ADVANCE -JAVA

**Advance Java class 1:**

-1- Topics

1. **Web Applications- Simple without SQL/JDBC** :

* Servlet(src/main/java):

package p1;

/\*

\* Servlets:

\* 1)servlets is a java class.

\* 2) it is a subclass of HTTP servlets, it is used to perform

\* Back-end coding of the application.

\*

\* Note:

\* 1) @WebServlet("/newRegs") this should be same as that of the

\* name which is present in form action.

\* 2) request is an reference variable which points to request object

\* where all the data is stored as mentioned in the form.

\* \*/

import java.io.IOException;

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("/newRegs")

public class NewRegistration extends HttpServlet {

private static final long serialVersionUID = 1L;

public NewRegistration() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

String name = request.getParameter("firstname");

String city = request.getParameter("ecity");

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

String mobile = request.getParameter("mbNumber");

System.out.println(name);

System.out.println(city);

System.out.println(email);

System.out.println(mobile);

}

}

* HTML (source🡪main🡪webapp):

<!DOCTYPE html>

<html>

<head>

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

<title>Registration</title>

</head>

<body>

<form action=*"newRegs"* method=*"post"*>

<table>

<tr>

<td>Name</td>

<td><input type=*"text"* name=*"firstname"*></td>

</tr>

<tr>

<td>City</td>

<td><input type=*"text"* name=*"ecity"*></td>

</tr>

<tr>

<td>Email</td>

<td><input type=*"text"* name=*"email"*></td>

</tr>

<tr>

<td>Mobile</td>

<td><input type=*"text"* name=*"mbNumber"*></td>

</tr>

<tr>

<td><input type=*"submit"* value=*"save"*></td>

</tr>

</table>

</form>

</body>

</html>

**Advance Java class 2:**

-1- Topics: 1

1. **Web Applications- Simple with SQL/JDBC**:

* Example 1:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

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("/newRegs")

public class NewRegistration extends HttpServlet {

private static final long serialVersionUID = 1L;

public NewRegistration() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

String name = request.getParameter("firstname");

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

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

String mobile = request.getParameter("mbNumber");

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/4pm\_demo\_db\_1", "root", "6361");

Statement stmt = con.createStatement();

stmt.executeUpdate(

"insert into registration values('" + name + "','" + city + "','" + email + "','" + mobile + "')");

} catch (Exception e) {

e.printStackTrace();

}

}

}

<!DOCTYPE html>

<html>

<head>

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

<title>Register</title>

</head>

<body>

<form action=*"newRegs"* method=*"post"*>

<table>

<tr>

<td>Name</td>

<td><input type=*"text"* name=*"firstname"*></td>

</tr>

<tr>

<td>City</td>

<td><input type=*"text"* name=*"city"*></td>

</tr>

<tr>

<td>Email</td>

<td><input type=*"text"* name=*"email"*></td>

</tr>

<tr>

<td>Mobile</td>

<td><input type=*"text"* name=*"mbNumber"*></td>

</tr>

<tr>

<td><input type=*"submit"* value=*"Register"*></td>

</tr>

</table>

</form>

</body>

</html>

* Example 2:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

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("/updateRegs")

public class UpdateQuery extends HttpServlet {

private static final long serialVersionUID = 1L;

public UpdateQuery() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

String mobile = request.getParameter("mbNumber");

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/4pm\_demo\_db\_1", "root", "6361");

Statement stmt = con.createStatement();

stmt.executeUpdate("update registration set mobile='" + mobile + "' where email='" + email + "'");

} catch (Exception e) {

e.printStackTrace();

