



WebService com Abordagem SAOP

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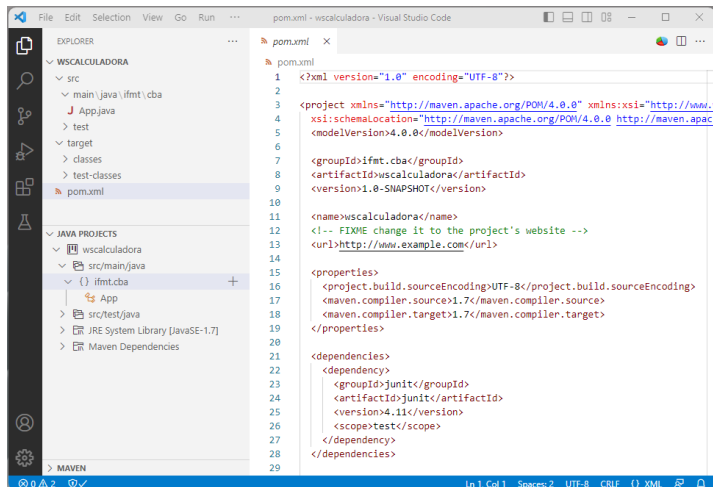
Sumário

1 Lado Servidor / Provedor do Serviço

Preparando Projeto Java/Maven

Criar um projeto Java/Maven com as seguintes definições:

groupId: ifmt.cba
artifactId: wscalculadora
version: 1.0-SNAPSHOT



Alterando o arquivo POM (1)

```
1 <?xml version="1.0" encoding="UTF-8"?>
2
3 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4   xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
5   <modelVersion>4.0.0</modelVersion>
6
7   <groupId>ifmt.cba</groupId>
8   <artifactId>wscalculadora</artifactId>
9   <version>1.0-SNAPSHOT</version>
10
11   <name>wscalculadora</name>
12
13   <properties>
14     <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
15     <maven.compiler.source>17</maven.compiler.source>
16     <maven.compiler.target>17</maven.compiler.target>
17   </properties>
18
19   <dependencies>
20     <dependency>
21       <groupId>junit</groupId>
22       <artifactId>junit</artifactId>
23       <version>4.11</version>
24       <scope>test</scope>
25     </dependency>
26
27     <dependency>
28       <groupId>jakarta.xml.ws</groupId>
29       <artifactId>jakarta.xml.ws-api</artifactId>
30       <version>3.0.0</version>
31     </dependency>
```

Alterando o arquivo POM (2)

```
32 <dependency>
33   <groupId>com.sun.xml.ws</groupId>
34   <artifactId>jaxws-rt</artifactId>
35   <version>3.0.0</version>
36 </dependency>
37
38 <dependency>
39   <groupId>com.sun.xml.ws</groupId>
40   <artifactId>jaxws-ri</artifactId>
41   <version>3.0.0</version>
42   <type>pom</type>
43 </dependency>
44
45 </dependencies>
46
47 <build>
48   <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults (may be moved to parent pom) -->
49     <plugins>
50       <!-- clean lifecycle , see https://maven.apache.org/ref/current/maven-core/lifecycles.html#clean_Lifecycle -->
51       <plugin>
52         <artifactId>maven-clean-plugin</artifactId>
53         <version>3.1.0</version>
54       </plugin>
55       <!-- default lifecycle , jar packaging: see https://maven.apache.org/ref/current/maven-core/default-bindings.html#
56         Plugin_bindings_for_jar_packaging -->
57       <plugin>
58         <artifactId>maven-resources-plugin</artifactId>
59         <version>3.0.2</version>
60       </plugin>
61       <plugin>
62         <artifactId>maven-compiler-plugin</artifactId>
```

Alterando o arquivo POM (3)

```
63     <version>3.8.0</version>
64 </plugin>
65 <plugin>
66   <artifactId>maven-surefire-plugin</artifactId>
67   <version>2.22.1</version>
68 </plugin>
69 <plugin>
70   <artifactId>maven-jar-plugin</artifactId>
71   <version>3.0.2</version>
72 </plugin>
73 <plugin>
74   <artifactId>maven-install-plugin</artifactId>
75   <version>2.5.2</version>
76 </plugin>
77 <plugin>
78   <artifactId>maven-deploy-plugin</artifactId>
79   <version>2.8.2</version>
80 </plugin>
81 <!-- site lifecycle , see https://maven.apache.org/ref/current/maven-core/lifecycles.html#site_Lifecycle -->
82 <plugin>
83   <artifactId>maven-site-plugin</artifactId>
84   <version>3.7.1</version>
85 </plugin>
86 <plugin>
87   <artifactId>maven-project-info-reports-plugin</artifactId>
88   <version>3.0.0</version>
89 </plugin>
90 </plugins>
91 </pluginManagement>
92 </build>
93 </project>
```

Alterando o arquivo POM (4)

Implementando a Interface do Serviço - (SEI) (1)

Crie um subpacote chamado **servico**, dentro do pacote cba.

