

# **INTERNET PROGRAMMING LAB**

**Ex4**

## **Java Servlets and MySQL**

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### **Learning Objective:**

- a) To Generate a form to calculate Gross Pay using servlet.
- b) To develop a patient management system (PMS).

### **Specifications:**

a) Create a HTML file with following form fields:

- a. Employee ID
- b. Employee Name
- c. Designation
- d. Department
- e. Basic Salary
- f. Phone Number
- g. Address
- h. Date of Birth
- i. Gender
- j. Marital Status
- k. Submit (Button, onclick submit the form details to a servlet)
- l. Reset (Button, onclick)

Write a servlet program which reads all form details, finds the gross pay based on basic pay and designation. The servlet returns all details (a-j, gross pay) in table format to the client.

b) PMS

- a. Admin only can access the patient records.
- b. Admin has to authenticate himself with the credentials to access the patient details.
- c. The first page is the login page (login.html) where the admin should enter the credentials.
- d. If login fails, display an alert "Login Failed, enter the correct details", clear the username and password textbox and focus the control back to the username of login.html.
- e. Perform the authentication using JavaScript, use hardcoded username and password in login.html.
- f. On successful login, it should be redirected to homepage (homepage.html) of PMS.
- g. The homepage.html should display.
- h. Clicking the links should invoke its corresponding html file from where the information is submitted to the corresponding Servlet.
- i. On Submit, it should invoke DeleteServlet. The DeleteServlet should delete the record from the Database and displays "Record Deleted" in a new webpage with a view button.
- j. When "View" button is clicked it invokes the "ViewServlet" to display all the records in the database.
- k. Similarly, perform ADD, UPDATE, VIEW and SEARCH using **corresponding html and Servlet.**
- l. UPDATE is invoked if phone number or Address of the patient is changed.
- m. SEARCH for particular patient based on Patient ID.

n. After each operation View Servlet should be invoked to view the changes in the Database.

## 4A

### HTML Code:

#### index.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>Employee Form</title>
  </head>

  <body>
    <center><h1 style="color:maroon">Employee Form</h1></center>
    <form method="post" action="http://localhost:8080/Ex4/GrossPay">
      <br><label for="eid">Eid :</label><br>
      <input type="text" id="eid" name="eid" placeholder="Enter Eid"
value="" required><br>

      <br><label for="name">Name :</label><br>
      <input type="text" id="name" name="name" placeholder="Enter your
Name" value="" size="30" required><br>

      <br><label for="designation">Designation :</label><br>
      <select name="designation" id="designation" required>
        <option value="none" selected disabled hidden> Select
Designation</option>
        <option value="md">MD</option>
        <option value="ceo">CEO</option>
        <option value="manager">Manager</option>
        <option value="other">Other</option>
      </select><br>

      <br><label for="department">Department :</label><br>
      <input type="text" id="department" name="department"
placeholder="Enter department" value="" required><br>

      <br><label for="basic">Basic Pay :</label><br>
      <input type="number" id="basic" name="basic" placeholder="Enter basic
pay" value="" required><br>

      <br><label for="num">Mobile No. :</label><br>
      <input type="tel" id="num" name="num" placeholder="1234567890"
value="" pattern="[0-9]{10}" required><br>

      <br><label for="address">Address :</label><br>
      <input type="text" id="address" name="address" placeholder="Enter
your Address" value="" size="60" required><br>

      <br><label for="dob">DOB :</label><br>
```

```

<input type="date" id="dob" name="dob" value="" required><br>

<br>Gender:<br>
<input type="radio" id="male" name="gender" value="male" required>
<label for="male" style="color:black">Male</label><br>
<input type="radio" id="female" name="gender" value="female">
<label for="female" style="color:black">Female</label><br>

<br>Marital Status:<br>
<select name="marital_status" id="marital_status" required>
  <option value="none" selected disabled hidden> Select Marital
Status</option>
  <option value="single">Single</option>
  <option value="married">Married</option>
  <option value="divorced">Divorced</option>
  <option value="widowed">Widowed</option>
</select><br>

  <input type="submit" value="Submit">
  <input type="reset" value="Reset">
</form>
</body>
</html>

```

## style.css