}

}

}

<!DOCTYPE html>

<html>

<head>

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

<title>UPDATE</title>

</head>

<body>

<form action=*"updateRegs"* method=*"post"*>

<table>

<tr>

<td>Enter email of which you want to update Phone number of</td>

</tr>

<tr>

<td>Email</td>

<td><input type=*"text"* name=*"email"*></td>

</tr>

<tr>

<td>Enter new mobile number to be update</td>

</tr>

<tr>

<td>Mobile</td>

<td><input type=*"text"* name=*"mbNumber"*></td>

</tr>

<tr>

<td><input type=*"submit"* value=*"Update"*></td>

</tr>

</table>

</form>

</body>

</html>

* Example 3:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

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("/deleteRegs")

public class DeleteQuery extends HttpServlet {

private static final long serialVersionUID = 1L;

public DeleteQuery() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/4pm\_demo\_db\_1", "root", "6361");

Statement stmt = con.createStatement();

stmt.executeUpdate("Delete from registration where email='" + email + "'");

} catch (Exception e) {

e.printStackTrace();

}

}

}

<!DOCTYPE html>

<html>

<head>

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

<title>DELETE</title>

</head>

<body>

<form action=*"deleteRegs"* method=*"post"*>

<table>

<tr>

<td>Email</td>

<td><input type=*"text"* name=*"email"*></td>

</tr>

<tr>

<td><input type=*"submit"* value=*"Delete"*></td>

</tr>

</table>

</form>

</body>

</html>

**Advance Java class 3:**

-2- Topics :

1. Retrieve the record from SQL and print it in table of front end:

* Example 1:

package p1;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

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("/firstservlet")

public class RetriewTheRecord extends HttpServlet {

private static final long serialVersionUID = 1L;

public RetriewTheRecord() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/4pm\_demo\_db\_1", "root", "6361");

Statement stmt = con.createStatement();

ResultSet result = stmt.executeQuery("select \* from registration");

PrintWriter out = response.getWriter();

out.println("<table border= solid>");

out.println("<tr>");

out.println("<th>");

out.println("name");

out.println("</th>");

out.println("<th>");

out.println("city");

out.println("</th>");

out.println("<th>");

out.println("email");

out.println("</th>");

out.println("<th>");

out.println("mobile");

out.println("</th>");

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

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

while(result.next()) {

out.println("<table border= solid>");

out.println("<tr>");

out.println("<td>");

out.println(result.getString(1) );

out.println("</td>");

out.println("<td>");

out.println(result.getString(2) );

out.println("</td>");

out.println("<td>");

out.println(result.getString(3) );

out.println("</td>");

out.println("<td>");

out.println(result.getString(4) );

out.println("</td>");

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

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

}

} catch (Exception e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

}

1. Create a login page:

* Example 1:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

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("/firstServlet")

public class LoginServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public LoginServlet() {

super();

}

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

}

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

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

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

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/loginapp\_4pm", "root", "6361");

Statement stmt = con.createStatement();

ResultSet result = stmt.executeQuery("select \* from login where email='"+email+"' and password='"+password+"' ");

if(result.next()) {

System.out.println("welcome");

}else {

System.out.println("invalid page");

}

} catch (Exception e) {

e.printStackTrace();

}

}

}

<!DOCTYPE html>

<html>

<head>

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

<title>Login Page</title>

</head>

<body>

<h1>Login Here.....</h1>

<form action="firstServlet" method="post">

Email<input type="text" name="email" />

Password<input type="password" name="password" />

<input type="submit" value="Login">

</form>

</body>

</html>

**Advance Java class 4:**

-1- Topics:

1. Index (login page)🡪servlet (login Servlet)🡪index (welcome page):

* Example 1:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.servlet.RequestDispatcher;

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("/firstServlet")

public class LoginServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public LoginServlet() {

super();

}

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

}

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

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

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

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/loginapp\_4pm", "root", "6361");

Statement stmt = con.createStatement();

ResultSet result = stmt.executeQuery("select \* from login where email='"+email+"' and password='"+password+"' ");

if(result.next()) {

RequestDispatcher rd = request.getRequestDispatcher("WEB-INF/views/welcome.html");

rd.forward(request, response);

}else {

RequestDispatcher rd = request.getRequestDispatcher("index.html");

rd.include(request, response);

}

} catch (Exception e) {

e.printStackTrace();

