```
index.html:
<html>
<body>
<form action="hello" method="get">
<input type="submit" value="Get Hit Count">
</form>
</body>
</html>
web.xml
<web-app>
<servlet>
<servlet-name>session1/servlet-name>
<servlet-class>serv1</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>session1</servlet-name>
<url-pattern>/hello</url-pattern>
</servlet-mapping>
<servlet>
<servlet-name>session2</servlet-name>
<servlet-class>serv2</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>session2</servlet-name>
<url-pattern>/hello2</url-pattern>
</servlet-mapping>
<servlet>
<servlet-name>session3</servlet-name>
<servlet-class>serv3</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>session3</servlet-name>
```

```
<url-pattern>/hello3</url-pattern>
</servlet-mapping>
</web-app>
serv1.java
import javax.servlet.http.*;
import javax.servlet.*;
import java.io.*;
public class serv1 extends HttpServlet{
public void doGet(HttpServletRequest req,HttpServletResponse res)throws
ServletException,IOException
res.setContentType("text/html");
PrintWriter pw=res.getWriter();
int a;
HttpSession s=req.getSession(true);
if(s.isNew())
{
      a=1;
      s.setAttribute("count",a);
}
else
{
      a=(int)s.getAttribute("count");
      s.setAttribute("count",a);
pw.println("Hit count:"+a);
pw.println("<br>");
pw.println("<a href='hello2'>GO</a>");
}}
```

serv2.java

```
import javax.servlet.http.*;
import javax.servlet.*;
import java.io.*;
public class serv2 extends HttpServlet{
public void doGet(HttpServletRequest req,HttpServletResponse res)throws
ServletException,IOException
res.setContentType("text/html");
PrintWriter pw=res.getWriter();
HttpSession s=req.getSession(false);
int a=(int)s.getAttribute("count");
++a:
pw.println("Hit count:"+a);
s.setAttribute("count",a);
pw.println("<br>");
pw.println("<a href='hello3'>go</a>");
}
serv3.java
import javax.servlet.http.*;
import javax.servlet.*;
import java.io.*;
public class serv3 extends HttpServlet{
public void doGet(HttpServletRequest req,HttpServletResponse res)throws
ServletException,IOException
{
res.setContentType("text/html");
PrintWriter pw=res.getWriter();
HttpSession s=req.getSession(false);
int a=(int)s.getAttribute("count");
++a;
pw.println("Hit count:"+a);
s.setAttribute("count",a);
}}
```

OUTPUT: ← → ♂ ① localhost:8080/HitCountSessionobj/ Get Hit Count

Hit count:1 GO



Hit count:2 GO



Hit count:3

Hit count:5

serv1.java

import java.io.*;

```
import javax.servlet.http.*;
import javax.servlet.*;
import java.io.*;
public class serv1 extends HttpServlet
{
public void doGet(HttpServletRequest req,HttpServletResponse res)
throws ServletException,IOException
      res.setContentType("text/html");
      PrintWriter pw=res.getWriter();
      int c=1;
      pw.println("<form action='hello2'>");
      pw.println("<input type='hidden' name='hit_cnt' value='"+c+"'>");
      pw.println("Hit count: "+c);
      pw.println("<input type='submit' value='click here'>");
      pw.println("</form>");
}
}
serv2.java
import javax.servlet.http.*;
import javax.servlet.*;
```

```
public class serv2 extends HttpServlet
{
public void doGet(HttpServletRequest req,HttpServletResponse res)
throws ServletException,IOException
      res.setContentType("text/html");
      PrintWriter pw=res.getWriter();
      String str=req.getParameter("hit cnt");
      int c=Integer.parseInt(str);
      C++;
      pw.println("Hit count: "+c);
      pw.println("<form action='hello3'>");
      pw.println("<input type='hidden' name='hit cnt' value='"+c+"'>");
      pw.println("<input type='submit' value='click here'>");
      pw.println("</form>");
}
}
serv3.java
import javax.servlet.http.*;
import javax.servlet.*;
import java.io.*;
public class serv3 extends HttpServlet
{
public void doGet(HttpServletRequest req,HttpServletResponse res)
throws ServletException,IOException
{
      res.setContentType("text/html");
      PrintWriter pw=res.getWriter();
      String str=req.getParameter("hit_cnt");
      int c=Integer.parseInt(str);
      C++;
      pw.println("Hit count: "+c);
}
}
```

