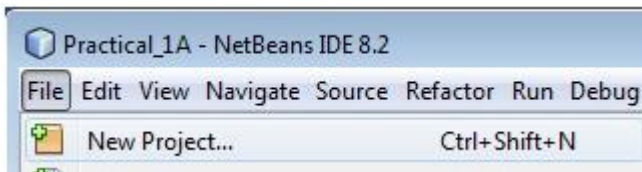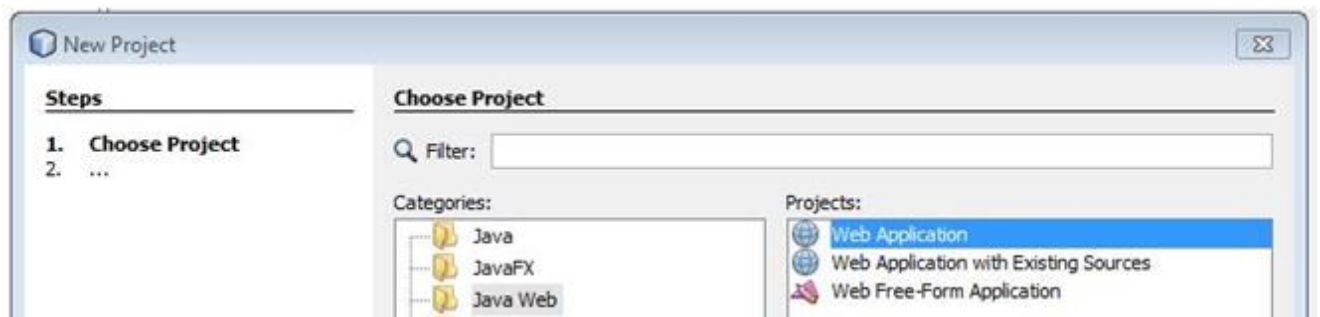**Requirements:**
1. JDK 8u181
2. Netbeans 8.1 or higher
3. MySql 5.5 or higner

Practical No.: 1

(A). Create a simple calculator application using servlet.

Create a new project

Select java web → web Application

index.html

```html
<html>
    <head>
        <title>Calculator App</title>
    </head>
    <body>
        <form action="CalculatorServlet" >
            Enter First Number: <input type="text" name="txtN1" ><br>
            Enter Second Number: <input type="text" name="txtN2" ><br>
            Select an Operation
            <input type="radio" name="opr" value="+">ADDTION
            <input type="radio" name="opr" value="-">SUBSTRACTION
            <input type="radio" name="opr" value="*">MULTIPLY
            <input type="radio" name="opr" value="/">DIVIDE <br>
            <input type="reset">
```
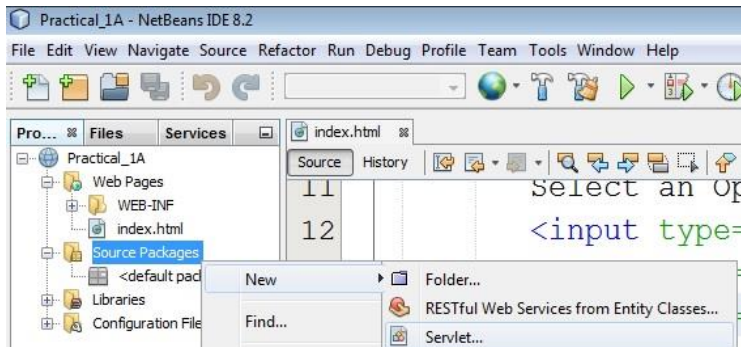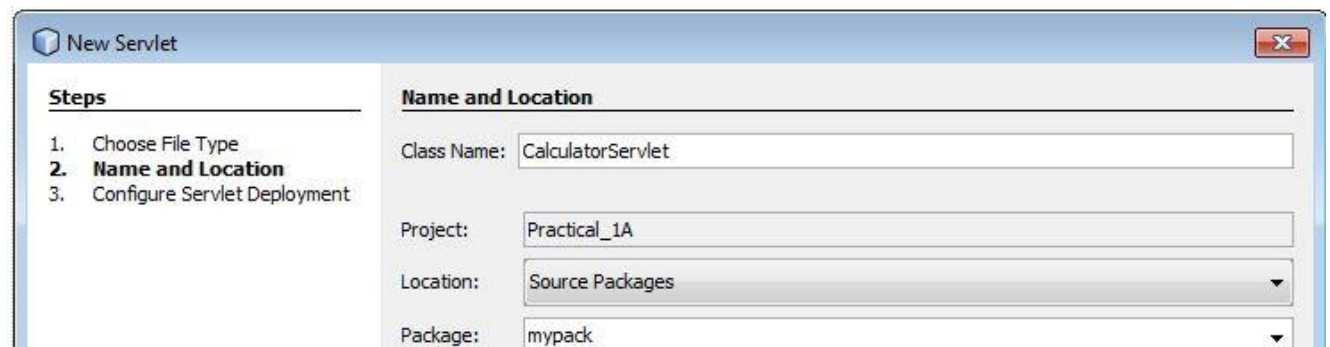
```
                    <input type="submit" value="Calculate" >
            </form>
        </body>
</html>
```


