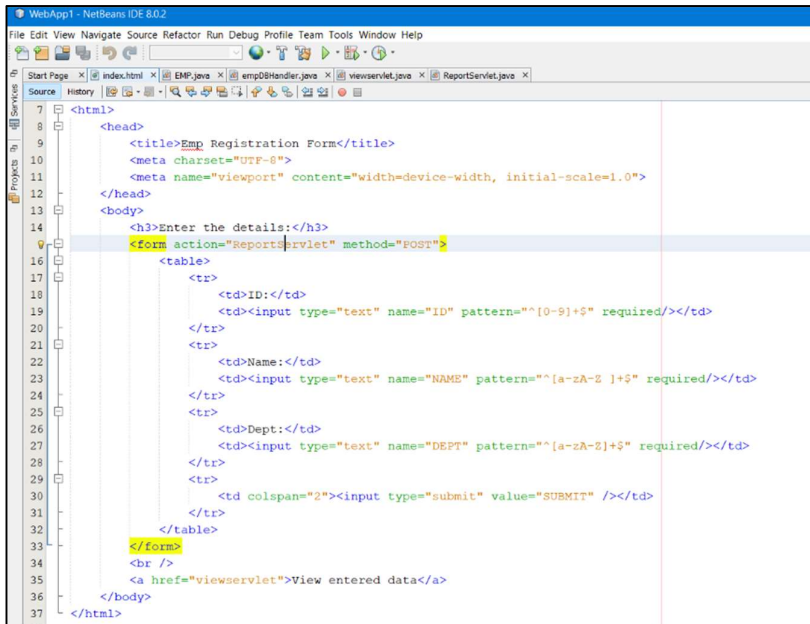


MVC Implementation

Technology used: Java

VIEW: index.html

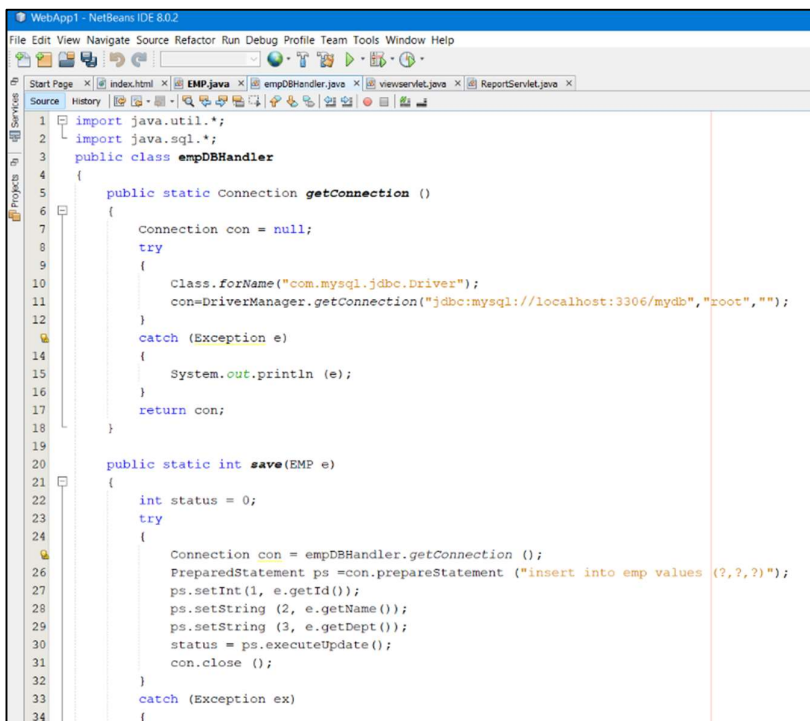


```

<html>
<head>
<title>Emp Registration Form</title>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<h3>Enter the details:</h3>
<form action="ReportServlet" method="POST">
<table>
<tr>
<td>ID:</td>
<td><input type="text" name="ID" pattern="[0-9]+$" required/></td>
</tr>
<tr>
<td>Name:</td>
<td><input type="text" name="NAME" pattern="^[a-zA-Z ]+$" required/></td>
</tr>
<tr>
<td>Dept:</td>
<td><input type="text" name="DEPT" pattern="^[a-zA-Z]+$" required/></td>
</tr>
<tr>
<td colspan="2"><input type="submit" value="SUBMIT" /></td>
</tr>
</table>
</form>
<br />
<a href="viewservlet">View entered data</a>
</body>
</html>