OUTPUT

Hit count: 3

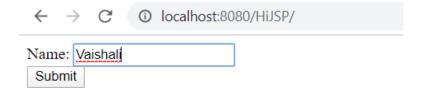
← → C
Get Hit Count
← → C
Hit count: 1 click here
← → C ① localhost:8080/clickServlet/hello2?hit_cnt=1
Hit count: 2
click here
(
← → C

index.html

```
<html>
<body>
<form method="get" action="welcome.jsp">
Name: <input type="text" name="u_name">
<br/>
<br/>
<input type="submit">
</form>
```

welcome.jsp

OUTPUT:





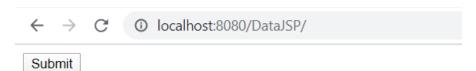
WELCOME Vaishali

```
index.html
```

</html>

```
<html>
<body>
<form method="get" action="data.jsp">
<input type="submit">
</form>
data.jsp
<%@ taglib prefix = "c" uri = "http://java.sun.com/jsp/jstl/core" %>
<%@ taglib prefix = "sql" uri = "http://java.sun.com/jsp/jstl/sql" %>
<html>
<body>
<sql:setDataSource var="snapshot"
driver="com.mysql.jdbc.Driver"
url="jdbc:mysql://localhost/test1"
user="root" password="vaishu"/>
<sql:query dataSource="${snapshot}" var="result">
SELECT * FROM student1;
</sql:query>
<c:forEach var="row" items="${result.rows}">
      <c:out value="${row.id}"/>
      <c:out value="${row.name}"/>
      <% out.println("<br/>"); %>
</c:forEach>
</body>
```

OUTPUT



1 vaish 2 abi

.

3 aishu

4 sneha

5 santhi

```
mysql> use test1;
Database changed
mysql> select * from student1;
+---+----+
| id | name |
+---+----+
| 1 | vaish |
| 2 | abi |
| 3 | aishu |
| 4 | sneha |
| 5 | santhi |
+---+-----+
5 rows in set (0.00 sec)
```