Add a new Servlet to source package

Name the servlet and package
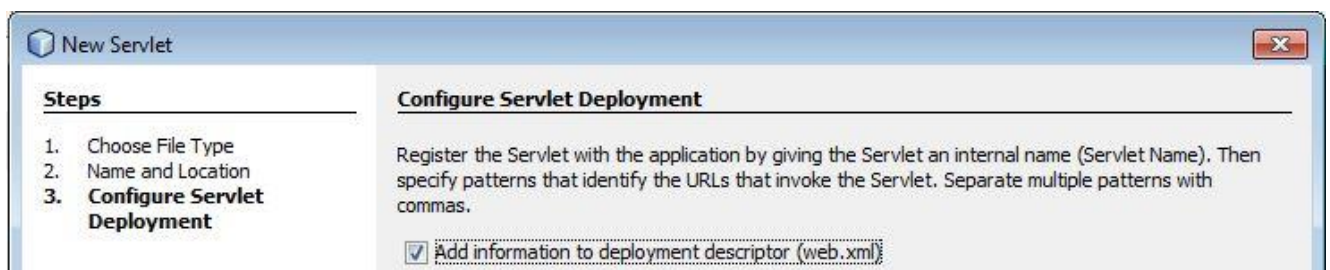
Check "Add information to deployment descriptor" to add servlet into web.xml

CalculatorServlet.java

```
package mypack;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
```

```java
public class CalculatorServlet extends HttpServlet
{
        public void doGet(HttpServletRequest request, HttpServletResponse
response)throws ServletException, IOException
        {
                response.setContentType("text/html;charset=UTF-8");
                PrintWriter out = response.getWriter();
                out.println("<html><head><title>Calculator Servlet</title></head><body>");
                double n1 = Double.parseDouble(request.getParameter("txtN1"));
                double n2 = Double.parseDouble(request.getParameter("txtN2"));
                double result =0;
                String opr=request.getParameter("opr");
                if(opr.equals("+"))
                        result=n1+n2;
                if(opr.equals("-"))
                        result=n1-n2;
                if(opr.equals("*"))
                        result=n1*n2;
                if(opr.equals("/"))
                        result=n1/n2;
                out.println("<h1> Result = "+result);
                out.println("</body></html>");
        }
}
```

(B). Create a servlet for a login page. If the username and password are correct then it says message "Hello <username>" else a message "login failed"