```

CONTROLLER: empDBHandler.java



```

import java.util.*;
import java.sql.*;

public class empDBHandler
{
    public static Connection getConnection ()
    {
        Connection con = null;
        try
        {
            Class.forName("com.mysql.jdbc.Driver");
            con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");
        }
        catch (Exception e)
        {
            System.out.println (e);
        }
        return con;
    }

    public static int save(EMP e)
    {
        int status = 0;
        try
        {
            Connection con = empDBHandler.getConnection ();
            PreparedStatement ps =con.prepareStatement ("insert into emp values (?,?,?)");
            ps.setInt(1, e.getId());
            ps.setString (2, e.getName());
            ps.setString (3, e.getDept());
            status = ps.executeUpdate();
            con.close ();
        }
        catch (Exception ex)
        {
        }
    }
}

```

```

32     }
33     catch (Exception ex)
34     {
35         ex.printStackTrace ();
36     }
37     return status;
38 }
39
40 public static List < EMP > getAllEmployees ()
41 {
42     List<EMP> list = new ArrayList<EMP>();
43     try
44     {
45         Connection con = empDBHandler.getConnection ();
46         PreparedStatement ps = con.prepareStatement ("select * from emp");
47         ResultSet rs = ps.executeQuery ();
48         while (rs.next ())
49         {
50             EMP e = new EMP ();
51             e.setId (rs.getInt (1));
52             e.setName (rs.getString (2));
53             e.setDept (rs.getString (3));
54
55             list.add (e);
56         }
57         con.close ();
58     }
59     catch (Exception e)
60     {
61         e.printStackTrace ();
62     }
63     return list;
64 }
65 }

```

MODEL: EMP.java

```

1  public class EMP {
2      // @NotNull
3      private int id;
4      private String name, dept;
5      public int getId ()
6      {
7          // if(id.equals("")){
8          //     JOptionPane.showMessageDialog(null, "ID is mandatory!");
9          // }
10         return id;
11     }
12
13     public String getName ()
14     {
15         return name;
16     }
17     public String getDept ()
18     {
19         return dept;
20     }
21
22     public void setId (int id)
23     {
24         this.id = id;
25     }
26     public void setName (String name)
27     {
28         this.name = name;
29     }
30     public void setDept (String dept)
31     {
32         this.dept = dept;
33     }
34 }

```

VIEW: ReportServlet.java

```

WebApp1 - NetBeans IDE 8.0.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Start Page | index.html | EMP.java | empDBHandler.java | viewservlet.java | ReportServlet.java
Source History
1 import java.io.IOException;
2 import java.io.PrintWriter;
3 import javax.servlet.ServletException;
4 import javax.servlet.annotation.WebServlet;
5 import javax.servlet.http.HttpServlet;
6 import javax.servlet.http.HttpServletRequest;
7 import javax.servlet.http.HttpServletResponse;
8
9 @WebServlet ("/reportervlet")
10 public class ReportServlet extends HttpServlet
11 {
12
13     @Override
14     protected void doPost (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
15     {
16         response.setContentType ("text/html");
17         try (PrintWriter out = response.getWriter ()) {
18             int id=Integer.parseInt(request.getParameter("ID"));
19             String name = request.getParameter ("NAME");
20             String dept = request.getParameter ("DEPT");
21             EMP e = new EMP ();
22             e.setId(id);
23             e.setName(name);
24             e.setDept(dept);
25
26             int status = empDBHandler.save (e);
27             if (status > 0)
28             {
29                 out.print ("<p>Record saved successfully!</p>");
30                 out.print("<a href='\"viewservlet\"'>View Employee Details</a>");
31                 //request.getRequestDispatcher ("index.html").include(request, response);
32             }
33             else
34             {
35                 out.println ("Sorry! unable to save record");
36             }
37         }
38     }
39 }

