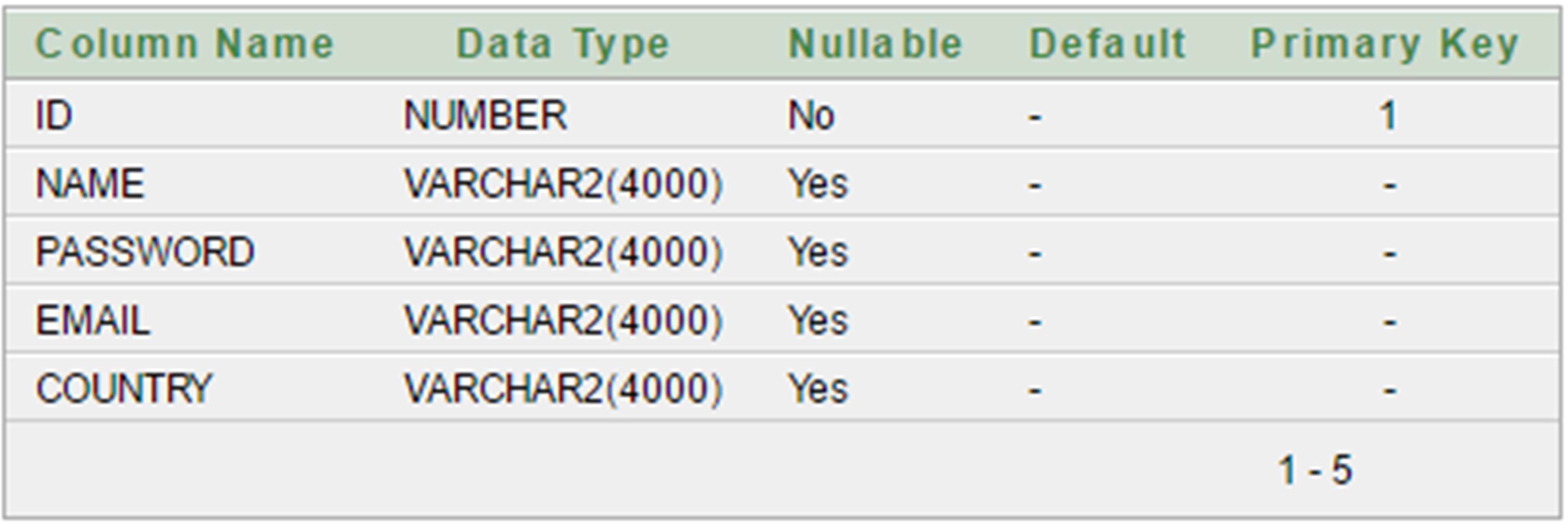
CRUD in Servlet

A CRUD (Create, Read, Update and Delete) application is the most important application for any project development. In Servlet, we can easily create CRUD application.

Servlet CRUD example

*Create "user905" table in Oracle Database with auto incrementing id using sequence. There are 5 fields in it: id, name, password, email and country.*



