**Phase 2:Practice Project: Assissted Practice: 2**

**6. Demonstrate Insertion, Updation, and Deletion of Database Records using JDBC**

**Source Code:**

**Index5.html:**

<!DOCTYPEhtml>

<html>

<head>

<metacharset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<divstyle="text-align:*center*;width:*100%*">

<H1>CRUD OPERATION OF PRODUCTS</H1>

<button>

<ahref=*"list"*>List Products</a>

</button>

<br>

<br>

<button>

<ahref=*"Add.html"*>Add a Product</a>

</button>

<br>

<br>

<button>

<ahref=*"delete.html"*>Delete a Product</a>

</button>

<br>

<br>

<button>

<ahref=*"update.html"*>Update a Product</a>

</button>

<br>

<br>

</div>

</body>

</html>

**Add.html:**

<!DOCTYPEhtml>

<html>

<head>

<metacharset=*"ISO-8859-1"*>

<title>ADD</title>

</head>

<body>

<h1>Product Registration Form</h1>

<formaction=*"save"*method=*"post"*>

Product Name: <inputtype=*"text"*name=*"pname"*

placeholder=*"Enter Product Name"*><br>

<br> Product Price: <inputtype=*"text"*name=*"pprice"*

placeholder=*"Enter Product price"*><br>

<br><inputtype=*"submit"*value=*"Add Prodcut"*>

</form>

</body>

</html>

**Delete.html:**

<!DOCTYPEhtml>

<html>

<head>

<metacharset=*"ISO-8859-1"*>

<title>Delete</title>

</head>

<body>

<h1>DELETE RECORD</h1>

<formaction=*"delete"*method=*"post"*>

Product id: <inputtype=*"text"*name=*"id"*

placeholder=*"Enter Product id"*><br>

<br><inputtype=*"submit"*value=*"DELETE Prodcut"*>

</form>

</body>

</html>

**Update.html:**

<!DOCTYPEhtml>

<html>

<head>

<metacharset=*"ISO-8859-1"*>

<title>Update</title>

</head>

<body>

<h1>UPDATE RECORD</h1>

<formaction=*"update"*method=*"post"*>

Product id: <inputtype=*"text"*name=*"id"*

placeholder=*"Enter Product id"*><br>

<br> Product Name: <inputtype=*"text"*name=*"pname"*

placeholder=*"Enter Product Name to be updated"*><br>

<br> Product Price: <inputtype=*"text"*name=*"pprice"*

placeholder=*"Enter Product price to be updated"*><br>

<br><inputtype=*"submit"*value=*"UPDATE Prodcut"*>

</form>

</body>

</html>

**DBConfig:**

**package**com.curd;

**import**java.sql.Connection;

**import**java.sql.DriverManager;

**import**java.sql.SQLException;

**import**java.util.Properties;

**publicclass**DBConfig {

**publicstatic** Connection getConnection(Properties props) {

Connection conn=**null**;

**try** {

Class.*forName*(props.getProperty("driver"));

conn= DriverManager.*getConnection*(

props.getProperty("url"),

props.getProperty("username"),

props.getProperty("password"));

} **catch** (ClassNotFoundExceptione) {

e.printStackTrace();

}**catch** (SQLExceptione) {

e.printStackTrace();

}

**return**conn;

}

}

**DeleteServlet:**

**package**com.curd;

**import**java.io.IOException;

**import**java.io.InputStream;

**import**java.io.PrintWriter;

**import**java.sql.Connection;

**import**java.sql.PreparedStatement;

**import**java.sql.SQLException;

**import**java.util.Properties;

**import**javax.servlet.ServletException;

**import**javax.servlet.annotation.WebServlet;

**import**javax.servlet.http.HttpServlet;

**import**javax.servlet.http.HttpServletRequest;

**import**javax.servlet.http.HttpServletResponse;

@WebServlet("/delete")

**publicclass**DeleteServlet**extends**HttpServlet{

@Override

**protectedvoid**doGet(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

PrintWriterout=resp.getWriter();

resp.setContentType("text/html");

String param=req.getParameter("id");

//converting string to int

**int**id= Integer.*parseInt*(param);

Properties props= **new**Properties();

InputStreamin= getServletContext().getResourceAsStream("/WEB-INF/application.properties");

props.load(in);

Connection conn=DBConfig.*getConnection*(props);

**if**(conn!=**null**) {

**try**{

PreparedStatementstmt=conn.prepareStatement("delete from eproduct where ID=?");

stmt.setInt(1, id);

**int**rs=stmt.executeUpdate();

**if**(rs>0) {

System.***out***.println(rs+" deleted from database");

resp.sendRedirect("list");

}

**else** {

System.***out***.println("Error while deleting a data");

resp.sendRedirect("list");

}

} **catch** (SQLExceptione) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

**else** {

out.println("Error while Connecting");

}

}

@Override

**protectedvoid**doPost(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

doGet(req, resp);

}

}

**FetchDBServlet:**

**package**com.curd;

**import**java.io.IOException;

**import**java.io.InputStream;

**import**java.io.PrintWriter;

**import**java.sql.Connection;

**import**java.sql.ResultSet;

**import**java.sql.SQLException;

**import**java.sql.Statement;

**import**java.util.Properties;

**import**javax.servlet.ServletException;

**import**javax.servlet.annotation.WebServlet;

**import**javax.servlet.http.HttpServlet;

**import**javax.servlet.http.HttpServletRequest;

**import**javax.servlet.http.HttpServletResponse;

@WebServlet("/list")

