

Title : Web Services

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Code JAVA:

```
package com.unique;

import javax.jws.WebService;
import javax.jws.WebMethod;
import javax.jws.WebParam;

/**
 *
 * @author 390
 */
@WebService(serviceName = "Premutation")
public class Premutation {

    /**
     * Web service operation
     */
    @WebMethod(operationName = "getNumber")
    public int getNumber(@WebParam(name = "n") int n, @WebParam(name = "r") int r) {
        //TODO write your implementation code here:
        int per, fact1, fact2;
        fact1 = n;
        for (int i = n - 1; i >= 1; i--)
        {
            fact1 = fact1 * i;
        }
        int number;
        number = n - r;
        fact2 = number;
        for (int i = number - 1; i >= 1; i--)
        {
            fact2 = fact2 * i;
        }
        per = fact1 / fact2;
        return per;
    }

}
```

Code HTML:

```
<!DOCTYPE html>

<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<html>
  <head>
    <title>TODO supply a title</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width">
  </head>
  <body>
    <form action="Cal">
      Enter number 1: <input type="text" name="txt1" value="" /><br>
      Enter number 2: <input type="text" name="txt2" value="" /><br>
      <input type="submit" value="Submit"/>
    </form>
  </body>
</html>
```

Servlet Code:

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */

import com.unique.Premutation_Service;
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.xml.ws.WebServiceRef;

/**
 *
 * @author 390
 */
@WebServlet(urlPatterns = {"/Cal"})
public class Cal extends HttpServlet {
```

```

@WebServiceRef(wsdlLocation =
"WEB-INF/wsdl/localhost_8080/permutation/Premutation.wsdl")
private Premutation_Service service;

/**
 * Processes requests for both HTTP GET and POST
 * methods.
 *
 * @param request servlet request
 * @param response servlet response
 * @throws ServletException if a servlet-specific error occurs
 * @throws IOException if an I/O error occurs
 */
protected void processRequest(HttpServletRequest request, HttpServletResponse
response)
    throws ServletException, IOException {
    response.setContentType("text/html;charset=UTF-8");
    try (PrintWriter out = response.getWriter()) {
        /* TODO output your page here. You may use following sample code. */
        int num1,num2;
        num1=Integer.parseInt(request.getParameter("txt1"));
        num2 = Integer.parseInt(request.getParameter("txt2"));
        out.println("<!DOCTYPE html>");
        out.println("<html>");
        out.println("<head>");
        out.println("<title>Servlet Cal</title>");
        out.println("</head>");
        out.println("<body>");
        out.println("<h1>"+getNumber(num1,num2)+ "</h1>");
        out.println("</body>");
        out.println("</html>");
    }
}

// <editor-fold defaultstate="collapsed" desc="HttpServlet methods. Click on the + sign on
the left to edit the code.">
/**
 * Handles the HTTP GET method.
 *
 * @param request servlet request
 * @param response servlet response
 * @throws ServletException if a servlet-specific error occurs
 * @throws IOException if an I/O error occurs
 */
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    processRequest(request, response);
}

```

```

}

/**
 * Handles the HTTP <code>POST</code> method.
 *
 * @param request servlet request
 * @param response servlet response
 * @throws ServletException if a servlet-specific error occurs
 * @throws IOException if an I/O error occurs
 */
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    processRequest(request, response);
}

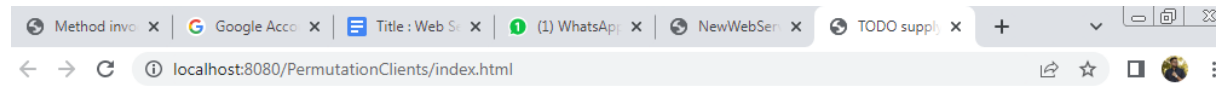
/**
 * Returns a short description of the servlet.
 *
 * @return a String containing servlet description
 */
@Override
public String getServletInfo() {
    return "Short description";
} // </editor-fold>

private int getNumber(int n, int r) {
    // Note that the injected javax.xml.ws.Service reference as well as port objects are not
    thread safe.
    // If the calling of port operations may lead to race condition some synchronization is
    required.
    com.unique.Premutation port = service.getPremutationPort();
    return port.getNumber(n, r);
}

}

```

Input:

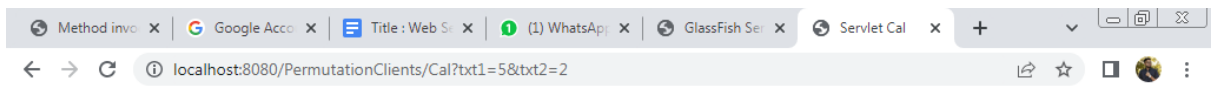


Enter number 1:

Enter number 2:



Output:



20