*File: index.html*

<!DOCTYPE html>

<html>

<head>

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

<title>Insert title here</title>

</head>

<body>

<h1>Add New Employee</h1>

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

<table>

<tr><td>Name:</td><td><input type="text" name="name"/></td></tr>

<tr><td>Password:</td><td><input type="password" name="password"/></td>< / tr>

<tr><td>Email:</td><td><input type="email" name="email"/></td></tr>

<tr><td>Country:</td><td>

<select name="country" style="width:150px">

<option>India</option>

<option>USA</option>

<option>UK</option>

<option>Other</option>

</select>

</td></tr>

<tr><td colspan="2"><input type="submit" value="Save Employee"/></td></tr>

</table>

</form>

<br/>

<a href="ViewServlet">view employees</a>

</body>

</html>

*File: Emp.java*

**public class** Emp {

**private int** id;

**private** String name,password,email,country;

**public int** getId() {

**return** id;

}

**public void** setId(**int** id) {

**this**.id = id;

}

**public** String getName() {

**return** name;

}

**public void** setName(String name) {

**this**.name = name;

}

**public** String getPassword() {

**return** password;

}

**public void** setPassword(String password) {

**this**.password = password;

}

**public** String getEmail() {

**return** email;

}

**public void** setEmail(String email) {

**this**.email = email;

}

**public** String getCountry() {

**return** country;

}

**public void** setCountry(String country) {

**this**.country = country;

}

}

*File: EmpDao.java*

**import** java.util.\*;

**import** java.sql.\*;

**public class** EmpDao {

**public static** Connection getConnection(){

Connection con=**null**;

**try**{

Class.forName("oracle.jdbc.driver.OracleDriver");

con=DriverManager.getConnection("jdbc:oracle:thin:@localhost:1521:xe","system","oracle");

}**catch**(Exception e){System.out.println(e);}

**return** con;

}

**public static int** save(Emp e){

**int** status=0;

**try**{

Connection con=EmpDao.getConnection();

PreparedStatement ps=con.prepareStatement("insert into user905(name,password,email,country) values (?,?,?,?)");

ps.setString(1,e.getName());

ps.setString(2,e.getPassword());

ps.setString(3,e.getEmail());

ps.setString(4,e.getCountry());

status=ps.executeUpdate();

con.close();

}**catch**(Exception ex){ex.printStackTrace();}

**return** status;

}

**public static int** update(Emp e){

**int** status=0;

**try**{

Connection con=EmpDao.getConnection();

PreparedStatement ps=con.prepareStatement(

"update user905 set name=?,password=?,email=?,country=? where id=?");

ps.setString(1,e.getName());

ps.setString(2,e.getPassword());

ps.setString(3,e.getEmail());

ps.setString(4,e.getCountry());

ps.setInt(5,e.getId());

status=ps.executeUpdate();

con.close();

}**catch**(Exception ex){ex.printStackTrace();}

**return** status;

}

**public static int** delete(**int** id){

**int** status=0;

**try**{

Connection con=EmpDao.getConnection();

PreparedStatement ps=con.prepareStatement("delete from user905 where id=?");

ps.setInt(1,id);

status=ps.executeUpdate();

con.close();

}**catch**(Exception e){e.printStackTrace();}

**return** status;

}

**public static** Emp getEmployeeById(**int** id){

Emp e=**new** Emp(); 66.

**try**{

Connection con=EmpDao.getConnection();

PreparedStatement ps=con.prepareStatement("select \* from user905 where i =?");

ps.setInt(1,id);

ResultSet rs=ps.executeQuery();

**if**(rs.next()){

e.setId(rs.getInt(1));

e.setName(rs.getString(2));

e.setPassword(rs.getString(3));

e.setEmail(rs.getString(4));

e.setCountry(rs.getString(5));

}

con.close();

}**catch**(Exception ex){ex.printStackTrace();}

**return** e;

}

**public static** List<Emp> getAllEmployees(){

List<Emp> list=**new** ArrayList<Emp>();

**try**{

Connection con=EmpDao.getConnection();

PreparedStatement ps=con.prepareStatement("select \* from user905");

ResultSet rs=ps.executeQuery();

**while**(rs.next()){

Emp e=**new** Emp();

e.setId(rs.getInt(1));

e.setName(rs.getString(2));

e.setPassword(rs.getString(3));

e.setEmail(rs.getString(4));

e.setCountry(rs.getString(5));

list.add(e);

}

con.close();

}**catch**(Exception e){e.printStackTrace();}

**return** list;

}

}

*File: SaveServlet.java*

**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;

@WebServlet("/SaveServlet")

**public class** SaveServlet **extends** HttpServlet {

**protected void** doPost(HttpServletRequest request, HttpServletResponse respons e)

**throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

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

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

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

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

Emp e=**new** Emp();

e.setName(name);

e.setPassword(password);

e.setEmail(email);

e.setCountry(country);