}

}

}

<!DOCTYPE html>

<html>

<head>

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

<title>Login Page</title>

</head>

<body>

<h1>Login Here.....</h1>

<form action="firstServlet" method="post">

Email<input type="text" name="email" />

Password<input type="password" name="password" />

<input type="submit" value="Login">

</form>

</body>

</html>

<!DOCTYPE html>

<html>

<head>

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

<title>Welcome</title>

</head>

<body>

<h1>WELCOME............!</h1>

</body>

</html>

**Advance Java class 5:**

-1- Topics:

1. Inter-Servlet Communication:

* Example 1(first Sevlet):

package p1;

import java.io.IOException;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

@WebServlet("/firstServlet")

public class FirstServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public FirstServlet() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

HttpSession session = request.getSession();

session.setAttribute("sessionName", name);

request.setAttribute("nameParam", name);

RequestDispatcher rd = request.getRequestDispatcher("SecondServlet"); // connects to second servlet

rd.forward(request, response);

}

}

* SecondServlet:

package p1;

import java.io.IOException;

import java.io.PrintWriter;

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 javax.servlet.http.HttpSession;

@WebServlet("/SecondServlet")

public class SecondServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public SecondServlet() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

HttpSession session = request.getSession();

String name = (String) session.getAttribute("sessionName");

String requestDispatcherName = (String) request.getAttribute("nameParam");

PrintWriter out = response.getWriter();

out.print("Request dispacther" + requestDispatcherName);

out.print("session dispacther" + name);

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

HttpSession session = request.getSession();

String name = (String) session.getAttribute("sessionName");

String requestDispatcherName = (String) request.getAttribute("nameParam");

PrintWriter out = response.getWriter();

out.print("Request dispacther" + requestDispatcherName);

out.print("session dispacther" + name);

}

}

* Welcome html:

<!DOCTYPE html>

<html>

<head>

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

<title>Welcome Page</title>

</head>

<body>

<form action="firstServlet" method="post">

Name <input type="text" name="name">

<input type="submit" value="save">

</form>

</body>

</html>

**Advance Java class 6:**

-1- Topics:

1. Login & Logout Page Complete without Bugs:

* Login Servlet:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

@WebServlet("/loginServlet")

public class loginServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public loginServlet() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

try {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/loginapp\_4pm","root","6361");

Statement stmt = con.createStatement();

ResultSet result = stmt.executeQuery("select \* from login where email='"+email+"' and password='"+password+"'");

if(result.next()) {

HttpSession session = request.getSession(true);

session.setAttribute("sessionName", session);

RequestDispatcher rd = request.getRequestDispatcher("WEB-INF/views/welcome.html");

rd.forward(request, response);

}else {

RequestDispatcher rd = request.getRequestDispatcher("index.html");

rd.include(request, response);

}

} catch (Exception e) {

e.printStackTrace();

}

}

}

* Logout Servlet:

package p1;

import java.io.IOException;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

@WebServlet("/logoutServlet")

public class LogoutServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public LogoutServlet() {

super();

}

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

}

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

HttpSession session = request.getSession(false);

session.invalidate();

RequestDispatcher rd = request.getRequestDispatcher("index.html");

rd.forward(request, response);

}

}

* Registration Servlet:

package p1;

import java.io.IOException;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.Statement;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

@WebServlet("/newRegs")

public class RegistrationServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public RegistrationServlet() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

String name = request.getParameter("firstname");

String city = request.getParameter("ecity");

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

String mobile = request.getParameter("mbNumber");

try {

HttpSession session = request.getSession(false);

if(session!=null) {

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

Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/loginapp\_4pm", "root", "6361");

Statement stmt = con.createStatement();

stmt.executeUpdate("insert into registration values('" + name + "', '" + city + "','" + email + "', '"

+ mobile + "') ");

RequestDispatcher rd = request.getRequestDispatcher("WEB-INF/views/welcome.html");

rd.forward(request, response);