```

form{
  margin-left: 20%;
  font-size:17px;
  font-family:arial;
  font-weight:bold;
  color:darkgreen;
  background-color:lavender;
  padding:30px;
  border:5px solid black;
  border-radius: 20px;
  width:60%;
}

input,select,textarea{
  font-size:17px;
  font-family:arial;
  padding: 12px 20px;
  margin: 8px 0;
}

input[type=submit]{
  width:20%;
  font-weight: bold;
  background-color:lightgreen;
}

input[type=reset]{
  width:20%;
  font-weight: bold;
  background-color:antiquewhite;
  margin:40px;
}

```

```
input[type=submit]:hover,input[type=reset]:hover{
    color:blue;
}
```

```
table,th,td {
    border: 2px solid black;
    border-collapse: collapse;
    padding: 10px;
}
```

```
th {
    background-color: #65af79;
    font-size: 23px;
    color: blue;
    font-family: "courier new";
}
```

```
td {
    background-color: #656da0;
    color: gold;
    font-size: 20px;
    list-style-type: none;
}
```

```
table {
    margin-left: auto;
    margin-right: auto;
    text-align: center;
    width: 50%;
}
```

```
body {
    background-color: lightgreen;
}
```

## Servlet Code:

### Grosspay.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class GrossPay extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException,IOException
    {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        String eid=request.getParameter("eid");
        String name=request.getParameter("name");
        String designation=request.getParameter("designation");
        String department=request.getParameter("department");
        Double basic=Double.parseDouble(request.getParameter("basic"));
        String number=request.getParameter("num");
```

```

String address=request.getParameter("address");
String dob=request.getParameter("dob");
String gender=request.getParameter("gender");
String mstatus=request.getParameter("marital_status");

Double gross;
Double hra;
Double da;

if(designation.equals("md"))
{
    hra=0.25*basic;
    da=0.15*basic;
}
else if(designation.equals("ceo"))
{
    hra=0.20*basic;
    da=0.10*basic;
}
else if(designation.equals("manager"))
{
    hra=0.15*basic;
    da=0.05*basic;
}
else if(designation.equals("other"))
{
    hra=0.10*basic;
    da=0.05*basic;
}
else
{
    hra=0.0;
    da=0.0;
}

gross=basic+hra+da;

out.println("<!DOCTYPE html>"+
    "<html>"+
    "<head>"+
    "<meta charset='utf-8'>"+
    "<meta name='viewport' content='width=device-
width, initial-scale=1.0'>"+
    "<link rel='stylesheet' href='style.css'>"+
    "<title>Gross Pay</title>"+
    "</head>"+
    "<body style='background-color:lightyellow'><br>"+
    "<br><table>"+
    "<tr>"+
    "<th>Details</th>"+
    "<th>Value</th>"+
    "</tr>"+
    "<tr>"+
    "<td>Eid</td>"+
    "<td>+eid+</td>"+
    "</tr>"+
    "<tr>"+
    "<td>Name</td>"+
    "<td>+name+</td>"+
    "</tr>"+
    "<tr>"+

```

```

        "<td>Designation</td>" +
        "<td>" + designation + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Department</td>" +
        "<td>" + department + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Basic Pay</td>" +
        "<td>" + basic + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Mobile No.</td>" +
        "<td>" + number + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Address</td>" +
        "<td>" + address + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Dob</td>" +
        "<td>" + dob + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Gender</td>" +
        "<td>" + gender + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Marital Status</td>" +
        "<td>" + mstatus + "</td>" +
    "</tr>" +
    "<tr>" +
        "<td>Gross Pay</td>" +
        "<td>" + gross + "</td>" +
    "</tr>" +
    "</table>" +
    "</body>" +
    "</html>");
    }
}

```

## web.xml

```

<web-app>
<servlet>
    <servlet-name>GrossPay</servlet-name>
    <servlet-class>GrossPay</servlet-class>
</servlet>
<servlet-mapping>
    <servlet-name>GrossPay</servlet-name>
    <url-pattern>/GrossPay</url-pattern>
</servlet-mapping>
</web-app>

```

## Screenshots:

The screenshot shows a web browser window with the title "Employee Form". The address bar shows "localhost:8080/Ex4/". The page has a green header bar with the text "Employee Form". The main content area is a light blue box containing a form with the following fields:

- Eid:
- Name:
- Designation:
- Department:
- Basic Pay:
- Mobile No.:
- Address:
- DOB:
- Gender: ☒ Male ☐ Female
- Marital Status:

At the bottom of the form are two buttons: "Submit" (green) and "Reset" (orange).