index.html
```
<html>
        <head>
                <title>Login Form</title>
        </head>
        <form action="LoginServlet" >
                Enter User Name: <input type="text" name="txtId"><br>
                Enter Password: <input type="password" name="txtPass"><br>
                <input type="reset"><input type="submit" value=" Login">
        </form>
</html>
```
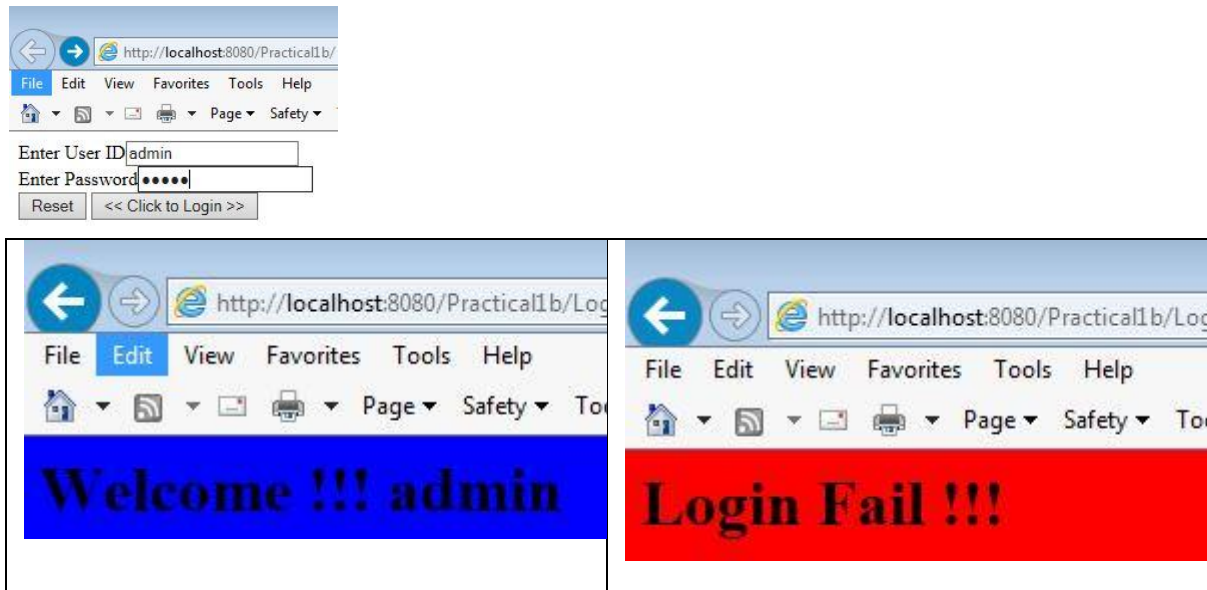
LoginServlet.java
```
package mypack;
import java.io.*;
import javax.servlet.ServletException;
import javax.servlet.http.*;

public class LoginServlet extends HttpServlet
{
        public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
        {
                response.setContentType("text/html;charset=UTF-8");
                PrintWriter out = response.getWriter();
                out.println("<html><head><title>Servlet LoginServlet</title></head>");
                String uname = request.getParameter("txtId");
                String upass = request.getParameter("txtPass");
                if(uname.equals("admin") && upass.equals("12345"))
                {
                        out.println("<body bgcolor=blue >");
                        out.println("<h1> Welcome !!! "+uname+"</h1>");
                }
                else
                {
                        out.println("<body bgcolor=red >");
                        out.println("<h1> Login Fail !!! </h1>");
                }
```

```
                        out.println("</body></html>");
            }
}
```


(C) Create a registration servlet in Java using JDBC. Accept the details such as Username, Password, Email, and Country from the user using HTML Form and store the registration details in the database.

MySql queries
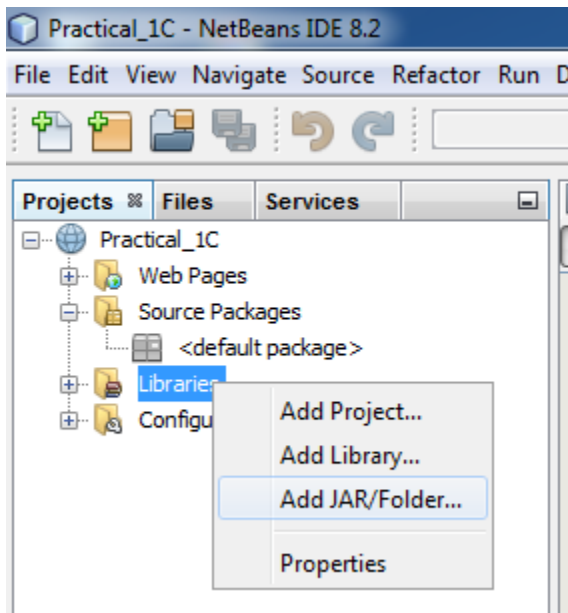
CREAT DATABASE LoginDB;
USE LoginDB;