}else {

RequestDispatcher rd = request.getRequestDispatcher("index.html");

rd.include(request, response);

}

} catch (Exception e) {

e.printStackTrace();

}

}

}

* Welcome.html:

<!DOCTYPE html>

<html>

<head>

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

<title>Register Yourself...!</title>

</head>

<body>

<form action="logoutServlet" method="post">

<input type="submit" value="logout">

</form>

<form action="newRegs" method="post">

<pre>

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

city <input type="text" name="ecity" />

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

mobile <input type="text" name="mbNumber" />

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

</pre>

</form>

</body>

</html>

* Index.html:

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<h1>Login.......</h1>

<form action="loginServlet" method="post">

Email<input type="text" name="email" /> Password<input type="text"

name="password" /> <input type="submit" value="Login" />

</form>

</body>

</html>

**Advance Java class 7:**

-4- Topics:

1. Script-let Tag:

* Example 1:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Script-let tag -->

<h2>JSP Example</h2>

<%

System.out.println("100");

%>

</body>

</html>

* Example 2:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Script-let tag -->

<h2>JSP Example</h2>

<%

out.println("1000"); // inbuilt jsp implicit object

%>

</body>

</html>

* Example 3:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Script-let tag -->

<h2>JSP Example</h2>

<%

int x=5;

for(int i=0;i<10;i++){

if(x==i){

out.println(x);

}

}

%>

</body>

</html>

* Example 4:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Script-let tag -->

<h2>JSP Example</h2>

<%

request.setAttribute("val", 5);

out.print(request.getAttribute("val"));

%>

</body>

</html>

* Example 5:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Script-let tag -->

<h2>JSP Example</h2>

<%

/\* drawbacks of Scriptlet tag are :

-------------------------

1)cannot create variable with access specifiers.

2)Cannot build any methods in it.

#######################################

Advantages of Scriptlet tag are :

-------------------------

1)Implicit objects can be created.

2)request

3)response

4)session

5)out Object etc.

\*/

%>

</body>

</html>

1. Declaration Tag:

* Example 1:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Declaration tag -->

<h2>JSP Example</h2>

<!--Advantages of declaration tags:

-------------------------------

1)can create variable with access specifiers.

2)Can build any methods in it.

################################

Drawbacks of declaration tag are :

-------------------------

1)Implicit objects can be created.

2)request

3)response

4)session

5)out Object etc.

-->

<!-- Declaration Tag -->

<%!public int i;

public int test() {

return 100;

}%>

<!-- Script-let Tag -->

<%

out.println(i);

out.println(test());

%>

</body>

</html>

1. Expression Tag:

* Example 1:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Expression tag -->

<h2>JSP Example</h2>

<!--Advantages of Expression tags:

-------------------------------

1)is generally similar to out.println() .

-->

<!-- Declaration Tag -->

<%!public int i;

public int test() {

return 100;

}%>

<!-- Script-let Tag -->

<%=test()

//no semicolon it will give error.

//no more than one line of code whatever

//we want to print we use this.

%>

</body>

</html>

1. Directive Tag:

* Example 1:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Directive Tag -->

<h2>JSP Example</h2>

<!--

Directive Tag :

---------------

1)Page directive Tag.

2)Include directive Tag.

-->

</body>

</html>

* Example 2(type 1-Page directive Tag):

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!-- Page Directive Tag start-->

<%@**page** import="java.util.Date,java.io.File"%>

<!-- Page Directive Tag ends-->

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Directive Tag -->

<h2>JSP Example</h2>

<!--

Directive Tag :

---------------

1)Page directive Tag.

-->

<!-- Script-let Tag -->

<%

out.println(new Date());

File f = new File("D:text.txt");

%>

</body>

</html>

* Example 3(type 2- include directive Tag):

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<!--Directive Tag -->

<h2>JSP Example</h2>

<!--

Directive Tag :

---------------

2)Include directive Tag.