The screenshot shows a web browser window with the title "Gross Pay". The address bar shows "localhost:8080/Ex4/GrossPay". The page has a yellow background. In the center, there is a table with two columns: "Details" and "Value".

Details	Value
Eid	1001
Name	Vikraman
Designation	ceo
Department	Marketing
Basic Pay	100000.0
Mobile No.	1234567890
Address	Chennai
Dob	2000-04-03
Gender	male
Marital Status	single
Gross Pay	130000.0



## 4B

### HTML Code:

#### login.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>Admin Login</title>
  </head>

  <body>
    <center><h1>Admin Login</h1></center>
    <form method="post" action="homepage.html">
      <br><label for="uname">User Name:</label>
      <input type="text" id="uname" name="name" placeholder="Enter User
Name" value="" required><br>

      <br><label for="password">Password :</label>
      <input type="password" id="password" name="password" value=""
required>

      <br><input type="submit" value="Submit" onclick=validate()>
    </form>
    <script src="script.js"></script>
  </body>
</html>
```

#### hompage.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>Home Page</title>
  </head>

  <body>
    <center><h1>Patient Details</h1>
    <nav style="font-size:20px">
      <br><a href="add.html">Add Record</a><br>
      <br><a href="update.html">Update Record</a><br>
      <br><a href="delete.html">Delete Record</a><br>
      <br><a href="view.html">View Record</a><br>
      <br><a href="search.html">Search Record</a><br>
    </nav></center>
  </body>
</html>
```

## add.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>Add Record</title>
  </head>

  <body>
    <center><h1>Add Patient</h1></center>
    <form method="post" action="http://localhost:8080/Ex4_PMS/Add">
      <br><label for="name">Patient name:</label><br>
      <input type="text" id="name" name="name" placeholder="Enter Name"
value="" required><br>

      <br><label for="age">Age :</label><br>
      <input type="number" id="age" name="age" value="" required><br>

      <br><label for="address">address:</label><br>
      <input type="text" id="address" name="address" size="55"
placeholder="Enter address" value="" required><br>

      <br><label for="num">Mobile No. :</label><br>
      <input type="tel" id="num" name="num" placeholder="1234567890"
value="" required><br>

      <br>Gender:<br>
      <input type="radio" id="male" name="gender" value="male" required>
<label for="male" style="color:black">Male</label><br>
      <input type="radio" id="female" name="gender" value="female">
<label for="female" style="color:black">Female</label><br>

      <br>Marital Status:<br>
      <select name="marital_status" id="marital_status" required>
        <option value="none" selected disabled hidden> Select Marital
Status</option>
        <option value="single">Single</option>
        <option value="married">Married</option>
        <option value="divorced">Divorced</option>
        <option value="widowed">Widowed</option>
      </select><br>

      <br><label for="date_visit">Date of Visit :</label><br>
      <input type="date" id="date_visit" name="date_visit" value=""
required><br>

      <br><label for="illness">illness:</label><br>
      <input type="text" id="illness" name="illness" size="40"
placeholder="Enter illness" value="" required><br>

      <input type="submit" value="Submit">
      <input type="reset" value="Reset">
    </form>
  </body>
</html>
```

## update.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>Update Record</title>
  </head>

  <body>
    <center><h1>Update Patient Details</h1></center>
    <form method="post" action="http://localhost:8080/Ex4_PMS/Update">
      <br><label for="id">Patient id:</label><br>
      <input type="text" id="id" name="id" placeholder="Enter patient Id"
value="" required><br>

      <br><label for="address">address:</label><br>
      <input type="text" id="address" name="address" size="55"
placeholder="Enter new address" value=""><br>

      <br><label for="num">Mobile No. :</label><br>
      <input type="tel" id="num" name="num" placeholder="Enter new Mobile
number" value=""><br>

      <input type="submit" value="Submit">
      <input type="reset" value="Reset">
    </form>
  </body>
</html>
```

## view.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>View Record</title>
  </head>

  <body>
    <center><h1>View Patient List</h1></center>
    <form method="post" action="http://localhost:8080/Ex4_PMS/View">
      <input type="submit" value="View">
    </form>
  </body>
</html>
```

## search.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
```

```

    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <title>Search Record</title>
</head>

<body>
    <center><h1>Delete Patient Details</h1></center>
    <form method="post" action="http://localhost:8080/Ex4_PMS/Search">
        <br><label for="id">Patient id:</label><br>
        <input type="text" id="id" name="id" placeholder="Enter patient Id"
value="" required><br>

        <input type="submit" value="Submit">
    </form>
</body>
</html>

