**Q1**. To study and implement java servlet to create login and registration servlet necessary for student information management system.

**Solution :**

Create a servlet in eclipse, we need to follow the below steps.

* Create the Dynamic web project.
* Create a servlet
* Add servlet-api.jar Jar file
* Add mysql-connector Jar file
* Run the servlet.

1. Create the Dynamic Project: click on File Menu -> New -> Dynamic Web Project and write project name and click next and select Generate web.xml deployment descriptor.

Ex: first

1. Create a servlet : For creating a servlet right click on src in your project -> New-> Servlet and write your servlet name. Ex. Registeruser -> uncheck all the checkboxes except doGet() -> next -> Finish.
2. Add servlet-api.jar file: For adding jar file right click on your project -> Build Path -> Configure Build Path-> Click Add External JARs button -> select servlet-api.jar from Tomcat Server lib folder.
3. Add mysql-connector jar file : For adding jar file right click on your project -> Build Path -> Configure Build Path -> Click Add External JARs Button -> select mysql-connector-j from mysql 8.0 and above connector/j folder.

To connect java application with the mysql database mysql-connector.jar file is required to be loaded. Put this jar file in WEB-INF/lib folder.

1. Run the Servlet: For Run the Servlet start the server and deploy the project. Right Click on your project -> Run As -> Run on Server -> choose tomcat server -> next -> add servlet -> Finish.

How to Configure tomcat server in Eclipse(Onetime Requirement):

For configuring tomcat server in eclipse IDE:

* Click on servers tab at the bottom side of the IDE
* Right click on blank area -> New ->Servers
* Choose tomcat then its version -> next -> click on browse button
* Select the Apache tomcat root folder previous to bin -> next -> Add all -> Finish

Create student database and create table in student database.

**Create Table in student database:**

**SHOW DATABASES;**

**USE 5BCA1db;**

**CREATE TABLE REGISTERUSER(NAME VARCHAR(100) PRIMARY KEY,**

**PASS VARCHAR(50),** **EMAIL VARCHAR(100), COUNTRY VARCHAR(20));**

**DESC registeruser;**

**register.html:**

<!DOCTYPE html>

<html>

<body>

<form action="servlet/Register" method="post">

Name:<input type="text" name="userName"/><br/><br/>

Password:<input type="password" name="userPass"/><br/><br/>

Email Id:<input type="text" name="userEmail"/><br/><br/>

Country:

<select name="userCountry">

<option>India</option>

<option>USA</option>

<option>other</option>

</select>

<br/><br/>

<input type="submit" value="register"/>

</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://xmlns.jcp.org/xml/ns/javaee"* xsi:schemaLocation=*"http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"* id=*"WebApp\_ID"* version=*"4.0"*>

<display-name>DemoServlet</display-name>

<welcome-file-list>

<welcome-file>register.html</welcome-file>

<welcome-file>index.html</welcome-file>

<welcome-file>index.jsp</welcome-file>

<welcome-file>index.htm</welcome-file>

<welcome-file>default.html</welcome-file>

<welcome-file>default.jsp</welcome-file>

<welcome-file>default.htm</welcome-file>

</welcome-file-list>

<servlet>

<servlet-name>Register</servlet-name>

<servlet-class>Register</servlet-class>

</servlet>

<servlet-mapping>

<servlet-name>Register</servlet-name>

<url-pattern>/servlet/Register</url-pattern>

</servlet-mapping>

</web-app>

**Register.java:**

import java.io.\*;

import java.sql.\*;

import javax.servlet.ServletException;

import javax.servlet.http.\*;

public class Register extends HttpServlet {

public void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

response.setContentType("text/html");

PrintWriter out = response.getWriter();

String n=request.getParameter("userName");

String p=request.getParameter("userPass");

String e=request.getParameter("userEmail");

String c=request.getParameter("userCountry");

try{

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

Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/5BCA2db","root","root");

PreparedStatement ps=con.prepareStatement("insert into registeruser values(?,?,?,?)");

ps.setString(1,n);

ps.setString(2,p);

ps.setString(3,e);

ps.setString(4,c);

int i=ps.executeUpdate();

if(i>0)

out.print("You are successfully registered...");

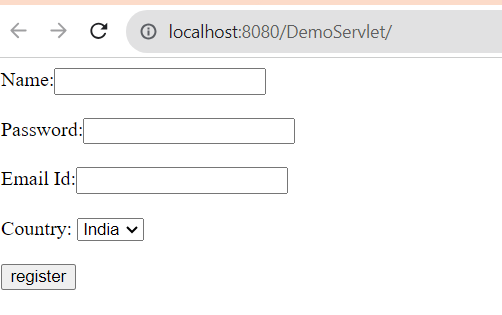
}catch (Exception e2) {System.out.println(e2);}

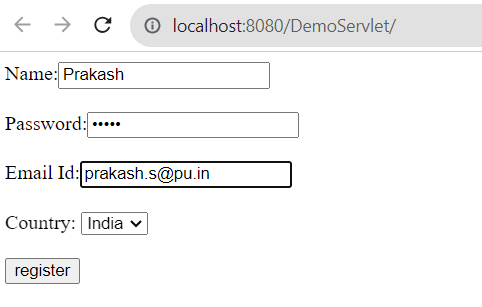
out.close();

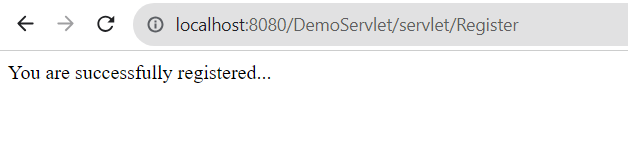
}

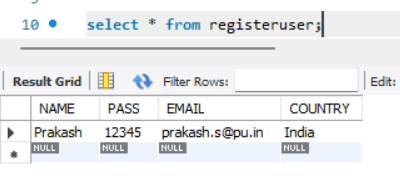
}

**Output**



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