**int** status=EmpDao.save(e);

**if**(status>0){

out.print("<p>Record saved successfully!</p>");

request.getRequestDispatcher("index.html").include(request, response);

}**else**{

out.println("Sorry! unable to save record");

|  |  |
| --- | --- |
|  | } |
|  |  |
|  | out.close(); |
| } |  |
|  |  |
|  |  |

*File: EditServlet.java*

**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;

@WebServlet("/EditServlet")

**public class** EditServlet **extends** HttpServlet {

**protected void** doGet(HttpServletRequest request, HttpServletResponse response

)

**throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

out.println("<h1>Update Employee</h1>");

String sid=request.getParameter("id");

**int** id=Integer.parseInt(sid);

Emp e=EmpDao.getEmployeeById(id);

out.print("<form action='EditServlet2' method='post'>");

out.print("<table>");

out.print("<tr><td></td><td><input type='hidden' name='id' value='"+e.getId()+"'/></td></tr>");

out.print("<tr><td>Name:</td><td><input type='text' name='name' value='"

+e.getName()+"'/></td></tr>");

out.print("<tr><td>Password:</td><td><input type='password' name='passw ord' value='"+e.getPassword()+"'/>

</td></tr>");

out.print("<tr><td>Email:</td><td><input type='email' name='email' value='"

+e.getEmail()+"'/></td></tr>");

out.print("<tr><td>Country:</td><td>");

out.print("<select name='country' style='width:150px'>");

out.print("<option>India</option>");

out.print("<option>USA</option>");

out.print("<option>UK</option>");

out.print("<option>Other</option>");

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

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

out.print("<tr><td colspan='2'><input type='submit' value='Edit & Save '/></t d></tr>");

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

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

out.close();

}

}

*File: EditServlet2.java*

**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;

@WebServlet("/EditServlet2")

**public class** EditServlet2 **extends** HttpServlet {

**protected void** doPost(HttpServletRequest request, HttpServletResponse respons e)

**throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

String sid=request.getParameter("id");

**int** id=Integer.parseInt(sid);

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

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

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

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

Emp e=**new** Emp();

e.setId(id);

e.setName(name);

e.setPassword(password);

e.setEmail(email);

e.setCountry(country);

**int** status=EmpDao.update(e);

**if**(status>0){

response.sendRedirect("ViewServlet");

}**else**{

out.println("Sorry! unable to update record");

}

out.close();

}

}

*File: DeleteServlet.java*

**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("/DeleteServlet")

**public class** DeleteServlet **extends** HttpServlet {

**protected void** doGet(HttpServletRequest request, HttpServletResponse response

)

**throws** ServletException, IOException {

String sid=request.getParameter("id");

**int** id=Integer.parseInt(sid);

EmpDao.delete(id);

response.sendRedirect("ViewServlet");

}

}

*File: ViewServlet.java*

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.util.List;

**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("/ViewServlet")

**public class** ViewServlet **extends** HttpServlet {

**protected void** doGet(HttpServletRequest request, HttpServletResponse response)

**throws** ServletException, IOException {

response.setContentType("text/html");

PrintWriter out=response.getWriter();

out.println("<a href='index.html'>Add New Employee</a>");

out.println("<h1>Employees List</h1>");

List<Emp> list=EmpDao.getAllEmployees();

out.print("<table border='1' width='100%'");

out.print("<tr><th>Id</th><th>Name</th><th>Password</th><th>Email</t h><th>Country</th>

<th>Edit</th><th>Delete</th></tr>");

**for**(Emp e:list){

out.print("<tr><td>"+e.getId()+"</td><td>"+e.getName()+"</td><td>"+e.ge tPassword()+"</td>

<td>"+e.getEmail()+"</td><td>"+e.getCountry()+"</td><td><a href='E ditServlet?id="+e.getId()+"'>edit</a></td>

<td><a href='DeleteServlet?id="+e.getId()+"'>delete</a></td></tr>");

}

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

out.close();

