

Practical No. 8(a)

Q. Create a Currency Converter application using EJB.

Step 1: Edit index.html as follows:

index.html

```
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <h1>Currency Converter</h1>
    <form action="CCServlet">
      Enter Amount: <input type="text" name="amt"><br>
      Select Conversion Type
      <input type="radio" name="type" value="r2d" checked>Rupees to Dollars
      <input type="radio" name="type" value="d2r" checked>Dollars to Rupees
      <input type="reset"><input type="submit" value="CONVERT">
    </form>
  </body>
</html>
```

Step 2: Create a Session Bean named class named as CCBean in the package mybeans. Select the option Stateless and do not set Local Interface.

Here you will find a file created in mybeans package named as CCBean.java. Add the following code into it.

CCBean.java

```
package mybeans;

import javax.ejb.Stateless;

@Stateless
public class CCBean
{
    public double r2Dollars(double r)
    {
        return r/83.97;
    }
    public double d2Rupees(double d)
```

```
{  
    return d*83.97;  
}  
}
```

Step 3: Create one Servlet file and name it as CCServlet in the package named mypack. Do not add web.xml file. Edit the servlet file as follows:

CCServlet.java

```
package mypack;  
  
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;  
import javax.ejb.EJB;  
import mybeans.CCBean;  
  
@WebServlet(name = "CCServlet", urlPatterns = {"/CCServlet"})  
public class CCServlet extends HttpServlet {  
  
    @EJB CCBean obj;  
    @Override  
  
    protected void doGet(HttpServletRequest request, HttpServletResponse response)  
        throws ServletException, IOException {  
        response.setContentType("text/html;charset=UTF-8");  
        try (PrintWriter out = response.getWriter()) {  
            double amt=Double.parseDouble(request.getParameter("amt"));  
            if(request.getParameter("type").equals("r2d"))  
            {  
                out.println("<h1>"+amt+"Rupees = "+obj.r2Dollars(amt)+" Dollars</h1>");  
            }  
            if(request.getParameter("type").equals("d2r"))  
            {  
                out.println("<h1>"+amt+"Dollars = "+obj.d2Rupees(amt)+" Rupees</h1>");  
            }  
        }  
    }  
}
```

Step 4: Run index.html file.

Output:

← → ↻ ⓘ localhost:8080/Prac8a/index.html

Currency Converter

Enter Amount:

Select Conversion Type ☒ Rupees to Dollars ☐ Dollars to Rupees

← → ↻ ⓘ localhost:8080/Prac8a/CCServlet?amt=200&type=r2d

200.0Rupees = 2.381803024889842 Dollars

← → ↻ ⓘ localhost:8080/Prac8a/index.html

Currency Converter

Enter Amount:

Select Conversion Type ☐ Rupees to Dollars ☒ Dollars to Rupees

← → ↻ ⓘ localhost:8080/Prac8a/CCServlet?amt=5&type=d2r

5.0Dollars = 419.85 Rupees

Practical No. 8(b)

Q. Develop a Simple Room Reservation System Application using EJB.

Create a database **rrdb** and create a table **roombook**.

Table name:

Key	Index	Null	Unique	Column name	Data type	Size
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	RoomId	VARCHAR	5
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RoomType	VARCHAR	20
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Charge	FLOAT	0
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cust	VARCHAR	20
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mobile	VARCHAR	15
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Status	VARCHAR	20

Buttons: Add column, Edit, Remove, Move Up, Move Down, OK, Cancel, Help

SELECT * FROM roombook X

Page Size: 20 | Total Rows: 6 | Page: 1 of 1 | Matching Rows:

#	RoomId	RoomType	Charge	Cust	Mobile	Status
1	1001	Delux	5000.0			Not Booked
2	1002	Super Delux	7000.0			Not Booked
3	1003	Suit	9500.0			Not Booked
4	1004	Delux	5000.0			Not Booked
5	1005	Super Delux	7000.0			Not Booked
6	1006	Suit	9500.0			Not Booked

index.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Room Book</title>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
  <form action="RBServlet"> Select Room Type : <br>
    <input type="radio" name="txtType" value="Delux">Delux <br />
    <input type="radio" name="txtType" value="Super Delux">Super Delux <br />
    <input type="radio" name="txtType" value="Suit">Suit <br /> Enter Name : <input
type="text" name="txtCust">
    <br /> Enter Mobile No : <input type="text" name="txtMob">
    <br />
    <input type="reset">
    <input type="submit" value="Book Room">
  </form>
</body>
</html>
```

```
</form>
</body>
</html>
```

RRBean.java

```
package mybean;
import java.sql.*;
import javax.ejb.Stateless;