index.html

```
<html>
<body>
<h1>CRUD OPERATIONS USING SERVLET</h1>
<form action="Insert" method="get">
<fieldset>
      <legend>CREATE</legend>
<label>Enter id
     <input type="text" name="u id">
</label>
<br>
<label>Enter name
     <input type="text" name="u_name">
</label>
<br>
<input type="submit" value="INSERT">
</fieldset>
</form>
<form action="Delete" method="get">
<fieldset>
      <legend>REMOVE</legend>
<label>Enter id
     <input type="text" name="u_id">
</label>
<br>
<input type="submit" value="DELETE">
</fieldset>
</form>
<form action="Update" method="get">
<fieldset>
     <legend>UPDATE</legend>
<label>Enter id
     <input type="text" name="u id">
</label>
<br>
```

```
<label>Enter new name
      <input type="text" name="u_name">
</label>
<br>
<input type="submit" value="UPDATE">
</fieldset>
</form>
<form action="Select" method="get">
<fieldset>
      <legend>DISPLAY</legend>
<label>View Database </label>
<input type="submit" value="DISPLAY">
</fieldset>
</form>
</body>
</html>
select.java
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
public class select extends HttpServlet {
 public void doGet(HttpServletRequest request, HttpServletResponse
response)
    throws IOException, ServletException {
   response.setContentType("text/html");
   PrintWriter out = response.getWriter();
      Connection con;
  Statement stmt;
  ResultSet rs;
```

```
String url="jdbc:mysql://localhost:3306/test1";
  String user="root";
  String pass="vaishu";
      try{
      Class.forName("com.mysql.jdbc.Driver");
      con=DriverManager.getConnection(url,user,pass);
      //System.out.println("Connected");
  out.println("<html>");
    out.println("<body>");
      String sql;
      sql="select * from student1";
      stmt=con.createStatement();
      rs=stmt.executeQuery(sql);
      out.println("ID NAME");
      while(rs.next())
      {
            out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
      }catch(ClassNotFoundException ex){
        //System.out.println("sql error"+ex.getMessage());
     catch(SQLException ex){
        // System.out.println("sql error"+ex.getMessage());
      }
   out.println("</body></html>");
   out.close();
 }
}
insert.java
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
```

```
public class insert extends HttpServlet {
 public void doGet(HttpServletRequest request, HttpServletResponse
response)
    throws IOException, ServletException {
   response.setContentType("text/html");
   PrintWriter out = response.getWriter();
      Connection con;
  Statement stmt;
  ResultSet rs;
  String url="jdbc:mysql://localhost:3306/test1";
  String user="root";
  String pass="vaishu";
  out.println("<html>");
   out.println("<body>");
      try{
      Class.forName("com.mysql.jdbc.Driver");
      con=DriverManager.getConnection(url,user,pass);
     //out.println("connected");
      stmt=con.createStatement();
      String sql;
      sql="select * from student1";
      out.println("Before insertion: ");
      out.println("ID NAME");
      rs=stmt.executeQuery(sql);
      while(rs.next())
      {
           out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
      }
      String str=request.getParameter("u_id");
```

```
int id=Integer.parseInt(str);
     String name=request.getParameter("u_name");
      PreparedStatement pstmt= con.prepareStatement("insert into
student1 values(?,?)");
      pstmt.setInt(1,id);
      pstmt.setString(2,name);
      int i=pstmt.executeUpdate();
      if(i==1)
           out.println("Record inserted");
      else
           out.println("Record not inserted");
      rs=stmt.executeQuery(sql);
      out.println("After insertion: ");
out.println("ID NAME");
      while(rs.next())
      {
           out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
      }catch(ClassNotFoundException ex){
        out.println("class error"+ex.getMessage()+"");
     catch(SQLException ex){
        out.println("sql error"+ex.getMessage()+"");
      }
   out.println("</body></html>");
   out.close();
 }
}
update.java
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
```

```
public class update extends HttpServlet {
 public void doGet(HttpServletRequest request, HttpServletResponse
response)
    throws IOException, ServletException {
   response.setContentType("text/html");
   PrintWriter out = response.getWriter();
      Connection con;
  Statement stmt;
  ResultSet rs;
  String url="jdbc:mysql://localhost:3306/test1";
  String user="root";
  String pass="vaishu";
  out.println("<html>");
   out.println("<body>");
      try{
      Class.forName("com.mysgl.jdbc.Driver");
      con=DriverManager.getConnection(url,user,pass);
      //out.println("connected");
      String sql;
     sql="select * from student1";
      stmt=con.createStatement();
      rs=stmt.executeQuery(sql);
      out.println("Before updation: ");
out.println("ID NAME");
      while(rs.next())
      {
           out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
      }
```

```
String str=request.getParameter("u id");
     int id=Integer.parseInt(str);
     String name=request.getParameter("u name");
out.println("got: "+name);
     PreparedStatement pstmt= con.prepareStatement("update student1
set name=? where id=?");
     pstmt.setString(1,name);
     pstmt.setInt(2,id);
     int i=pstmt.executeUpdate();
     if(i==1)
           out.println("Record updated");
     else
           out.println("Record not updated");
     rs=stmt.executeQuery(sql);
     out.println("After updation: ");
out.println("ID NAME");
     while(rs.next())
     {
           out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
     }
     }catch(ClassNotFoundException ex){
        out.println("class error"+ex.getMessage()+"");
      }
     catch(SQLException ex){
        out.println("sql error"+ex.getMessage()+"");
      }
   out.println("</body></html>");
   out.close();
 }
}
```