}

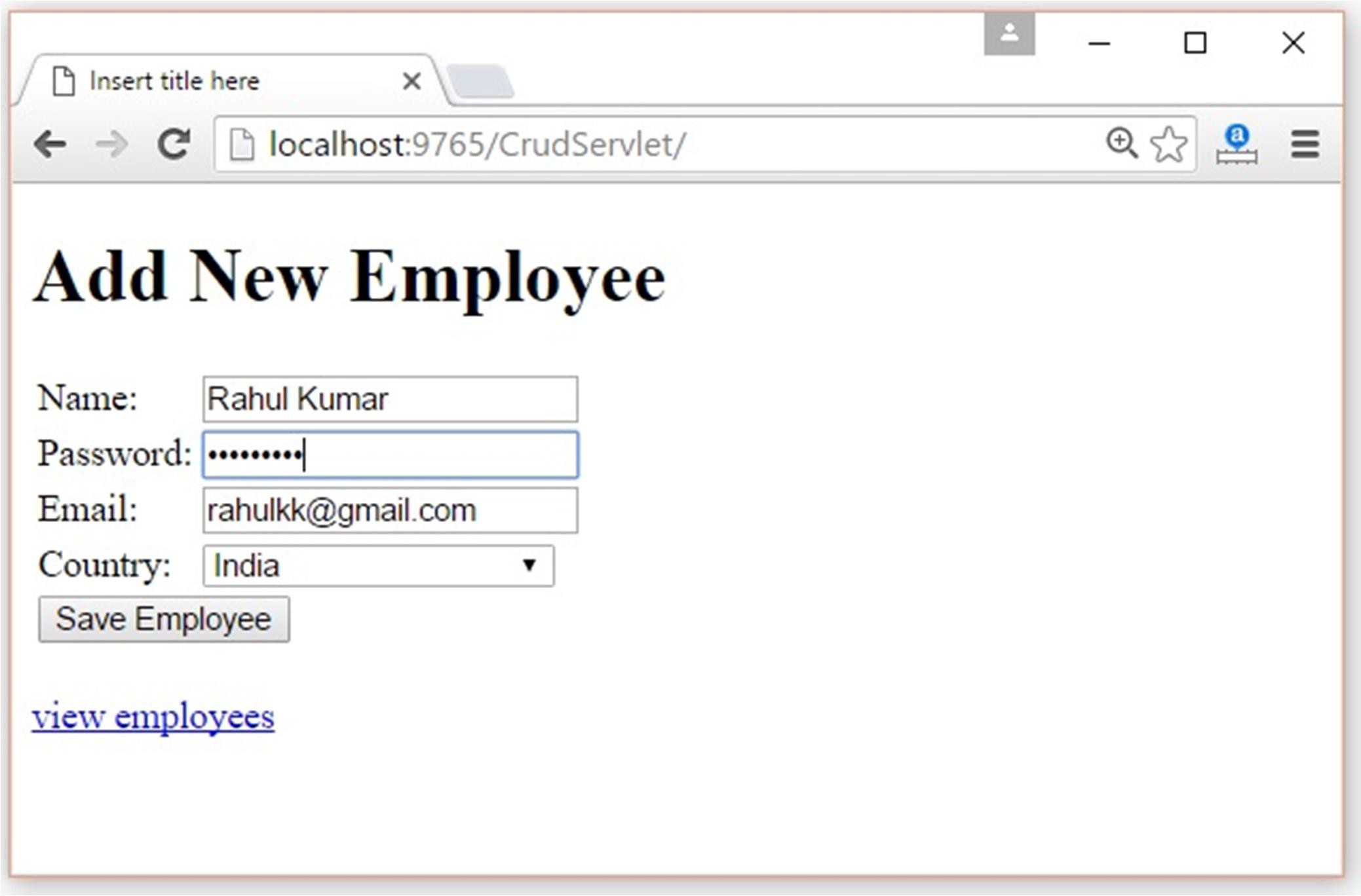
}

# Download