**publicclass**FetchDBServlet**extends**HttpServlet{

@Override

**protectedvoid**doGet(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

PrintWriterout= resp.getWriter();

resp.setContentType("text/html");

Properties props= **new** Properties();

InputStreamin=getServletContext().getResourceAsStream("/WEB-INF/application.properties");

props.load(in);

Connection conn= DBConfig.*getConnection*(props);

**if**(conn!=**null**) {

Statement stmt;

**try** {

stmt = conn.createStatement();

ResultSetrs=stmt.executeQuery("select \* from eproduct");

out.print("<table border=1 cellpadding=10 cellspacing=0><thead><tr>");

out.print("<th>ID</th><th>NAME</th><th>PRICE</th><th>DATE</th>");

out.print("<tr></thead>");

out.print("<tbody>");

**while**(rs.next()) {

out.print("<tr>");

out.print("<td>'"+rs.getInt(1)+"'</td><td>'"+rs.getString(2)+"'</td><td>'"+rs.getBigDecimal(3)+"'</td><td>'"+rs.getTimestamp(4)+"'</td>");

out.print("</tr>");

}

out.print("</tbody></table>");

} **catch** (SQLExceptione) {

e.printStackTrace();

}

}

**else** {

out.print("Error While Connecting Connections");

}

}

@Override

**protectedvoid**doPost(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

doGet(req, resp);

}

}

**SaveServlet:**

**package**com.curd;

**import**java.io.IOException;

**import**java.io.InputStream;

**import**java.io.PrintWriter;

**import**java.math.BigDecimal;

**import**java.sql.Connection;

**import**java.sql.PreparedStatement;

**import**java.sql.SQLException;

**import**java.util.Properties;

**import**javax.servlet.ServletException;

**import**javax.servlet.annotation.WebServlet;

**import**javax.servlet.http.HttpServlet;

**import**javax.servlet.http.HttpServletRequest;

**import**javax.servlet.http.HttpServletResponse;

@WebServlet("/save")

**publicclass**SaveServlet**extends**HttpServlet{

@Override

**protectedvoid**doGet(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

PrintWriterout=resp.getWriter();

resp.setContentType("text/html");

String name=req.getParameter("pname");

BigDecimalprice=**new**BigDecimal(req.getParameter("pprice"));

InputStreamin=getServletContext().getResourceAsStream("/WEB-INF/application.properties");

Properties props= **new**Properties();

props.load(in);

Connection con=DBConfig.*getConnection*(props);

**try** {

PreparedStatementstmt= con.prepareStatement("insert into eproduct (name,price) values (?,?)");

stmt.setString(1, name);

stmt.setBigDecimal(2, price);

**int**x=stmt.executeUpdate();

**if**(x>0) {

resp.sendRedirect("list");

}

**else** {

out.print("Error While Inserting a Data");

}

} **catch** (SQLExceptione) {

// **TODO** Auto-generated catch block

e.printStackTrace();

}

}

@Override

**protectedvoid**doPost(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

doGet(req, resp);

}

}

**UpdateServlet:**

**package**com.curd;

**import**java.io.IOException;

**import**java.io.InputStream;

**import**java.io.PrintWriter;

**import**java.math.BigDecimal;

**import**java.sql.Connection;

**import**java.sql.PreparedStatement;

**import**java.sql.SQLException;

**import**java.util.Properties;

**import**javax.servlet.ServletException;

**import**javax.servlet.annotation.WebServlet;

**import**javax.servlet.http.HttpServlet;

**import**javax.servlet.http.HttpServletRequest;

**import**javax.servlet.http.HttpServletResponse;

@WebServlet("/update")

**publicclass**UpdateServlet**extends**HttpServlet{

@Override

**protectedvoid**doGet(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

PrintWriterout=resp.getWriter();

resp.setContentType("text/html");

String param=req.getParameter("id");

**int**id= Integer.*parseInt*(param);

String name=req.getParameter("pname");

BigDecimalprice=**new**BigDecimal(req.getParameter("pprice"));

Properties props= **new**Properties();

InputStreamin= getServletContext().getResourceAsStream("/WEB-INF/application.properties");

props.load(in);

Connection conn=DBConfig.*getConnection*(props);

**if**(conn!=**null**) {

**try** {

PreparedStatementstmt= conn.prepareStatement("update eproduct set name=?,price=? where ID=?");

stmt.setString(1, name);

stmt.setBigDecimal(2, price);

stmt.setInt(3, id);

**int**rs=stmt.executeUpdate();

**if**(rs>0) {

System.***out***.println(rs+ "Row updated successfully");

resp.sendRedirect("list");

}**else** {

System.***out***.println("Error while updating data");

resp.sendRedirect("index.html");

}

} **catch** (SQLExceptione) {

e.printStackTrace();

}

}

}

@Override

**protectedvoid**doPost(HttpServletRequestreq, HttpServletResponseresp) **throws**ServletException, IOException {

doGet(req, resp);

}

}

**application.properties:**

driver=com.mysql.cj.jdbc.Driver

url=jdbc:mysql://localhost:3306/ecommerce

username=student

password=student