delete.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
public class delete extends HttpServlet {
 public void doGet(HttpServletRequest request, HttpServletResponse
response)
    throws IOException, ServletException {
   response.setContentType("text/html");
   PrintWriter out = response.getWriter();
      Connection con;
  Statement stmt;
  ResultSet rs;
  String url="jdbc:mysql://localhost:3306/test1";
  String user="root";
  String pass="vaishu";
  out.println("<html>");
   out.println("<body>");
      try{
      Class.forName("com.mysql.jdbc.Driver");
      con=DriverManager.getConnection(url,user,pass);
     //out.println("connected");
      String sql;
      sql="select * from student1";
      stmt=con.createStatement();
      out.println("Before deletion: ");
out.println("ID NAME");
```

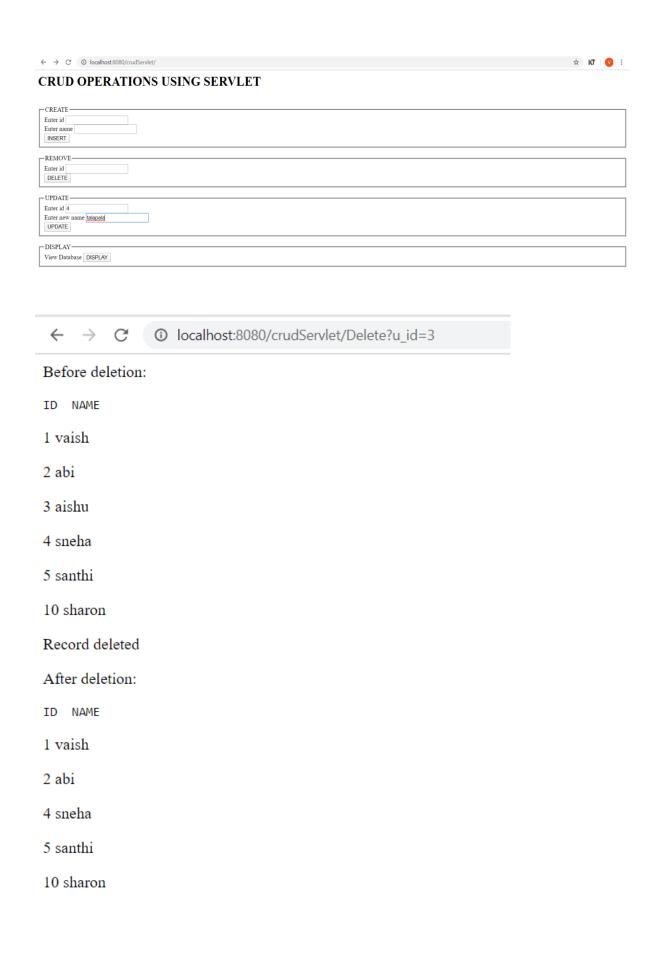
```
rs=stmt.executeQuery(sql);
     while(rs.next())
           out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
     }
     String str=request.getParameter("u_id");
     int id=Integer.parseInt(str);
     PreparedStatement pstmt= con.prepareStatement("delete from
student1 where id=?");
     pstmt.setInt(1,id);
     int i=pstmt.executeUpdate();
     if(i==1)
           out.println("Record deleted");
     else
           out.println("Record not deleted");
     out.println("After deletion: ");
out.println("ID NAME");
     rs=stmt.executeQuery(sql);
     while(rs.next())
           out.println(""+rs.getInt(1)+" "+rs.getString(2)+"");
     }
     }catch(ClassNotFoundException ex){
        out.println("class error"+ex.getMessage()+"");
     catch(SQLException ex){
        out.println("sql error"+ex.getMessage()+"");
      }
   out.println("</body></html>");
   out.close();
}
}
```

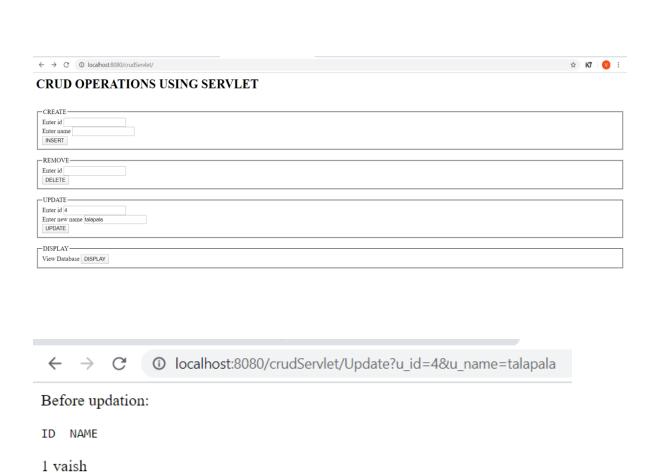
OUTPUT:

CRUD OPERATIONS USING SERVLET
CREATE Enter id Enter name INSERT
REMOVE—Enter id DELETE
UPDATE Enter id Enter new name UPDATE
View Database DISPLAY
← → C
ID NAME
1 vaish
2 abi
3 aishu
4 sneha
5 santhi
← → C © localhost:8080/crudServlet/
CRUD OPERATIONS USING SERVLET
CREATE—Enter id 10 Enter id 10 Enter name (sharor) INSERT
REMOVE— Enter id DELETE
UPDATE Enter id Enter new name UPDATE
UISPLAY View Database DISPLAY

DISPLAY

View Database DISPLAY





2 abi

4 sneha

5 santhi

got:

talapala

ID NAME

1 vaish

4 talapala

5 santhi

10 sharon

2 abi

Record updated

After updation:

10 sharon

index.html