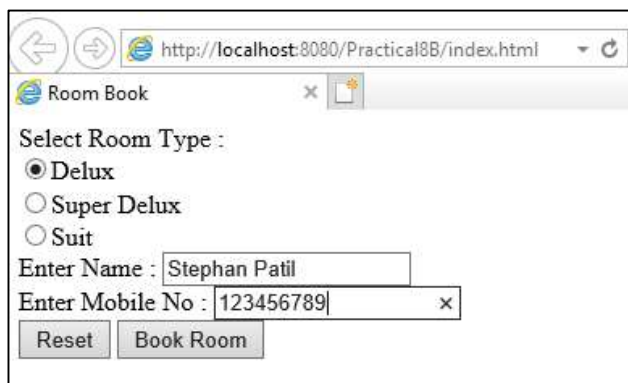
@Stateless
public class RRBean {
    public String roomBook(String rt, String cn, String cm) {
        String msg = "";
        try {
            Class.forName("com.mysql.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/rrdb","root","");
            String query = "select * from roombook where RoomType=? and Status='Not Booked'";
            PreparedStatement pst = con.prepareStatement(query);
            pst.setString(1,rt);
            ResultSet rs = pst.executeQuery();
            if(rs.next()){
                String rno = rs.getString(1);
                PreparedStatement stm1 = con.prepareStatement("update roombook set Cust=?
where RoomId=?");
                PreparedStatement stm2 = con.prepareStatement("update roombook set Mobile=?
where RoomId=?" );
                PreparedStatement stm3 = con.prepareStatement("update roombook set Status=?
where RoomId=?" );
                stm1.setString(1,cn); stm1.setString(2,rno);
                stm2.setString(1,cm); stm2.setString(2,rno);
                stm3.setString(1,"Booked"); stm3.setString(2,rno);
                stm1.executeUpdate();
                stm2.executeUpdate();
                stm3.executeUpdate();
                msg = "Room "+rno+" Booked <br> Charges = "+rs.getString(3);
            } else {
                msg = "Room "+rt+" is currently Not Available";
            }
        } catch (Exception e) {
            msg = ""+e;
        }
        return msg;
    }
}
```

RBServlet.java

```
package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.ejb.EJB;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import mybean.RRBean;

@WebServlet(name = "RBServlet", urlPatterns = {"/RBServlet"})
public class RBServlet extends HttpServlet {
    @EJB RRBean obj;
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        PrintWriter out = response.getWriter();
        try {
            String rt = request.getParameter("txtType");
            String cn = request.getParameter("txtCust");
            String cm = request.getParameter("txtMob");
            String msg = obj.roomBook(rt,cn,cm);
            out.println(msg);
        } catch (Exception e){
            out.println(e);
        }
    }
}
```

Output:



Room Book

Select Room Type :

☒ Delux

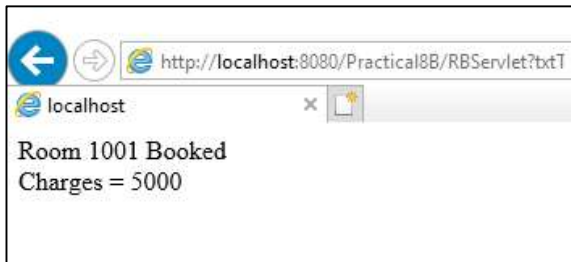
☐ Super Delux

☐ Suit

Enter Name : Stephan Patil

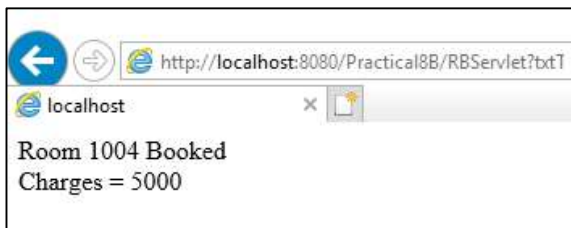
Enter Mobile No : 123456789

Reset Book Room



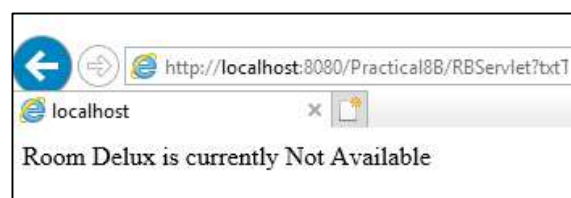
Page Size: 20 Total Rows: 6 Page: 1 of 1 Matching Rows:						
#	RoomId	RoomType	Charge	Cust	Mobile	Status
1	1001	Delux	5000.0	Stephan Patil	123456789	Booked
2	1002	Super Delux	7000.0			Not Booked
3	1003	Suit	9500.0			Not Booked
4	1004	Delux	5000.0			Not Booked
5	1005	Super Delux	7000.0			Not Booked
6	1006	Suit	9500.0			Not Booked

A screenshot of a web browser window showing the 'Room Book' form. The form has a title 'Room Book'. Under 'Select Room Type :', the 'Delux' radio button is selected. There are input fields for 'Enter Name : Paul Shinde' and 'Enter Mobile No : 6666666666'. At the bottom are 'Reset' and 'Book Room' buttons.



#	RoomId	RoomType	Charge	Cust	Mobile	Status
1	1001	Delux	5000.0	Stephan Patil	123456789	Booked
2	1002	Super Delux	7000.0			Not Booked
3	1003	Suit	9500.0			Not Booked
4	1004	Delux	5000.0	Paul Shinde	6666666666	Booked
5	1005	Super Delux	7000.0			Not Booked
6	1006	Suit	9500.0			Not Booked

A screenshot of a web browser window showing the 'Room Book' form. The form has a title 'Room Book'. Under 'Select Room Type :', the 'Delux' radio button is selected. There are input fields for 'Enter Name : Charlie Mhatre' and 'Enter Mobile No : 8005800569'. At the bottom are 'Reset' and 'Book Room' buttons.



Practical No. 8(c)

Q. Create a Calculator application using stateless EJB.

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Arithmetic Operations</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <h1>Arithmetic Operations</h1>
    <form action="CalServlet"> Enter 1st number : <input type="text" name="n1">
    <br> Enter 2nd number : <input type="text" name="n2">
    <br> Select Operation <br>
    <input type="radio" name="type" value="add" checked>Addition <br>
    <input type="radio" name="type" value="sub" checked>Subtraction <br>
    <input type="radio" name="type" value="mul" checked>Multiplication <br>
    <input type="radio" name="type" value="div" checked>Division <br>
    <input type="radio" name="type" value="mod" checked>Modulo <br>
    <input type="reset">
    <input type="submit" value="CALCULATE">
  </form>
</body>
</html>
```