-->

<!-- Very Important -->

<a href="home.jsp">Home</a>

<a href="about.jsp">About us</a>

<a href="contact.jsp">Contact US</a>

</body>

</html>

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!-- Include Directive Tag Start -->

<%@ **include** file="menu.jsp"%>

<!-- Include Directive Tag Stop -->

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<h2>Welcome to Home page</h2>

</body>

</html>

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!-- Include Directive Tag Start -->

<%@ **include** file="menu.jsp"%>

<!-- Include Directive Tag Stop -->

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<h2>Welcome to About us page</h2>

</body>

</html>

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!-- Include Directive Tag Start -->

<%@ **include** file="menu.jsp"%>

<!-- Include Directive Tag Stop -->

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<h2>Welcome to Contact us page</h2>

</body>

</html>

**Advance Java class 8:**

-1- Topics:

1. MVC Architecture:

* Example 1:
* addNumber.jsp-(view):

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<form action="AddServlet" method="post">

Number 1<input type="text" name="num1"/>

Number 2<input type="text" name="num2"/>

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

</form>

<%

if(request.getAttribute("res")!=null){

out.println(request.getAttribute("res"));

}

%>

</body>

</html>

* AddServlet.java-(controller):

package com.web\_app\_1.controller;

import java.io.IOException;

import javax.servlet.RequestDispatcher;

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 com.web\_app\_1.model.AddNumbers;

@WebServlet("/AddServlet")

public class AddServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

public AddServlet() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

int num1 = Integer.parseInt(request.getParameter("num1"));

int num2 = Integer.parseInt(request.getParameter("num2"));

AddNumbers a=new AddNumbers();

int result = a.addNumbers(num1, num2);

request.setAttribute("res", result);

RequestDispatcher rd = request.getRequestDispatcher("addNumber.jsp");

rd.forward(request, response);

}

}

* AddNumber.java-(model):

package com.web\_app\_1.model;

public class AddNumbers {

public int addNumbers(int num1, int num2) {

return num1+num2;

}

}

**Advance Java class mini-project:**

-1- Topics:

1. Mini-Project:

* View:
  + Index.jsp:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<form action="loginController" method="post">

<pre>

Email <input type="text" name="email"/>

Password <input type="password" name="password"/>

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

</pre>

</form>

<%

if(request.getAttribute("loginfailure")!=null){

out.println(request.getAttribute("loginfailure"));

}

%>

</body>

</html>

* + newRegistration.jsp:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<%@ **include** file="menu.jsp"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<form action="newRegs" method="post">

<pre>

Name <input type="text" name="name">

City <input type="text" name="city">

Email <input type="text" name="email">

Mobile <input type="text" name="mbNumber">

<input type="submit" value="Register">

</pre>

</form>

<%

if (request.getAttribute("RegisterSuceesful") != null) {

out.println(request.getAttribute("RegisterSuceesful"));

}

%>

</body>

</html>

* + menu.jsp:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<a href="newRegs">New Registration</a>

<a href="showRegs">Show Registration</a>

<form action="logout" method="post">

<input type="submit" value="Logout">

</form>

</body>

</html>

* + Search Results.jsp:

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<%@ **page** import="java.sql.ResultSet"%>

<%@ **include** file="menu.jsp" %>

<!DOCTYPE html>

<html>

<head>

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

<title> Registered Data</title>

</head>

<body>

<h2>REGISTERED DATA</h2>

<table border='1'>

<tr>

<th>Name</th>

<th>City</th>

<th>Email</th>

<th>Mobile</th>

<th>Delete</th>

<th>Update</th>

</tr>

<%

ResultSet res = (ResultSet) request.getAttribute("result");

while(res.next()){

%>

<tr>

<td><%= res.getString(1) %></td>

<td><%= res.getString(2) %></td>

<td><%= res.getString(3) %></td>

<td><%= res.getString(4) %></td>

<td><a href="delete?emailId=<%= res.getString(3) %>">delete</a></td>

<td><a href="update?emailId=<%= res.getString(3) %>&mobile=<%= res.getString(4) %>">update</a></td>