```

## delete.html

```

<!DOCTYPE html>
<html>
    <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <link rel="stylesheet" href="style.css">
        <title>Delete Record</title>
    </head>

    <body>
        <center><h1>Delete Patient Details</h1></center>
        <form method="post" action="http://localhost:8080/Ex4_PMS/Delete">
            <br><label for="id">Patient id:</label><br>
            <input type="text" id="id" name="id" placeholder="Enter patient Id"
value="" required><br>

            <input type="submit" value="Submit">
        </form>
    </body>
</html>

```

## style.css

```

form{
    margin-left: 30%;
    font-size:17px;
    font-family:arial;
    font-weight:bold;
    color:blue;
    background-color:lavender;
    padding:30px;
    padding-left: 50px;
    border:5px dotted black;
    border-radius: 20px;
    width:40%;
}

input{
    font-size:17px;

```

```

    font-family:arial;
    padding: 12px 20px;
    margin: 8px 0;
}

input,select{
    font-size:17px;
    font-family:arial;
    padding: 12px 20px;
    margin: 8px 0;
}

input[type=submit],input[type=button]{
    width:20%;
    font-weight: bold;
    background-color:lightgreen;
}

input[type=reset]{
    width:20%;
    font-weight: bold;
    background-color:antiquewhite;
    margin:40px;
}

input[type=submit]:hover,input[type=reset]:hover,input[type=button]:hover{
    color:blue;
}

table,th,td {
    border: 2px solid black;
    border-collapse: collapse;
    padding: 10px;
}

th {
    background-color: #65af79;
    font-size: 23px;
    color: blue;
    font-family: "courier new";
}

td {
    background-color: #656da0;
    color: gold;
    font-size: 20px;
    list-style-type: none;
}

table {
    margin-left: auto;
    margin-right: auto;
    text-align: center;
    width: 50%;
}

body {
    background-color: #FFFFFFE0
}

a:hover{

```

```
    color:darkgreen;
}
```

## script.js

```
function validate(){
    var uname=document.getElementById("uname").value;
    var pass=document.getElementById("password").value;

    if(uname=="viki" && pass=="9500")
    {
        alert('Welcome viki');
        return true;
    }
    else
    {
        alert('Login Failed, enter the correct details');
        document.getElementById("uname").value="";
        document.getElementById("password").value="";
        return false;
    }
}

function load()
{
    window.location.replace("http://localhost:8080/Ex4_PMS/homepage.html");
}
```

## Servlet Code:

### Add.java

```
import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;

public class Add extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException
    {
        String JDBC_DRIVER = "com.mysql.jdbc.Driver";
        String DB_URL="jdbc:mysql://localhost/patient";

        String USER = "root";
        String PASS = "9500";

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        String name=request.getParameter("name");
        String age=request.getParameter("age");
        String address=request.getParameter("address");
        String num=request.getParameter("num");
        String gender=request.getParameter("gender");
    }
}
```

```

String marital_status=request.getParameter("marital_status");
String date_visit=request.getParameter("date_visit");
String illness=request.getParameter("illness");

try {
    // Register JDBC driver
    Class.forName("com.mysql.jdbc.Driver");

    // Open a connection
    Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);

    //Statement stmt = conn.createStatement();
    PreparedStatement stmt = conn.prepareStatement("INSERT INTO
patient_data
(name,age,address,phone,gender,marital_status,last_visit,illness)
VALUES(?,?,?,?,?,?,?,?)");
    //String sql="INSERT INTO patient_data
(name,age,address,phone,gender,marital_status,last_visit,illness)
VALUES(?,?,?,?,?,?,?,?)";
    stmt.setString(1,name);
    stmt.setString(2,age);
    stmt.setString(3,address);
    stmt.setString(4,num);
    stmt.setString(5,gender);
    stmt.setString(6,marital_status);
    stmt.setString(7,date_visit);
    stmt.setString(8,illness);

    // Execute SQL query
    stmt.executeUpdate();

    out.println("<!DOCTYPE html>"+
        "<html>"+
        "<head>"+
        "<meta charset='utf-8'>"+
        "<meta name='viewport' content='width=device-
width, initial-scale=1.0'>"+
        "<link rel='stylesheet' href='style.css'>"+
        "<title>View Added Record</title>"+
        "</head>"+
        "<body style='background-color:lightyellow'><br>"+
        "<center><h1>Added Successfully</h1></center>"+
        "<script>"+
        "setTimeout(view, 1500);"+
        "function view() "+

        "{window.location.replace('http://localhost:8080/Ex4_PMS/view.html');}"
        "</script>"+
        "</body>"+
        "</html>");

    // Clean-up environment
    stmt.close();
    conn.close();
} catch(SQLException se) {
    //Handle errors for JDBC
    se.printStackTrace();
} catch(Exception e) {
    //Handle errors for Class.forName
    e.printStackTrace();
}

