**Task 8. Servlet**

* **Write a Servlet program to to connect Oracle/MySQL for Table creation and Data Manipulation.**

**8.1** Creation of Database and Table in MySQL with following details

create database demoprj;

create table demo(id int(10), string varchar(20));

Create a form in HTML file, where take all the inputs required to insert data into the database. Specify the servlet name in it, with the POST method as security is important aspects in database connectivity.

**Index.html**

<!DOCTYPE html>

<html>

<head>

<title>Insert Data</title>

</head>

<body>

<!-- Give Servlet reference to the form as an instances

GET and POST services can be according to the problem statement-->

<form action="./InsertData" method="post">

<p>ID:</p>

<!-- Create an element with mandatory name attribute,

so that data can be transfer to the servlet using getParameter() -->

<input type="text" name="id"/>

<br/>

<p>String:</p>

<input type="text" name="string"/>

<br/><br/><br/>

<input type="submit"/>

</form>

</body>

</html>

**Databaseconnection.java**

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.SQLException;

// This class can be used to initialize the database connection

public class DatabaseConnection {

protected static Connection initializeDatabase()

throws SQLException, ClassNotFoundException

{

// Initialize all the information regarding

// Database Connection

String dbDriver = "com.mysql.jdbc.Driver";

String dbURL = "jdbc:mysql:// localhost:3306/";

// Database name to access

String dbName = "demoprj";

String dbUsername = "root";

String dbPassword = "root";

Class.forName(dbDriver);

Connection con = DriverManager.getConnection(dbURL + dbName,

dbUsername,

dbPassword);

return con;

}

}

**InsertData.java**

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.PreparedStatement;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

// Import Database Connection Class file

import code.DatabaseConnection;

// Servlet Name

@WebServlet("/InsertData")

public class InsertData extends HttpServlet {

private static final long serialVersionUID = 1L;

protected void doPost(HttpServletRequest request,

HttpServletResponse response)

throws ServletException, IOException

{

try {

// Initialize the database

Connection con = DatabaseConnection.initializeDatabase();

// Create a SQL query to insert data into demo table

// demo table consists of two columns, so two '?' is used

PreparedStatement st = con

.prepareStatement("insert into demo values(?, ?)");

// For the first parameter,

// get the data using request object

// sets the data to st pointer

st.setInt(1, Integer.valueOf(request.getParameter("id")));

// Same for second parameter

st.setString(2, request.getParameter("string"));

// Execute the insert command using executeUpdate()

// to make changes in database

st.executeUpdate();

// Close all the connections

st.close();

con.close();

// Get a writer pointer

// to display the successful result

PrintWriter out = response.getWriter();

out.println("<html><body><b>Successfully Inserted"

+ "</b></body></html>");

}

catch (Exception e) {

e.printStackTrace();

}

}

}

**8.2 Fetch the Data from the Employee Database using Servlet. Create a Employee database with emp table which contains following fields**

**CREATE TABLE employee**

**(**

**empid VARCHAR(10),**

**empname VARCHAR(45),**

**sal int**

**)**

inserted a few records into the employee table

Create Servlet project with three files index.html, web.xml and search.java. index.html contains the tags to develop a front end design. Insert one text box and button into it. Text box used to get the employee name based on that records will be fetched from the database. Servlet.java file contains servlet program to communicate with the database.

**Program:**

**Index.html**

<html>

<body>

<form action="servlet/Search"> Enter your Employee ID:

<input type="text" name="empid" />

<br />

<input type="submit" value="search" /> </form>

</body>

</html>

**Search.java**

import java.io.\*;

import java.sql.\*;

import javax.servlet.ServletException;

import javax.servlet.http.\*;

public class Search extends HttpServlet

{

public void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType ("text/html");

PrintWriter out = response.getWriter ();

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

try

{

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

Connection con = DriverManager.getConnection ("jdbc:mysql://localhost:3306/emp", "root", "876745");

PreparedStatement ps =

con.prepareStatement ("select \* from employee where empid=?");

ps.setString (1, empid);

out.print ("<table width=50% border=1>");

out.print ("<caption>Employee Details:</caption>");

ResultSet rs = ps.executeQuery ();

/\* Printing column names \*/

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

ResultSetMetaData rsmd = rs.getMetaData ();

int total = rsmd.getColumnCount ();

out.print ("<tr>");

for (int i = 1; i <= total; i++)

{

out.print ("<th>" + rsmd.getColumnName (i) + "</th>");

}

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

/\* Printing result \*/

while (rs.next ())

{

out.print ("<tr><td>" + rs.getString (1) + "</td><td>" + rs.getString (2) + " </td><td>" + rs.getInt (3) + "</td></tr>");

}

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

}

catch (Exception e2)

{

e2.printStackTrace ();

}

finally

{

out.close ();

}

}

}

**web.xml**

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

<web-app version="2.5"

xmlns="http://java.sun.com/xml/ns/javaee"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://java.sun.com/xml/ns/javaee

http://java.sun.com/xml/ns/javaee/web-app\_2\_5.xsd">

<servlet>

<servlet-name>Search</servlet-name>

<servlet-class>Search</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Search</servlet-name>

<url-pattern>/servlet/Search</url-pattern>

</servlet-mapping>

</web-app>

**Output:**

Enter Employee ID (empid) and click on the search button.