</tr>

<%

}

%>

</table>

</body>

</html>

* + UpdateRegistration.jsp

<%@ **page** language="java" contentType="text/html; charset=ISO-8859-1"

pageEncoding="ISO-8859-1"%>

<%@ **include** file="menu.jsp"%>

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<h2>Update Mobile Number.....</h2>

<form action="update" method="post">

Email<input type="text" name="email" value=<%=request.getAttribute("email") %> readonly>

Mobile<input type="text" name="mobile" value=<%=request.getAttribute("mobile") %>>

<input type="submit" value="Update">

</form>

</body>

</html>

* Controller:
  + LoginController.java:

package com.student\_web\_app\_4pm.controller;

import java.io.IOException;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

import com.studnet\_web\_app\_4pm.model.DAO;

import com.studnet\_web\_app\_4pm.model.DAOImpl;

@WebServlet("/loginController")

public class LoginController extends HttpServlet {

private static final long serialVersionUID = 1L;

public LoginController() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

// cannot do databases and logical operation in the

// controller instead it should be done in model.

DAO dao = new DAOImpl(); // RTP - good practice.

dao.connectDB();

boolean status = dao.verifyLogin(email, password);

if (status == true) {

HttpSession session = request.getSession(true);

session.setAttribute("email", email);

RequestDispatcher rd1 = request.getRequestDispatcher("WEB-INF\\views\\newRegistration.jsp");

rd1.forward(request, response);

} else {

request.setAttribute("loginfailure", "Email and Password Entered are incorrect!");

RequestDispatcher rd1 = request.getRequestDispatcher("index.jsp");

rd1.include(request, response);

}

}

}

* + RegistrationController.java:

package com.student\_web\_app\_4pm.controller;

import java.io.IOException;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

import com.studnet\_web\_app\_4pm.model.DAO;

import com.studnet\_web\_app\_4pm.model.DAOImpl;

@WebServlet("/newRegs")

public class RegistrationController extends HttpServlet {

private static final long serialVersionUID = 1L;

public RegistrationController() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

RequestDispatcher rd4 = request.getRequestDispatcher("WEB-INF\\views\\newRegistration.jsp");

rd4.include(request, response);

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

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

String mobile = request.getParameter("mbNumber");

DAO dao = new DAOImpl();

HttpSession session = request.getSession(false);

if(session.getAttribute("email")!=null) {

if (name.length() != 0 && email.length() != 0 && city.length() != 0 && mobile.length() != 0) {

dao.connectDB();

dao.registerData(name, city, email, mobile);

request.setAttribute("RegisterSuceesful", "Data Registered Succesfully...!");

RequestDispatcher rd3 = request.getRequestDispatcher("WEB-INF\\views\\newRegistration.jsp");

rd3.include(request, response);

} else {

request.setAttribute("RegisterSuceesful", "Ivalid Data Entered...!");

RequestDispatcher rd3 = request.getRequestDispatcher("WEB-INF\\views\\newRegistration.jsp");

rd3.include(request, response);

}

}else {

RequestDispatcher rd11 = request.getRequestDispatcher("index.jsp");

rd11.forward(request, response);

}

}

}

* + ReadRigistrationController.java:

package com.student\_web\_app\_4pm.controller;

import java.io.IOException;

import java.sql.ResultSet;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

import com.studnet\_web\_app\_4pm.model.DAO;

import com.studnet\_web\_app\_4pm.model.DAOImpl;

@WebServlet("/showRegs")

public class ReadRegistrationController extends HttpServlet {

private static final long serialVersionUID = 1L;

public ReadRegistrationController() {

super();

}

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

HttpSession session = request.getSession(false);

if(session.getAttribute("email")!=null) {

DAO dao= new DAOImpl();

dao.connectDB();

ResultSet res = dao.getAllRegistration();

request.setAttribute("result", res);

RequestDispatcher rd5 = request.getRequestDispatcher("WEB-INF//views//searchResults.jsp");

rd5.forward(request, response);