```

```

    }
}

```

## Update.java

```

import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;

public class Update extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException
    {
        String JDBC_DRIVER = "com.mysql.jdbc.Driver";
        String DB_URL="jdbc:mysql://localhost/patient";

        String USER = "root";
        String PASS = "9500";

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        int patient_id=Integer.parseInt(request.getParameter("id"));
        String address=request.getParameter("address");
        String num=request.getParameter("num");

        try {
            // Register JDBC driver
            Class.forName("com.mysql.jdbc.Driver");

            // Open a connection
            Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);

            // Execute SQL query

            if(address!="")
            {
                PreparedStatement stmt = conn.prepareStatement("UPDATE
patient_data SET address=? WHERE id="+patient_id);
                stmt.setString(1,address);
                stmt.executeUpdate();
                stmt.close();
            }
            if(num!="")
            {
                PreparedStatement stmt = conn.prepareStatement("UPDATE
patient_data SET phone=? WHERE id="+patient_id);
                stmt.setString(1,num);
                stmt.executeUpdate();
                stmt.close();
            }

            out.println("<!DOCTYPE html>"+
                "<html>"+
                "<head>"+

```



```

        "<meta charset='utf-8'>" +
        "<meta name='viewport' content='width=device-
width, initial-scale=1.0'>" +
        "<link rel='stylesheet' href='style.css'>" +
        "<title>View Added Record</title>" +
        "</head>" +
        "<body style='background-color:lightyellow'><br>" +
        "<center><h1>Updated
Successfully</h1></center>" +
        "<script>" +
        "setTimeout(view, 1500);" +
        "function view()" +

"{window.location.replace('http://localhost:8080/Ex4_PMS/view.html');}" +
        "</script>" +
        "</body>" +
        "</html>");

        // Clean-up environment
        conn.close();
    } catch (SQLException se) {
        //Handle errors for JDBC
        se.printStackTrace();
    } catch (Exception e) {
        //Handle errors for Class.forName
        e.printStackTrace();
    }
}
}
}

```

## View.java

```

import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;

public class View extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException
    {
        String JDBC_DRIVER = "com.mysql.jdbc.Driver";
        String DB_URL="jdbc:mysql://localhost/patient";

        String USER = "root";
        String PASS = "9500";

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        try {
            // Register JDBC driver
            Class.forName("com.mysql.jdbc.Driver");

            // Open a connection
            Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);

```

```

        // Execute SQL query
        Statement stmt = conn.createStatement();
        String sql="SELECT
id,name,age,address,phone,gender,marital_status,last_visit,illness FROM
patient_data";
        ResultSet rs = stmt.executeQuery(sql);

        out.println("<!DOCTYPE html>" +
            "<html>" +
            "<head>" +
            "    <meta charset='utf-8'>" +
            "    <meta name='viewport' content='width=device-
width, initial-scale=1.0'>" +
            "    <link rel='stylesheet' href='style.css'>" +
            "    <title>View Database</title>" +
            "</head>" +
            "<body style='background-color:lightyellow'><br>" +
            "    <br><table>" +
            "        <tr>" +
            "            <th>Patient Id</th>" +
            "            <th>Name</th>" +
            "            <th>Age</th>" +
            "            <th>Address</th>" +
            "            <th>Phone</th>" +
            "            <th>Gender</th>" +
            "            <th>Marital_Status</th>" +
            "            <th>Date of Visit</th>" +
            "            <th>illness</th>" +
            "        </tr>");

        // Extract data from result set
        while(rs.next())
        {
            //Retrieve by column name
            int id=rs.getInt("id");
            String name= rs.getString("name");
            String age= rs.getString("age");
            String address= rs.getString("address");
            String phone= rs.getString("phone");
            String gender= rs.getString("gender");
            String marital_status= rs.getString("marital_status");
            String last_visit= rs.getString("last_visit");
            String illness= rs.getString("illness");

            out.println("<tr>" +
                "<td>+id+</td>" +
                "<td>+name+</td>" +
                "<td>+age+</td>" +
                "<td>+address+</td>" +
                "<td>+phone+</td>" +
                "<td>+gender+</td>" +
                "<td>+marital_status+</td>" +
                "<td>+last_visit+</td>" +
                "<td>+illness+</td>" +
                "</tr>");
        }
        out.println("</table><br><br><br>" +
            "<center><input type='button' value='Home' "
            onclick=load()></center>" +
            "<script src='script.js'></script>" +