```
<html>
<body>
<h1>CRUD OPERATIONS USING JSP</h1>
<form action="Insert.jsp" method="get">
<fieldset>
      <legend>CREATE</legend>
<label>Enter id
     <input type="text" name="u id">
</label>
<br>
<label>Enter name
     <input type="text" name="u_name">
</label>
<br>
<input type="submit" value="INSERT">
</fieldset>
</form>
<form action="Delete.jsp" method="get">
<fieldset>
      <legend>REMOVE</legend>
<label>Enter id
     <input type="text" name="u_id">
</label>
<br>
<input type="submit" value="DELETE">
</fieldset>
</form>
<form action="Update.jsp" method="get">
<fieldset>
     <legend>UPDATE</legend>
<label>Enter id
     <input type="text" name="u id">
</label>
<br>
```

```
<label>Enter new name
     <input type="text" name="u_name">
</label>
<br>
<input type="submit" value="UPDATE">
</fieldset>
</form>
<form action="Select.jsp" method="get">
<fieldset>
     <legend>DISPLAY</legend>
<label>View Database </label>
<input type="submit" value="DISPLAY">
</fieldset>
</form>
</body>
</html>
select.jsp
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/sql" prefix="sql" %>
<html>
<body>
<sql:setDataSource var="snapshot" driver="com.mysql.jdbc.Driver"
url="jdbc:mysql://localhost/test1" user="root" password="vaishu"/>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
IDNAME
<c:forEach var="row" items="${result.rows}">
 <c:out value="${row.id}"/>
```

```
<c:out value="${row.name}"/>
</c:forEach>
</body>
</html>
Insert.jsp
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/sql" prefix="sql" %>
<html>
<body>
<sql:setDataSource var="snapshot" driver="com.mysql.jdbc.Driver"
url="jdbc:mysql://localhost/test1" user="root" password="vaishu"/>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
Before Insertion
IDNAME
<c:forEach var="row" items="${result.rows}">
 <c:out value="${row.id}"/>
     <c:out value="${row.name}"/>
</c:forEach>
<sql:update dataSource="${snapshot}" var="count">
INSERT INTO student1 (id,name) VALUES (?,?);
<sql:param value="${param.u_id}" />
<sql:param value="${param.u_name}" />
```