```

VIEW: viewservlet.java

```

WebApp1 - NetBeans IDE 8.0.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Start Page | index.html | EMP.java | empDBHandler.java | viewservlet.java | ReportServlet.java
Source History
1 import java.io.IOException;
2 import java.io.PrintWriter;
3 import java.util.List;
4 import javax.servlet.ServletException;
5 import javax.servlet.annotation.WebServlet;
6 import javax.servlet.http.HttpServlet;
7 import javax.servlet.http.HttpServletRequest;
8 import javax.servlet.http.HttpServletResponse;
9
10 @WebServlet ("/viewservlet")
11 public class viewservlet extends HttpServlet
12 {
13
14     @Override
15     protected void doGet (HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException
16     {
17         response.setContentType ("text/html");
18         PrintWriter out = response.getWriter ();
19         out.println ("<a href='\"index.html\"'>Add Employee</a>");
20         out.println ("<h1>Employee Details:</h1>");
21         List <EMP> list = empDBHandler.getAllEmployees ();
22
23         out.print ("<table border='1' width='50%' ">");
24         out.print ("<tr><th>Id</th><th>Name</th><th>Dept</th></tr>");
25
26         for (EMP e:list)
27         {
28             out.print ("<tr><td>" + e.getId () + "</td><td>" + e.getName () + "</td><td>" + e.getDept () +
29             "</td></tr>");
30         }
31         out.print ("</table>");
32         out.close ();
33     }
34 }

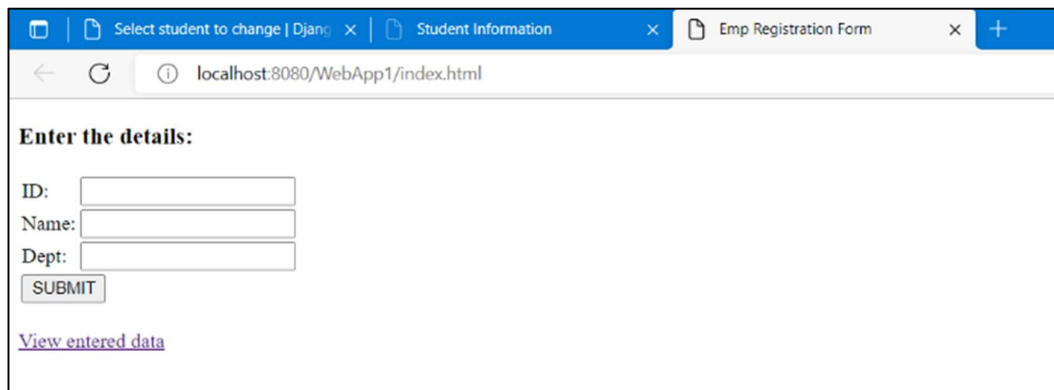
```

FLOW OF MVC:

The user enters the data from index file, so Controller (empDBHandler.java) will interact with the Model (EMP.java) to entering those data into database. Based on the data entered, the Controller will interact with the View (ReportServlet.java) and message is displayed according to the successful or failed registration of data. If the data are stored successfully then the message and link to see the entered details, will be provided at the View (viewservlet.java) page.

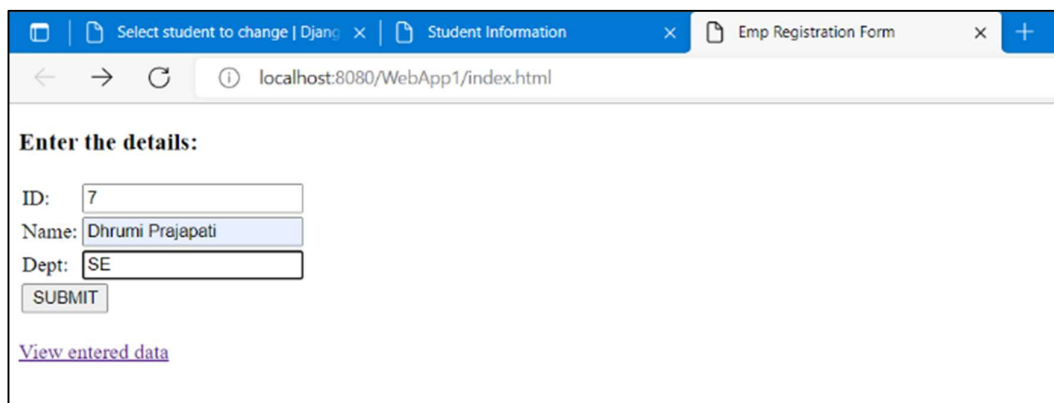
OUTPUT:

As we run index.html file, the Employee Registration Form will be displayed. User will enter the data in it.

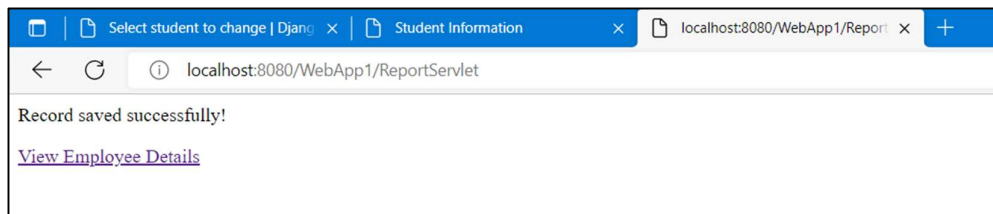
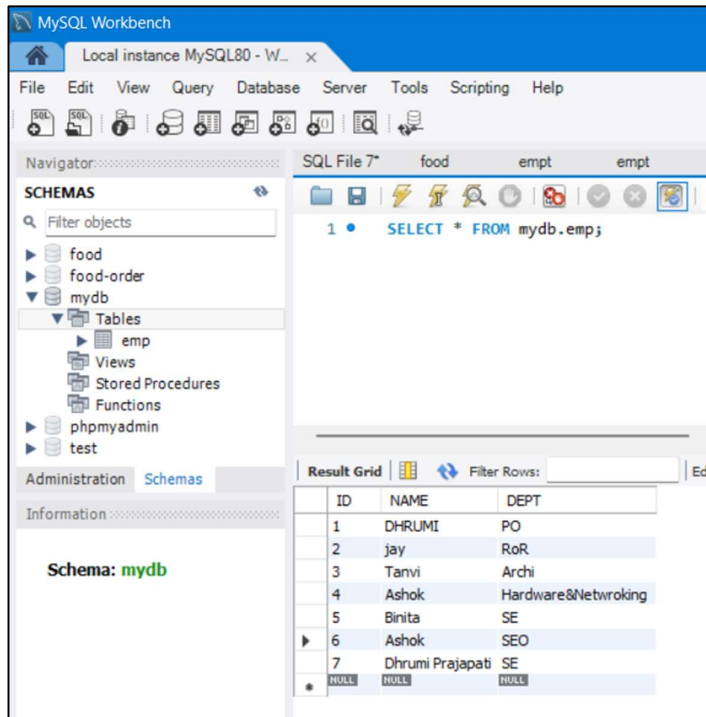