```

```

        "</body>" +
        "</html>");
    // Clean-up environment
    rs.close();
    stmt.close();
    conn.close();
} catch(SQLException se) {
    //Handle errors for JDBC
    se.printStackTrace();
} catch(Exception e) {
    //Handle errors for Class.forName
    e.printStackTrace();
}
}
}

```

## Update.java

```

import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;

public class Update extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException
    {
        String JDBC_DRIVER = "com.mysql.jdbc.Driver";
        String DB_URL="jdbc:mysql://localhost/patient";

        String USER = "root";
        String PASS = "9500";

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        int patient_id=Integer.parseInt(request.getParameter("id"));
        String address=request.getParameter("address");
        String num=request.getParameter("num");

        try {
            // Register JDBC driver
            Class.forName("com.mysql.jdbc.Driver");

            // Open a connection
            Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);

            // Execute SQL query

            if(address!="")
            {
                PreparedStatement stmt = conn.prepareStatement("UPDATE
patient_data SET address=? WHERE id="+patient_id);
                stmt.setString(1,address);
                stmt.executeUpdate();
                stmt.close();
            }
        }
    }
}

```

```

        if(num!="")
        {
            PreparedStatement stmt = conn.prepareStatement("UPDATE
patient_data SET phone=? WHERE id="+patient_id);
            stmt.setString(1,num);
            stmt.executeUpdate();
            stmt.close();
        }

        out.println("<!DOCTYPE html>" +
            "<html>" +
            "<head>" +
            "<meta charset='utf-8'>" +
            "<meta name='viewport' content='width=device-
width, initial-scale=1.0'>" +
            "<link rel='stylesheet' href='style.css'>" +
            "<title>View Added Record</title>" +
            "</head>" +
            "<body style='background-color:lightyellow'><br>" +
            "<center><h1>Updated
Successfully</h1></center>" +
            "<script>" +
            "setTimeout(view, 1500);" +
            "function view() "+
            "{window.location.replace('http://localhost:8080/Ex4_PMS/view.html');}" +
            "</script>" +
            "</body>" +
            "</html>");

        // Clean-up environment
        conn.close();
    } catch(SQLException se) {
        //Handle errors for JDBC
        se.printStackTrace();
    } catch(Exception e) {
        //Handle errors for Class.forName
        e.printStackTrace();
    }
}
}
}

```

## Delete.java

```

import java.io.*;
import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;

public class Delete extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException
    {
        String JDBC_DRIVER = "com.mysql.jdbc.Driver";
        String DB_URL="jdbc:mysql://localhost/patient";

        String USER = "root";
    }
}

```

```

String PASS = "9500";

response.setContentType("text/html");
PrintWriter out = response.getWriter();

int patient_id=Integer.parseInt(request.getParameter("id"));

try {
    // Register JDBC driver
    Class.forName("com.mysql.jdbc.Driver");

    // Open a connection
    Connection conn = DriverManager.getConnection(DB_URL, USER, PASS);

    // Execute SQL query

    PreparedStatement stmt = conn.prepareStatement("DELETE FROM
patient_data WHERE id="+patient_id);
    stmt.executeUpdate();

    out.println("<!DOCTYPE html>"+
        "<html>"+
        "<head>"+
        "<meta charset='utf-8'>"+
        "<meta name='viewport' content='width=device-
width, initial-scale=1.0'>"+
        "<link rel='stylesheet' href='style.css'>"+
        "<title>View Added Record</title>"+
        "</head>"+
        "<body style='background-color:lightyellow'><br>"+
        "<center><h1>Deleted
Successfully</h1></center>"+
        "<script>"+
        "setTimeout(view, 1500);"+
        "function view() "+
        "{window.location.replace('http://localhost:8080/Ex4_PMS/view.html');}"
        "</script>"+
        "</body>"+
        "</html>");

    // Clean-up environment
    stmt.close();
    conn.close();
} catch(SQLException se) {
    //Handle errors for JDBC
    se.printStackTrace();
} catch(Exception e) {
    //Handle errors for Class.forName
    e.printStackTrace();
}
}
}