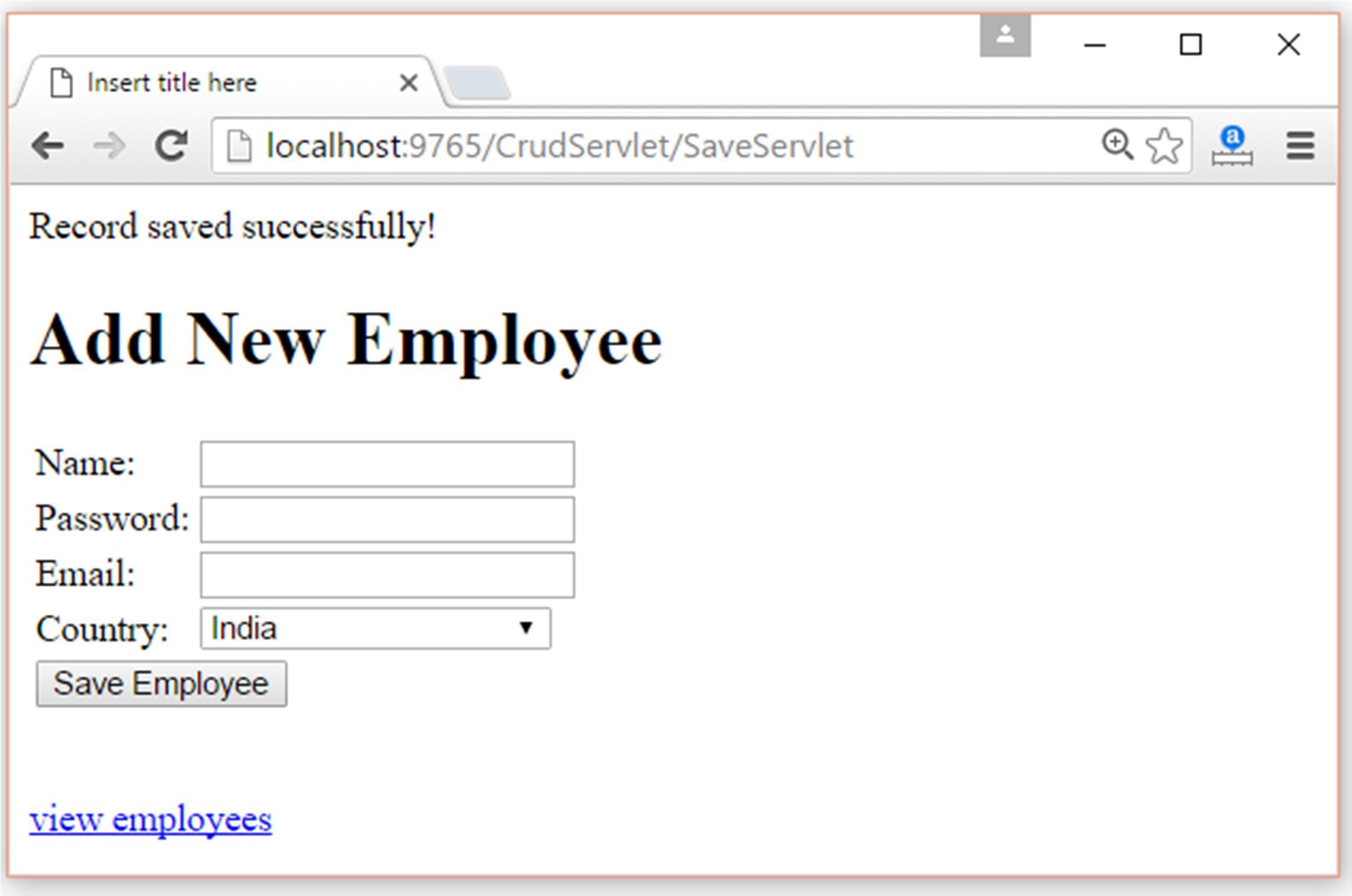
download this example (developed using Eclipse)

