**2.Retrieving the Product Details Using the Product ID**

**Project objective:-**  
Create a servlet-based application that shows a form to enter a product ID. The product ID is then validated, and product details are retrieved from the database and displayed to the user. You need to create a product table in MySQL and prepopulate it with data. Use JDBC to do all database processing.

**Background of the problem statement:-**  
As a part of developing an e-commerce web application, the admin backend requires a module that can retrieve product information based on the product ID

**Source Code:-**

**GetByProductId.java**

**import** java.io.IOException;

**import** java.io.InputStream;

**import** java.io.PrintWriter;

**import** java.sql.Connection;

**import** java.sql.DriverManager;

**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("/GetByProductId")

**public** **class** GetByProductId **extends** HttpServlet {

**private** **static** **final** **long** ***serialVersionUID*** = 1L;

/\*\*

\* **@see** HttpServlet#HttpServlet()

\*/

**public** GetByProductId() {

**super**();

// **TODO** Auto-generated constructor stub

}

/\*\*

\* **@see** HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doGet(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

**try** {

PrintWriter out = response.getWriter();

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

InputStream in = getServletContext().getResourceAsStream("/WEB-INF/config.properties");

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

//props.load(in);

//connection information

DBConnection conn = **new** DBConnection("jdbc:mysql://localhost:3306/db\_world", "root", "root");

Statement stmt = conn.getConnection().createStatement(ResultSet.***TYPE\_SCROLL\_INSENSITIVE***, ResultSet.***CONCUR\_READ\_ONLY***);

// stmt.executeUpdate("insert into products (productid, price, date\_added) values ('New Product', 17800.00, now())");

//query the table and get all information

ResultSet rst = stmt.executeQuery("select \* from products");

//find what the user typed into the search box

String productid = request.getParameter("productid");

//user hasn't typed anything so display table

**if**(productid == **null**)

{

out.println("The following are the elements in the products table" + "<Br>" + "<Br>");

//simple while loop to print all elements in table

**while** (rst.next()) {

out.println("Product Id "+rst.getInt("productid") + ": " +" Product name : "+ rst.getString("productname") + " "

+" Product Price : "+ rst.getDouble("productprice") + "<Br>");

}

}

//user typed something

**else**

{

//select the row corresponding to the id number

String sql\_res= "select \* from products where productid=" + productid;

ResultSet inTable = stmt.executeQuery(sql\_res);

//if not empty then print all product details

**if**(inTable.next())

out.println("Product Id "+inTable.getInt("productid") + ": " +" Product name : "+ inTable.getString("productname") + " "

+" Product Price : "+ inTable.getInt("productprice") + "<Br>");

//empty so print error message

**else**

out.println("There was no element with product ID: " + productid + " found in the table, please try again");

}

stmt.close();

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

conn.closeConnection();

} **catch** (ClassNotFoundException e) {

e.printStackTrace();

} **catch** (SQLException e) {

e.printStackTrace();

}

}

/\*\*

\* **@see** HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

**protected** **void** doPost(HttpServletRequest request, HttpServletResponse response) **throws** ServletException, IOException {

// **TODO** Auto-generated method stub

doGet(request, response);

}

}

**class** DBConnection {

**private** Connection connection;

**public** DBConnection(String dbURL, String user, String pwd) **throws** ClassNotFoundException, SQLException{

Class.*forName*("com.mysql.jdbc.Driver");

**this**.connection = DriverManager.*getConnection*(dbURL, user, pwd);

}

**public** Connection getConnection(){

**return** **this**.connection;

}

**public** **void** closeConnection() **throws** SQLException {

**if** (**this**.connection != **null**)

**this**.connection.close();

}

}

**Products.java**

**public** **class** Products {

**private** **int** id;

**private** String name;

**private** **double** price;

**public** **int** getId() {

**return** id;

}

**public** **void** setId(**int** id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

**public** **void** setName(String name) {

**this**.name = name;

}

**public** **double** getPrice() {

**return** price;

}

**public** **void** setPrice(**double** price) {

**this**.price = price;

}

@Override

**public** String toString() {

**return** "Product [id=" + id + ", price=" + price + "]";

}

}

**Index.html**

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<form action=*"./GetByProductId?productid=productid"*>

Enter ProductId<br>

<input type=*"text"* name=*"productid"* ><br>

<button type=*"Submit"*> search

</form>

</body>

</html>

**Web.xml**

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

<web-app xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"* xmlns=*"http://java.sun.com/xml/ns/javaee"* xsi:schemaLocation=*"http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app\_2\_5.xsd"* id=*"WebApp\_ID"* version=*"2.5"*>

<display-name>PracticeProject2</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>

<servlet>

<description></description>

<display-name>GetByProductId</display-name>

<servlet-name>GetByProductId</servlet-name>

<servlet-class>GetByProductId</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>GetByProductId</servlet-name>

<url-pattern>/GetByProductId</url-pattern>

</servlet-mapping>

</web-app>

**Output :-**

**Table

Description automatically generated with low confidence**

**Graphical user interface, text, application, email

Description automatically generated**