```

## web.xml

```

<web-app>
<servlet>
    <servlet-name>View</servlet-name>

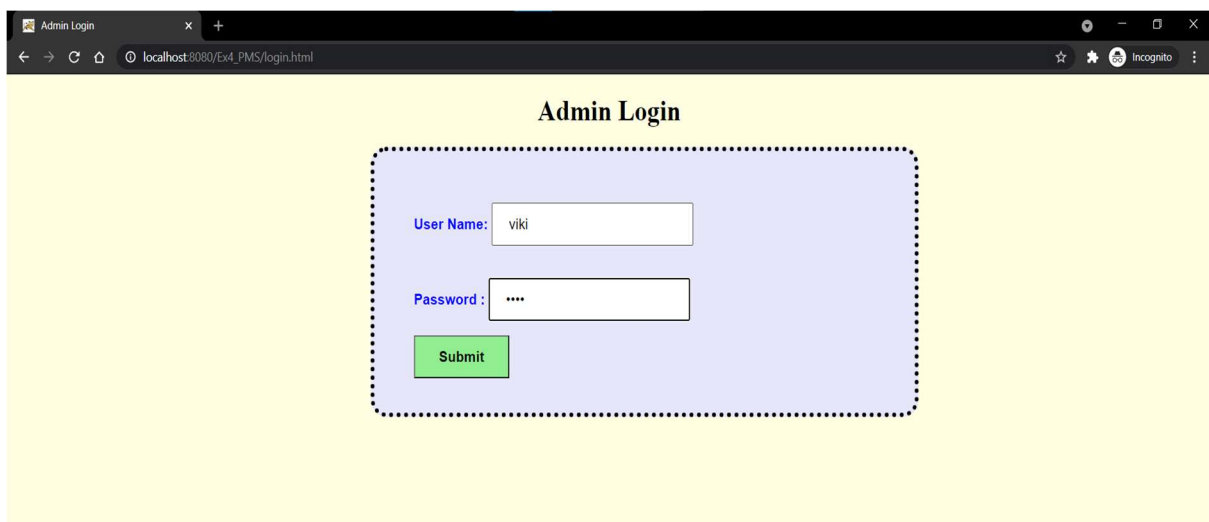
```

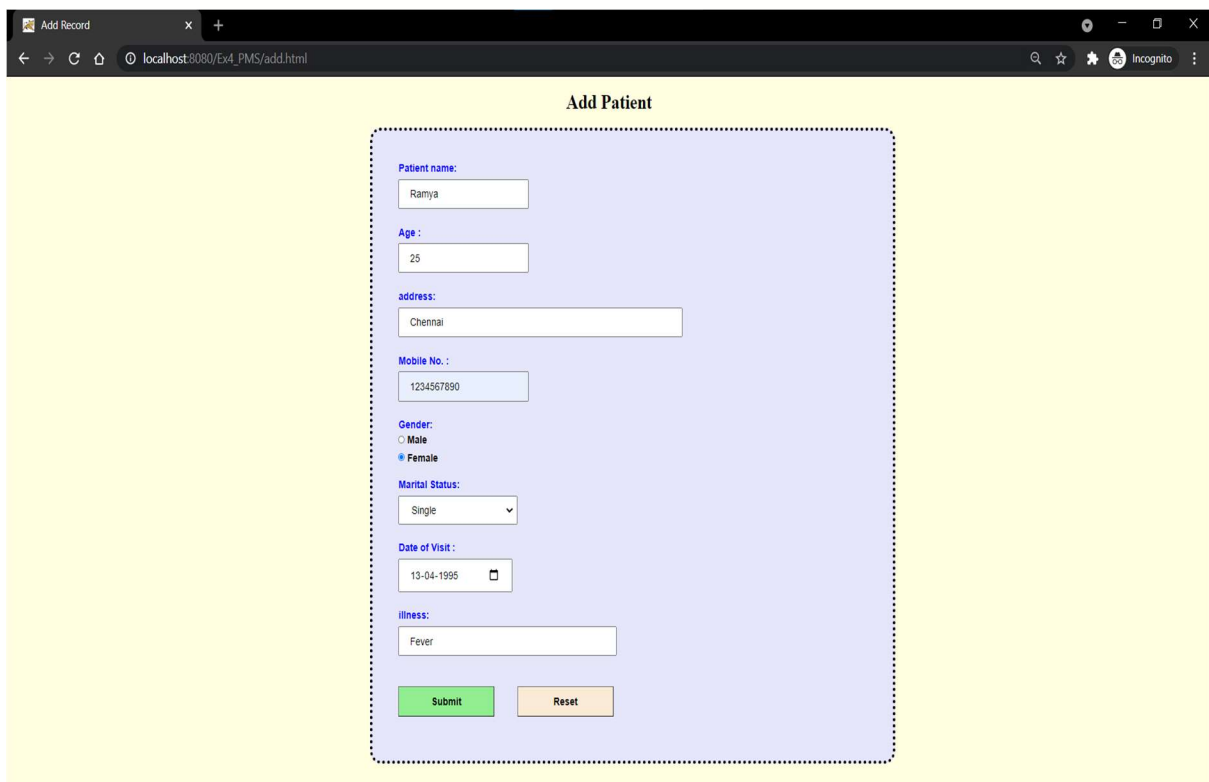
```

        <servlet-class>View</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>View</servlet-name>
        <url-pattern>/View</url-pattern>
    </servlet-mapping>
    <servlet>
        <servlet-name>Add</servlet-name>
        <servlet-class>Add</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>Add</servlet-name>
        <url-pattern>/Add</url-pattern>
    </servlet-mapping>
    <servlet>
        <servlet-name>Update</servlet-name>
        <servlet-class>Update</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>Update</servlet-name>
        <url-pattern>/Update</url-pattern>
    </servlet-mapping>
    <servlet>
        <servlet-name>Search</servlet-name>
        <servlet-class>Search</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>Search</servlet-name>
        <url-pattern>/Search</url-pattern>
    </servlet-mapping>
    <servlet>
        <servlet-name>Delete</servlet-name>
        <servlet-class>Delete</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>Delete</servlet-name>
        <url-pattern>/Delete</url-pattern>
    </servlet-mapping>
</web-app>

```

## Screenshots:





Update Record

localhost:8080/Ex4\_PMS/update.html

### Update Patient Details

Patient id:

address:

Mobile No. :

View Added Record

localhost:8080/Ex4\_PMS/Update