}else {

RequestDispatcher rd11 = request.getRequestDispatcher("index.jsp");

rd11.forward(request, response);

}

}

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

}

}

* + UpdateRegistrationController.java:

package com.student\_web\_app\_4pm.controller;

import java.io.IOException;

import java.sql.ResultSet;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

import com.studnet\_web\_app\_4pm.model.DAO;

import com.studnet\_web\_app\_4pm.model.DAOImpl;

@WebServlet("/update")

public class UpdateRegistrationController extends HttpServlet {

private static final long serialVersionUID = 1L;

public UpdateRegistrationController() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

HttpSession session = request.getSession(false);

if(session.getAttribute("email")!=null) {

String email = request.getParameter("emailId");

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

request.setAttribute("email", email);

request.setAttribute("mobile", mobile);

RequestDispatcher rd8 = request.getRequestDispatcher("WEB-INF//views//updateRegistration.jsp");

rd8.forward(request, response);

}else {

RequestDispatcher rd11 = request.getRequestDispatcher("index.jsp");

rd11.forward(request, response);

}

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

HttpSession session = request.getSession(false);

if(session.getAttribute("email")!=null) {

DAO dao = new DAOImpl();

dao.connectDB();

dao.updateRegistration(email,mobile);

ResultSet res = dao.getAllRegistration();

request.setAttribute("result", res);

RequestDispatcher rd9 = request.getRequestDispatcher("WEB-INF//views//searchResults.jsp");

rd9.forward(request, response);

}else {

RequestDispatcher rd11 = request.getRequestDispatcher("index.jsp");

rd11.forward(request, response);

}

}

}

* + DeleteRegistrationController.java:

package com.student\_web\_app\_4pm.controller;

import java.io.IOException;

import java.sql.ResultSet;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

import com.studnet\_web\_app\_4pm.model.DAO;

import com.studnet\_web\_app\_4pm.model.DAOImpl;

@WebServlet("/delete")

public class DeleteRegistrationController extends HttpServlet {

private static final long serialVersionUID = 1L;

public DeleteRegistrationController() {

super();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

String email = request.getParameter("emailId");

HttpSession session = request.getSession(false);

if (session.getAttribute("email") != null) {

DAO dao = new DAOImpl();

dao.connectDB();

dao.deleteRegisteredData(email);

ResultSet res = dao.getAllRegistration();

request.setAttribute("result", res);

RequestDispatcher rd5 = request.getRequestDispatcher("WEB-INF//views//searchResults.jsp");

rd5.forward(request, response);

} else {

RequestDispatcher rd11 = request.getRequestDispatcher("index.jsp");

rd11.forward(request, response);

}

}

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

}

}

* + LogoutController.java:

package com.student\_web\_app\_4pm.controller;

import java.io.IOException;

import javax.servlet.RequestDispatcher;

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 javax.servlet.http.HttpSession;

@WebServlet("/logout")

public class LogoutController extends HttpServlet {

private static final long serialVersionUID = 1L;

public LogoutController() {

super();

}

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

}

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

HttpSession session = request.getSession(false);

session.invalidate();

RequestDispatcher rd10 = request.getRequestDispatcher("index.jsp");

rd10.forward(request, response);

}

}

* Model:
  + DAO.java(Interface):

package com.studnet\_web\_app\_4pm.model;

import java.sql.ResultSet;

public interface DAO {

public void connectDB();

public Boolean verifyLogin(String email, String password);

public void registerData(String name, String city, String email, String mobile);

public ResultSet getAllRegistration();

public void deleteRegisteredData(String email);

public void updateRegistration(String email, String mobile);

}

* + DAOImple.java:

package com.studnet\_web\_app\_4pm.model;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.ResultSet;

import java.sql.Statement;

public class DAOImpl implements DAO {

private Connection con;

private Statement stmt;

@Override

public void connectDB() {

try {

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

con = DriverManager.getConnection("jdbc:mysql://localhost:3306/studnet\_web\_app\_4pm", "root", "6361");

stmt = con.createStatement();

