
ETUDE DE CAS JAVA EE – SOAP

CRUD dans Servlet

Une application CRUD (Create, Read, Update and Delete) est l'application la plus importante pour tout développement de projet. Dans Servlet, nous pouvons facilement créer une application CRUD.

Exemple de servlet CRUD

Créez une table "employe" dans mySql avec un identifiant à incrémentation automatique à l'aide de la séquence. Il contient 5 champs: identifiant, name, password, email et country.

```
<!DOCTYPE html>

<html>

<head>

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

<title> Insérez le titre ici </title>

</head>

<body>

<h1> Ajouter un nouvel employé </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>
```

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```
<tr><td>Pays :</td> <td>
<select name = "country" style = "width: 150px" >
<option> SENEGAL </option>
<option> NIGER </option>
<option> BURKINA </option>
<option> MALI </option>
<option> GUINEE </option>
<option> Autre </option>
</select>
</td> </tr>

<tr> <td colspan = "2" > <input type = "submit" value = "Enregistrer l'employé" />
</td> </tr>

</table>

</form>

<br/>

<a href= "ViewServlet"> afficher les employés </a>

</body>

</html>
```

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Fichier: 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;  
    }  
}
```

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```
}  
  
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 {
```

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```
public static Connection getConnection(){
    Connection con=null;
    try{
        Class.forName("jdbc.mysql.Driver");

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

        }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 employe(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());
```

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```
        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 employe 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();}
```

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```
        return status;
    }

    public static int delete(int id){
        int status=0;
        try{
            Connection con=EmpDao.getConnection();
            PreparedStatement ps=con.prepareStatement("delete from employe 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();
        try{
            Connection con=EmpDao.getConnection();
            PreparedStatement ps=con.prepareStatement("select * from employe
where id=?");
            ps.setInt(1,id);
            ResultSet rs=ps.executeQuery();
```

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```
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 employe");
        ResultSet rs=ps.executeQuery();
        while(rs.next()){
            Emp e=new Emp();
            e.setId(rs.getInt(1));
            e.setName(rs.getString(2));
```

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```
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 {
```

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```
protected void doPost(HttpServletRequest request, HttpServletResponse
response)

    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");
    }
}
```

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```
    }  
    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>");  
    }  
}
```

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```
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='password' 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>Senegal</option>");
out.print("<option>Mali</option>");
out.print("<option>Guinee</option>");
out.print("<option>Mauritanie</option>");
```

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```
out.print("<option>Niger</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' /></td></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;
```

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```
@WebServlet("/EditServlet2")

public class EditServlet2 extends HttpServlet {

    protected void doPost(HttpServletRequest request, HttpServletResponse
response)

        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);
```

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```
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")
```

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```
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;
```

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```
@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</th><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.getPassw
ord()+"</td>

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

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

        }
```

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

out.close();
}
}
```