
  
 <build>  
 <plugins>  
 <plugin>  
 <groupId>org.apache.maven.plugins</groupId>  
 <artifactId>maven-war-plugin</artifactId>  
 <version>3.4.0</version>  
 </plugin>  
 </plugins>  
 </build>  
</project>

## GitHub Link

<https://github.com/erosales48/ebookshop>

## Examples example-1 – start page –

A screenshot of a computer

Description automatically generated

### example-2 -JDBC Test page –

A screenshot of a computer

Description automatically generated