} catch (Exception e) {

e.printStackTrace();

}

}

@Override

public Boolean verifyLogin(String email, String password) {

try {

ResultSet result = stmt

.executeQuery("select \* from login where email='" + email + "' and password='" + password + "'");

return result.next();

} catch (Exception e) {

e.printStackTrace();

}

return false;

}

@Override

public void registerData(String name, String city, String email, String mobile) {

try {

stmt.executeUpdate("insert into registration values('" + name + "' ,'" + city + "' ,'" + email + "','"

+ mobile + "')");

} catch (Exception e) {

e.printStackTrace();

}

}

@Override

public ResultSet getAllRegistration() {

try {

ResultSet result = stmt.executeQuery("select \* from registration");

return result;

} catch (Exception e) {

e.printStackTrace();

}

return null;

}

@Override

public void deleteRegisteredData(String email) {

try {

stmt.executeUpdate("delete from registration where email='" + email + "'");

} catch (Exception e) {

e.printStackTrace();

}

}

@Override

public void updateRegistration(String email, String mobile) {

try {

stmt.executeUpdate("update registration set mobile='" + mobile + "' where email='" + email + "'");

} catch (Exception e) {

e.printStackTrace();

}

}

**Advance Java class 15:**

-3- Topics:

1. GET v/s POST:

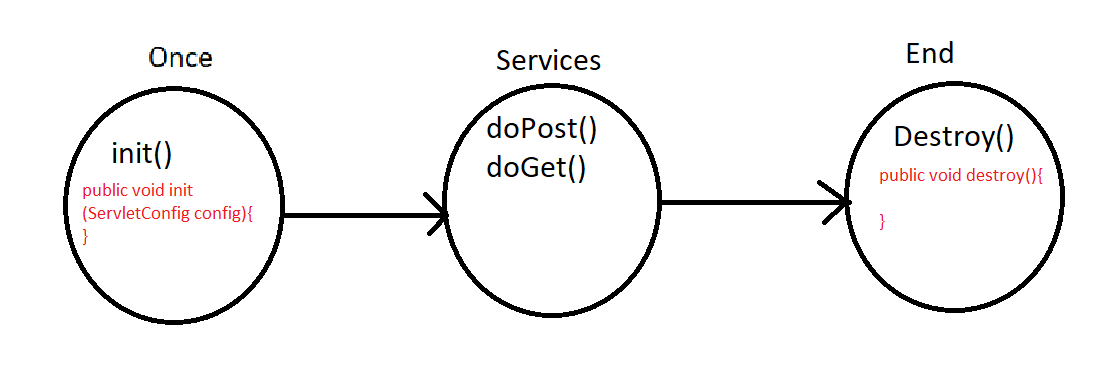
* Differences:

|  |  |
| --- | --- |
| GET | POST |
| Should be used when we want to get data from database. | Should be used when we submit data using forms to the database. |
| Data is Exposed in the URL. | Data is not Exposed in the URL. |
| URL data is exposed in browser history | URL data is not exposed in browser history |
| When you refresh page you will not get security alert!. | When you refresh page you will get security alert!. |

1. Application-servlets v/s Web-Servlets:

* Application-servlets:
  + If you want to build Dynamic web-Applications using technologies such as servlets, jsp, Hibernate, Spring, Spring-Boot etc. in this case to run these technologies we use Application-Servlets such as Tomcat, J-Boss, Glass-Fish.
* Web-Servlets:
  + To build static App we use Technologies like HTML, CSS, JS & to run this we use Webservers like IIS, Apache.

1. Servlet Life Cycle:



For the first time when we start the server tomcat init() method will run, post that any number of times we can call doGet() and doPost() method, finally when the destroy method is called servlet life cycle comes to an end.

Note:

* + Code to connect to DB we write itr in init(){} method.
  + Code to close Connection to DB we write it in destroy(){} method.
  + All other code of business logic is written inside doPost() and doGet() methods.