# Output

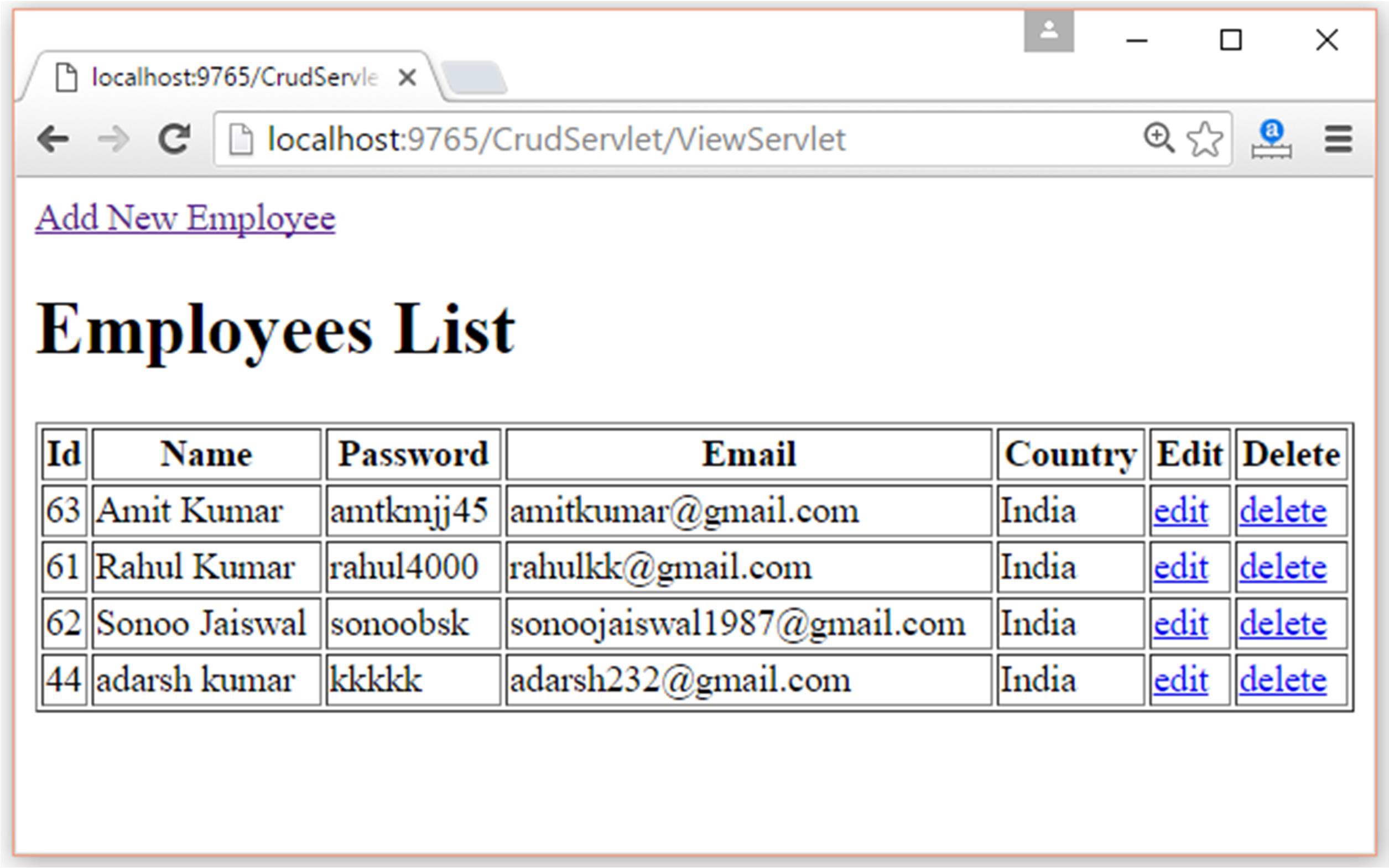
First page will look like this, fill the form and submit it.