The screenshot shows a web browser window with three tabs: "Select student to change | Django", "Student Information", and "Emp Registration Form". The address bar shows "localhost:8080/WebApp1/index.html". The page content includes the heading "Enter the details:", three input fields for "ID:", "Name:", and "Dept:", a "SUBMIT" button, and a link "View entered data".

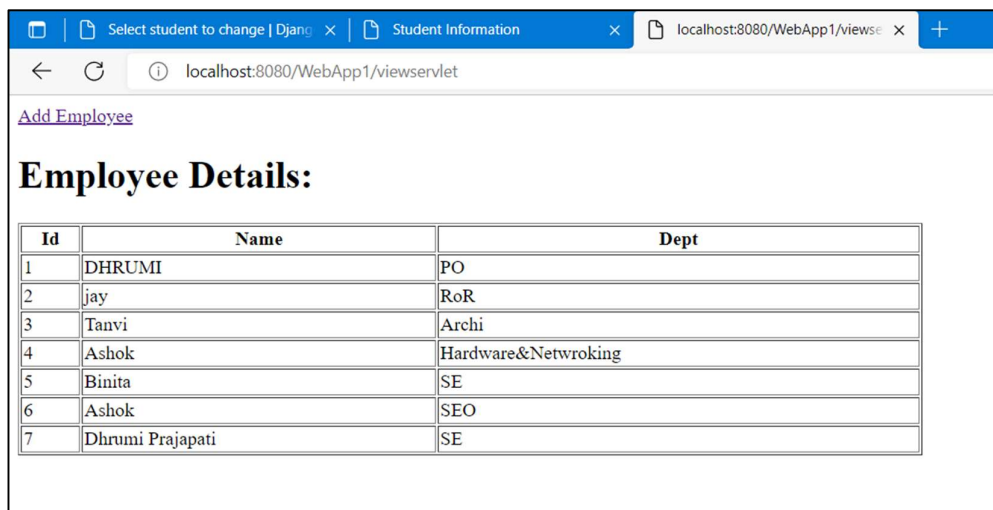
If the user have entered the correct format of data then, after clicking the SUBMIT button the data will be stored in the database at the backend side. And a message will be displayed to the user that "Record saved successfully!". If user enters data with already used ID then, "Sorry! Unable to save record." message will be displayed.



The screenshot shows the same web browser window as before, but with data entered in the form fields: "ID:" is 7, "Name:" is Dhrumi Prajapati, and "Dept:" is SE. The "SUBMIT" button and the "View entered data" link are still visible.



By clicking on the link all the details of employees will be displayed.



VALIDATIONS:

Select student to change | Django | Student Information | Emp Registration Form

localhost:8080/WebApp1/index.html

Enter the details:

ID:

Name:

Dept:

[View entered data](#)

Select student to change | Django | Student Information | Emp Registration Form

localhost:8080/WebApp1/index.html

Enter the details:

ID:

[View entered data](#)

Select student to change | Django | Student Information | Emp Registration Form

localhost:8080/WebApp1/index.html

Enter the details:

ID:

Name:

Dept:

[View entered data](#)

Select student to change | Django | Student Information | Emp Registration Form

localhost:8080/WebApp1/index.html

Enter the details:

ID:

Name:

[View entered data](#)

Select student to change | Django | Student Information | Emp Registration Form

localhost:8080/WebApp1/index.html

Enter the details:

ID:

Name:

Dept:

[View entered data](#)

Select student to change | Django | Student Information | Emp Registration Form

localhost:8080/WebApp1/index.html


Enter the details:

ID:

Name:

Dept:

SUB:

 Please fill out this field.

[View entered data](#)

Select student to change | Django | Student Information | Emp Registration Form


localhost:8080/WebApp1/index.html

Enter the details:

ID:

Name:

Dept:

 Please match the requested format.

[View entered data](#)