CREATE TABLE user(username VARCHAR(20) PRIMARY KEY, password VARCHAR(20), email VARCHAR(20), country VARCHAR(20));

INSERT INTO user VALUES ('admin','admin','admin@admin.com','India');

SELECT * FROM user;

- Add jar file →**<<Netbean Folder>>**\ide\modules\ext\mysql-connector-java-5.1.23-bin.jar

index.html

```html
<html>
    <head>
        <title>Registration Page</title>
    </head>
    <body>
        <form action="RegisterServlet" >
            <H1>Welcome to Registration page</H1>
            Enter User Name: <input type="text" name="txtUid"><br>
            Enter Password: <input type="password" name="txtPass"><br>
            Enter Email: <input type="text" name="txtEmail" ><br>
            Enter Country: <input type="text" name="txtCon" ><br>
            <input type="reset" ><input type="submit" value="REGISTER" >
        </form>
    </body>
</html>
```

RegisterServlet.java
```java
package mypack;
import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;
```
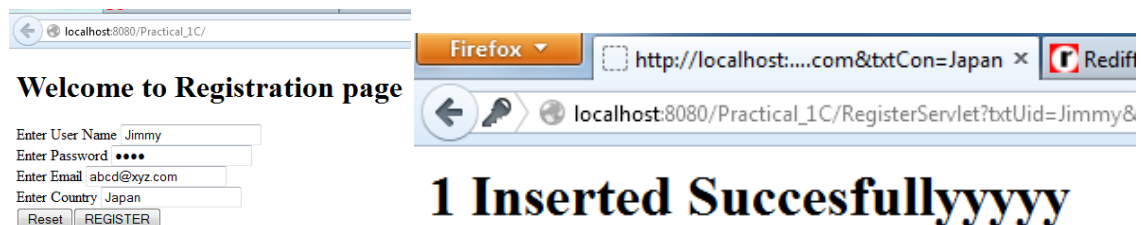
```java
public class RegisterServlet extends HttpServlet
{
        public void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException
        {
                response.setContentType("text/html;charset=UTF-8");
                PrintWriter out = response.getWriter();
                String id = request.getParameter("txtUid");
                String ps = request.getParameter("txtPass");
                String em = request.getParameter("txtEmail");
                String co = request.getParameter("txtCon");
                try
                {
                        Class.forName("com.mysql.jdbc.Driver");
                        Connection con
=DriverManager.getConnection("jdbc:mysql://localhost:3306/logindb","root","12345");
                        PreparedStatement pst = con.prepareStatement("insert into user
values(?,?,?,?)");
                        pst.setString(1,id);
                        pst.setString(2,ps);
                        pst.setString(3,em);
                        pst.setString(4,co);
                        int row = pst.executeUpdate();
                        out.println("<h1>"+row+ " Inserted Succesfullyyyyy");
                }
                catch(Exception e)
                {
                        out.println(e);
                }
        }
}
```


Welcome to Registration page

Enter User Name Jimmy
Enter Password ••••
Enter Email abcd@xyz.com
Enter Country Japan
Reset   REGISTER

http://localhost:....com&txtCon=Japan × Redif

localhost:8080/Practical_1C/RegisterServlet?txtUid=Jimmy&

1 Inserted Succesfullyyyyy

index.html   RegisterServlet.java   SQL 1 [jdbc:mysql://localhost:33...]

Connection: jdbc:mysql://localhost:3306/mysql?zeroDateTimeBehavior=convertToNull [ro...

SELECT * FROM logindb.`us...

Max. rows: 100   Fetched Rows: 2

#	username	password	email	country
1	admin	admin	admin@admin.com	India
2	Jimmy	abcd	abcd@xyz.com	Japan