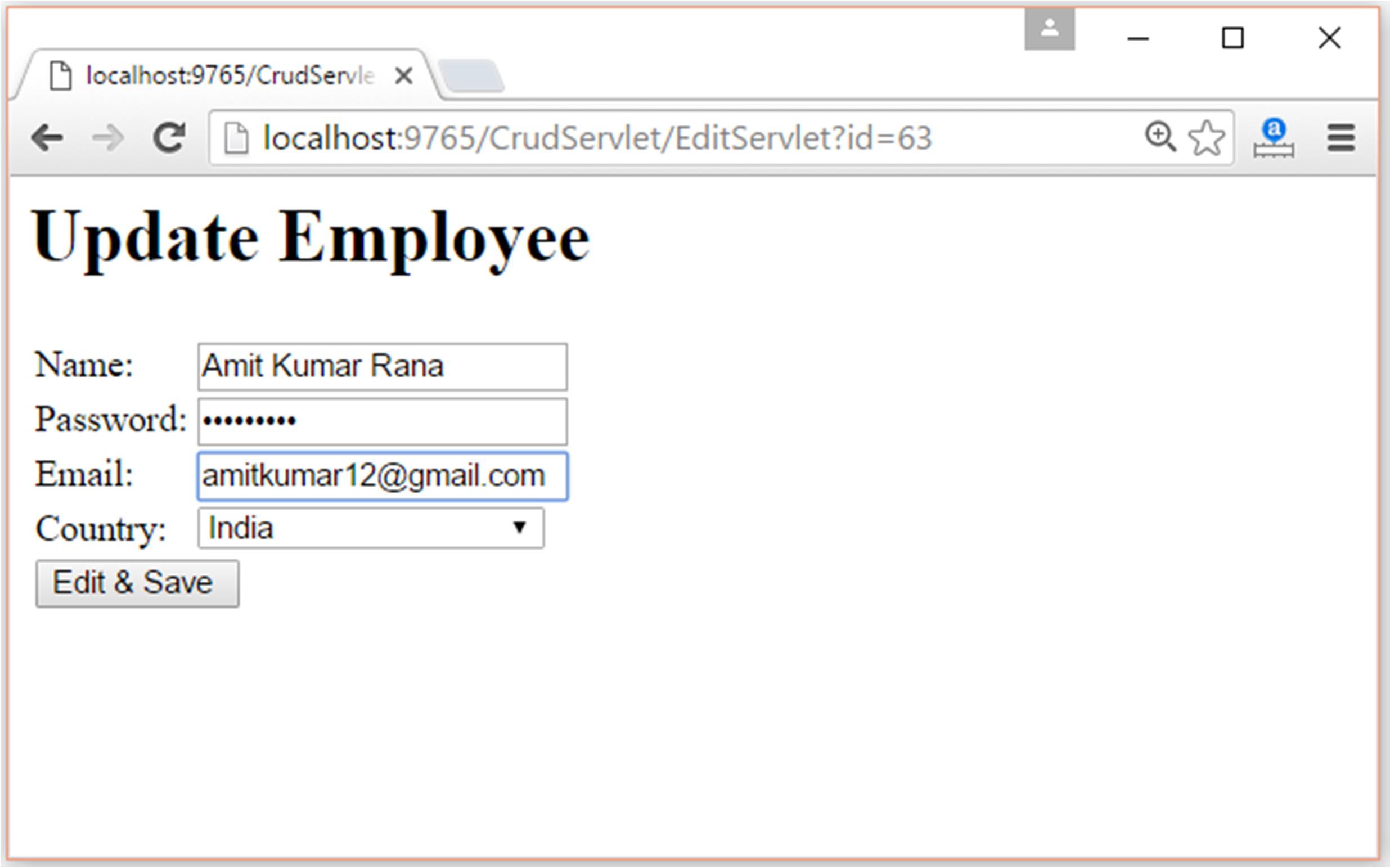
You will get a message "Record successfully saved!".



