

EXPERIMENT–12

TITLE: Servlet

1) Servlet: a) ServletContextinterface b)getParameterValues() of Servlet Request

a) servletcontextinterface

```
package practice_servlet;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.ServletContext;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

public class S_context extends HttpServlet {

    protected void processRequest(HttpServletRequest request,

    HttpServletResponse response)

        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");

        PrintWriter pw=response.getWriter();

        //creating ServletContext object

        ServletContext context=getServletContext();

        //Getting the value of the initialization parameter and printing it

        String driverName=context.getInitParameter("driver_name");

        pw.println("driver name is="+driverName);

        pw.close();

    }
```

b)getParameterValues() of Servlet Request

```
package practice_servlet;

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;

public class add extends HttpServlet {

    protected void processRequest(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("no1"));
            int b=Integer.parseInt(request.getParameter("no2"));
            out.println("Addition is: "+(a+b));
        }
    }

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse
response)
        throws ServletException, IOException {
        processRequest(request, response);
    }
}
```

index

```
<!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>Addition</title>
```

```
    <meta charset="UTF-8">
```

```
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
  </head>
```

```
  <body>
```

```
    <form action="add" method="get">
```

```
      number1: <input type="text" name="no1"> <br> <br>
```

```
      number2: <input type="text" name="no2"> <br> <br>
```

```
      <input type="submit" name="btnadd" value="Add">
```

```
    </form>
```

```
  </body>
```

```
</html>
```

2) Write a Servletpage to display current date of the server.

```
package practice_servlet;

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;


public class date extends HttpServlet {

    protected void processRequest(HttpServletRequest request,
HttpServletResponse response)

        throws ServletException, IOException {

response.setContentType("text/html;charset=UTF-8");

PrintWriter pw = response.getWriter();

//write req processing logic

java.util.Date date = new java.util.Date();

pw.println("<h2>"+ "Current Date & Time: " +date.toString()+"</h2>");

//close stream object

pw.close();

}
```

3) Write a Servletpage to which include the two other Servlet page through of include directives feature provided in Servlet.

Servlet 1

add.java

```
package new1;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

public class add extends HttpServlet {

    protected void processRequest(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("no1"));

            int b=Integer.parseInt(request.getParameter("no2"));

            int c=(a+b);

            if(c%2==0){

                out.println("Addition is: "+(a+b));

            }

            else{

                RequestDispatcher rd=request.getRequestDispatcher("servlet2");

                rd.forward(request, response);

            }

        }

    }

}
```

```
    }  
  }  
}
```

Servlet 2

NewServlet.java

```
package new1;  
  
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;  
  
import javax.servlet.RequestDispatcher;  
  
public class NewServlet extends HttpServlet {  
  
    protected void processRequest(HttpServletRequest request,  
HttpServletResponse response)  
  
        throws ServletException, IOException {  
  
        response.setContentType("text/html;charset=UTF-8");  
  
        PrintWriter out = response.getWriter();  
  
        out.println("Addition is odd");  
  
    }  
}
```

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>

  <form action="servlet1" method="get">

    number1: <input type="text" name="no1"> <br> <br>

    number2: <input type="text" name="no2"> <br> <br>

    <input type="submit" name="btnadd" value="Add">

  </form>

</body>

</html>

```

web.xml

```

<?xml version="1.0" encoding="UTF-8"?>

<web-app    version="3.1"    xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd">

  <servlet>

    <servlet-name>add</servlet-name>

    <servlet-class>new1.add</servlet-class>

  </servlet>

  <servlet>

```

```
<servlet-name>NewServlet</servlet-name>

<servlet-class>new1.NewServlet</servlet-class>

</servlet>


<servlet-mapping>

    <servlet-name>add</servlet-name>

    <url-pattern>/servlet1</url-pattern>

</servlet-mapping>

<servlet-mapping>

    <servlet-name>NewServlet</servlet-name>

    <url-pattern>/servlet2</url-pattern>

</servlet-mapping>

<welcome-file-list>

<welcome-file>index.html</welcome-file>

</welcome-file-list>

<session-config>

    <session-timeout>

        30

    </session-timeout>

</session-config>

</web-app>
```


4) Write a Servletpage to create a simple calculator.

calculator.java

```
package exp11;

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;


public class calculator extends HttpServlet {

    protected void processRequest(HttpServletRequest request, HttpServletResponse
response)

        throws ServletException, IOException {

        response.setContentType("text/html;charset=UTF-8");

        PrintWriter out = response.getWriter();

        String n1 = request.getParameter("txt1");

        String n2 = request.getParameter("txt2");

        String op = request.getParameter("op");

        if(op.equals("Addition")){

            out.println((Integer.parseInt(n1) + Integer.parseInt(n2)));

        }

        else if(op.equals("Subtraction")){

            out.println(Integer.parseInt(n1) - Integer.parseInt(n2));

        }

    }

}
```

```

        else if(op.equals("multiplication")){
            out.println(Integer.parseInt(n1) * Integer.parseInt(n2));
        }
        else{
            out.println(Integer.parseInt(n1) / Integer.parseInt(n2));
        }
    }
}

```

@Override

```

protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    processRequest(request, response);
}

```

@Override

```

protected void doPost(HttpServletRequest request, HttpServletResponse
response)
    throws ServletException, IOException {
    processRequest(request, response);
}

```

@Override

```

public String getServletInfo() {
    return "Short description";
} // </editor-fold>
}

```

Create index.html

```
<html>
  <head>

    <title>calculator</title>

    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
  </head>
  <body>
    <h1 style="border:2px solid Tomato;">4 function calculator</h1>
    <form action="calculator" method="get" name="frm">

      Enter first number:
      <input name="txt1" type="text" /><br> <br>

      Enter second number:
      <input name="txt2" type="text" /><br> <br>

      Operator

      <select name="op">

        <option value="Addition">Addition</option>
        <option value="Subtraction">Subtraction</option>
        <option value="multiplication">multiplication</option>
        <option value="division">division</option>
      </select>

      <input type="submit" value="submit" />

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

web.xml

```
<?xml version="1.0" encoding="UTF-8"?>

<web-app version="3.1" xmlns="http://xmlns.jcp.org/xml/ns/javaee"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd">
  <servlet>
    <servlet-name>calculator</servlet-name>
    <servlet-class>exp11.calculator</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>calculator</servlet-name>
    <url-pattern>/calculator</url-pattern>
  </servlet-mapping>
  <session-config>
    <session-timeout>
      30
    </session-timeout>
  </session-config>
</web-app>
```