### Updated Successfully

View Database

localhost:8080/Ex4\_PMS/View

Patient Id	Name	Age	Address	Phone	Gender	Marital_Status	Date of Visit	illness
1000	Ram	20	Erode	1234567890	male	single	2021-02-30	corona
1001	Sree	20	Erode	1234567895	male	single	2021-03-05	Fever
1002	Amit	32	Salem	1234567891	male	single	1988-02-11	Cold
1005	Ramya	25	Coimbatore	0987654321	female	single	1995-04-13	Fever



View Database

localhost:8080/Ex4\_PMS/Search

Patient Id	Name	Age	Address	Phone	Gender	Marital_Status	Date of Visit	illness
1005	Ramya	25	Coimbatore	0987654321	female	single	1995-04-13	Fever

Home

Delete Record

localhost:8080/Ex4\_PMS/delete.html

### Delete Patient Details

Patient id:

Submit

View Database

localhost:8080/Ex4\_PMS/View

Patient Id	Name	Age	Address	Phone	Gender	Marital_Status	Date of Visit	illness
1000	Ram	20	Erode	1234567890	male	single	2021-02-30	corona
1001	Sree	20	Erode	1234567895	male	single	2021-03-05	Fever
1005	Ramya	25	Coimbatore	0987654321	female	single	1995-04-13	Fever

Home

**Learning Outcomes:**

- I have understood the working of servlet and difference between GET and POST methods.
- I have learnt how to generate dynamic html response using servlet programming.
- I have learnt the database operations in MySQL and used it for the PMS database.
- I have understood the code for connecting database and servlet part.
- I have learnt to analyse and fix errors using inspect element and tomcat terminal.