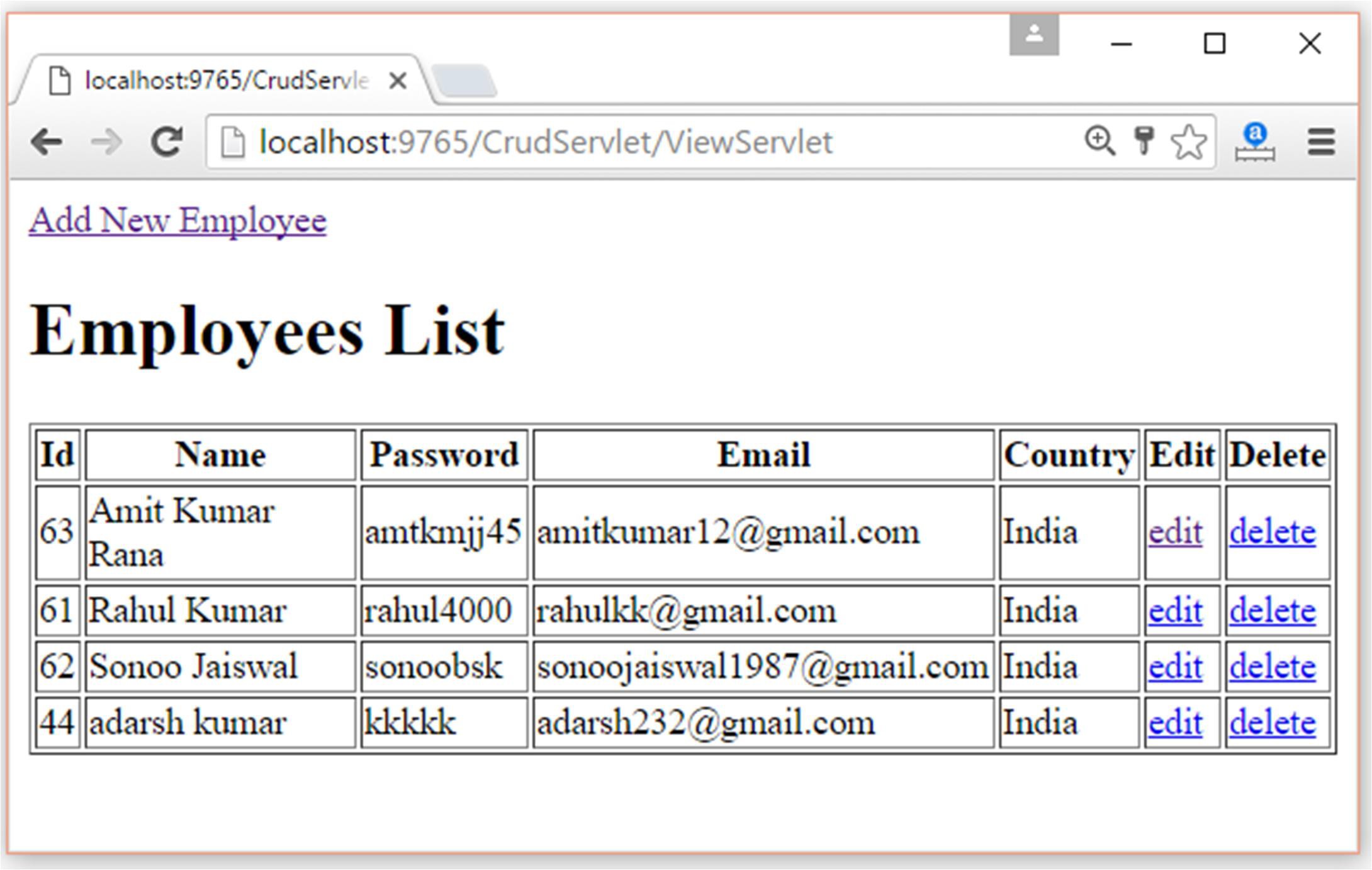
Click on the View Employees link to see the total employees list.



Click on the update link, to change the data.



After changing information, submit button. You will see that information is changed.



Now, click on the delete link to delete the record.