Operations.java

```
package mybean;
import javax.ejb.Stateless;
@Stateless
public class Operations {
  public int add(int n1, int n2) {
    return n1 + n2;
  }
  public int sub(int n1, int n2) {
    return n1 - n2;
  }
  public int mul(int n1, int n2) {
    return n1 * n2;
  }
  public int div(int n1, int n2) {
    return n1 / n2;
  }
}
```



```

public int mod(int n1, int n2) {
    return n1 % n2;
}
}

```

CalServlet.java

```

package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.ejb.EJB;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import mybean.Operations;

@WebServlet(name = "CalServlet", urlPatterns = {"/CalServlet"})
public class CalServlet extends HttpServlet {
    @EJB Operations obj;
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        response.setContentType("text/html;charset=UTF-8");
        try (PrintWriter out = response.getWriter()){
            int a = Integer.parseInt(request.getParameter("n1"));
            int b = Integer.parseInt(request.getParameter("n2"));
            if(request.getParameter("type").equals("add")) {
                out.println("<h1> Addition: </h1>");
                out.println("<h1>"+a+"+"+b+" = "+obj.add(a,b)+"</h1>");
            }
            if(request.getParameter("type").equals("sub")){
                out.println("<h1> Subtraction: </h1>");
                out.println("<h1>"+a+"-"+b+" = "+obj.sub(a,b)+"</h1>");
            }
            if(request.getParameter("type").equals("mul")) {
                out.println("<h1> Multiplication: </h1>");
                out.println("<h1>"+a+"*"+b+" = "+obj.mul(a,b)+"</h1>");
            }
            if(request.getParameter("type").equals("div")){
                out.println("<h1> Division: </h1>");
                out.println("<h1>"+a+"/"+b+" = "+obj.div(a,b)+"</h1>");
            }
            if(request.getParameter("type").equals("mod")){
                out.println("<h1> Modulo: </h1>");
                out.println("<h1>"+a+"%"+b+" = "+obj.mod(a,b)+"</h1>");
            }
        }
    }
}

```

```
}  
}  
}
```

Output:

localhost:8080/Prac8c/

Arithmetic Operations

Enter 1st number: 68

Enter 2nd number: 24

Select Operation

☒ Addition

☐ Subtraction

☐ Division

☐ Multiplication

☐ Modulo

Reset CALCULATE

localhost:8080/Prac8c/CalServlet?n1=68&n2=24&type=add

Addition:

68+24=92

localhost:8080/Prac8c/

Arithmetic Operations

Enter 1st number: 35

Enter 2nd number: 20

Select Operation

☐ Addition

☒ Subtraction

☐ Division

☐ Multiplication

☐ Modulo

Reset CALCULATE

localhost:8080/Prac8c/CalServlet?n1=35&n2=20&type=sub

Subtraction:

35-20=15

← → ↻ ⓘ localhost:8080/Prac8c/

Arithmetic Operations

Enter 1st number:

Enter 2nd number:

Select Operation

☐ Addition

☐ Subtraction

☒ Division

☐ Multiplication

☐ Modulo

← → ↻ ⓘ localhost:8080/Prac8c/CalServlet?n1=35&n2=5&type=div

Division:

35/5=7

← → ↻ ⓘ localhost:8080/Prac8c/

Arithmetic Operations

Enter 1st number:

Enter 2nd number:

Select Operation

☐ Addition

☐ Subtraction

☐ Division

☒ Multiplication

☐ Modulo

← → ↻ ⓘ localhost:8080/Prac8c/CalServlet?n1=20&n2=8&type=mul

Multiplication:

20*8=160

← → ↻ ⓘ localhost:8080/Prac8c/

Arithmetic Operations

Enter 1st number:

Enter 2nd number:

Select Operation

☐ Addition

☐ Subtraction

☐ Division

☐ Multiplication

☒ Modulo

← → ↻ ⓘ localhost:8080/Prac8c/CalServlet?n1=105&n2=10&type=mod

Modulo:

105%10=5