```
</sql:update>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
After Insertion
IDNAME
<c:forEach var="row" items="${result.rows}">
<c:out value="${row.id}"/>
    <c:out value="${row.name}"/>
</c:forEach>
</body>
</html>
Delete.jsp
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/sql" prefix="sql" %>
<html>
<body>
<sql:setDataSource var="snapshot" driver="com.mysql.jdbc.Driver"
url="jdbc:mysql://localhost/test1" user="root" password="vaishu"/>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
Before Deletion
IDNAME
```

```
<c:forEach var="row" items="${result.rows}">
<c:out value="${row.id}"/>
    <c:out value="${row.name}"/>
</c:forEach>
<sql:update dataSource="${snapshot}" var="count">
Update student1 set name='${param.u name}' where id='${param.u id}';
</sql:update>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
After Deletion
IDNAME
<c:forEach var="row" items="${result.rows}">
<c:out value="${row.id}"/>
    <c:out value="${row.name}"/>
</c:forEach>
</body>
</html>
Update.jsp
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<%@ taglib uri="http://java.sun.com/jsp/jstl/sql" prefix="sql" %>
<html>
<body>
```

```
<sql:setDataSource var="snapshot" driver="com.mysql.jdbc.Driver"
url="jdbc:mysql://localhost/test1" user="root" password="vaishu"/>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
Before Updation
IDNAME
<c:forEach var="row" items="${result.rows}">
<c:out value="${row.id}"/>
    <c:out value="${row.name}"/>
</c:forEach>
<sql:update dataSource="${snapshot}" var="count">
Update student1 set name='${param.u name}' where id='${param.u id}';
</sql:update>
<sql:query dataSource="${snapshot}" var="result">
select * from student1;
</sql:query>
After Updation
IDNAME
<c:forEach var="row" items="${result.rows}">
<c:out value="${row.id}"/>
    <c:out value="${row.name}"/>
</c:forEach>
```

</html>

OUTPUT:

2

4

5

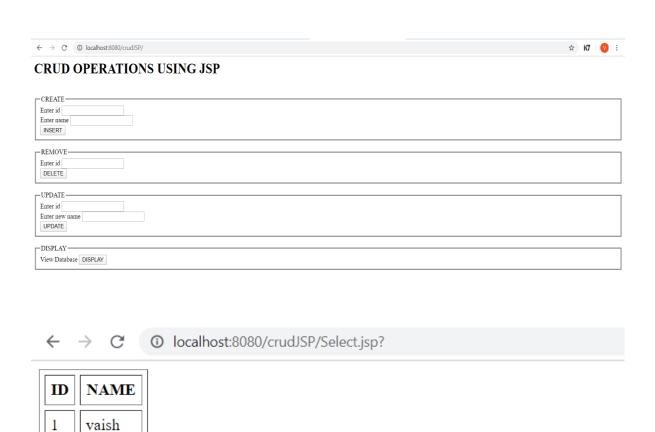
10

abi

talapala

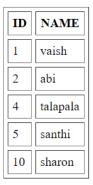
santhi

sharon





Before Insertion



After Insertion





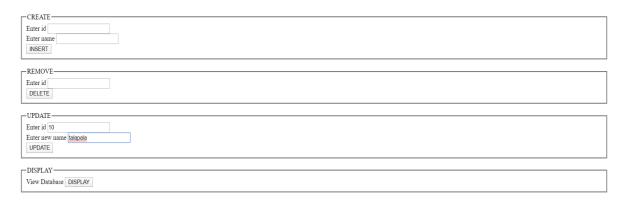
Before Deletion



After Deletion



CRUD OPERATIONS USING JSP



 $\leftarrow \ \ \, \rightarrow \ \ \, \textbf{C} \quad \, \textbf{0} \, \, \, \, \text{localhost:8080/crudJSP/Update.jsp?u_id=10\&u_name=talapala}$

Before Updation



After Updation