Implemente a seguinte interface:

```
1 package ifmt.cba.servico ;
2
3 import jakarta.jws.WebMethod;
4 import jakarta.jws.WebService;
5 import jakarta.jws.soap.SOAPBinding;
6 import jakarta.jws.soap.SOAPBinding.Style;;
7
8 // Service Endpoint Interface (SEI)
9
10 @WebService
11 @SOAPBinding (style = Style.RPC)
12 public interface ServicoCalculadora {
13
14     @WebMethod
15     public double somar( double valor1 , double valor2);
16
17     @WebMethod
18     public double subtrair( double valor1 , double valor2);
19
20     @WebMethod
21     public double multiplicar( double valor1 , double valor2);
22
23     @WebMethod
24     public double dividir( double valor1 , double valor2);
25
26 }
```


Implementando o Serviço - (SIB)

No subpacote **servico**, implemente a seguinte classe:

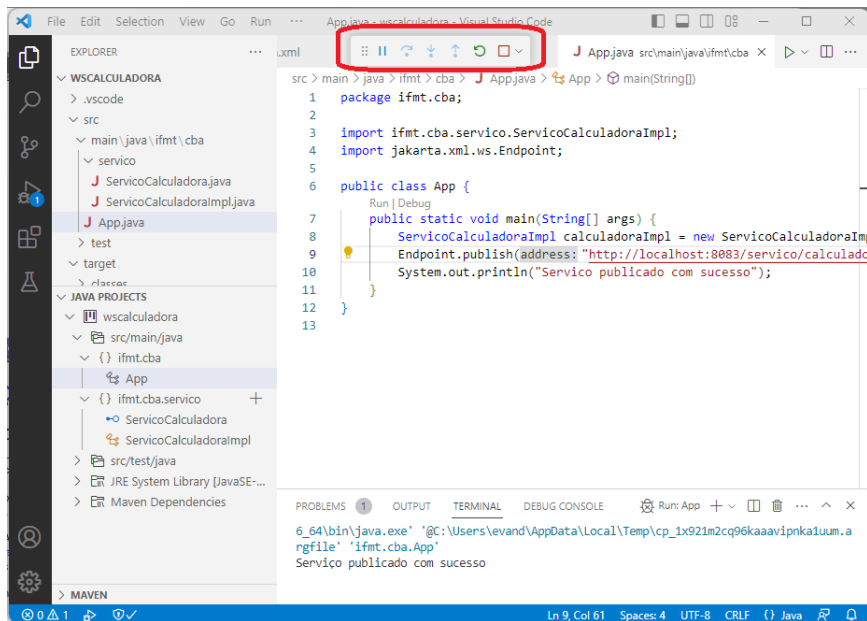
```
1 package ifmt.cba.servico;  
2  
3 import jakarta.jws.WebService;  
4  
5 // Service Implementation Bean (SIB)  
6  
7 @WebService(endpointInterface = "ifmt.cba.servico.ServicoCalculadora")  
8 public class ServicoCalculadoraImpl implements ServicoCalculadora{  
9  
10     @Override  
11     public double somar(double valor1, double valor2) {  
12         return valor1 + valor2;  
13     }  
14  
15     @Override  
16     public double subtrair(double valor1, double valor2) {  
17         return valor1 - valor2;  
18     }  
19  
20     @Override  
21     public double multiplicar(double valor1, double valor2) {  
22         return valor1 * valor2;  
23     }  
24  
25     @Override  
26     public double dividir(double valor1, double valor2){  
27         return valor1 / valor2;  
28     }  
29 }
```

Publicação do Serviço (1)

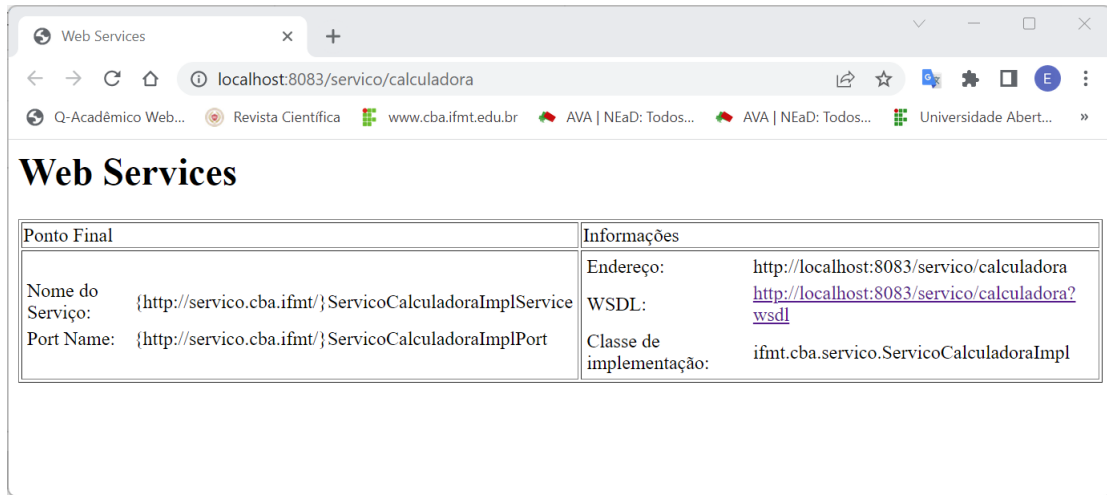
Altere o conteúdo da classe **App.java** no pacote **cba**.

```
1 package ifmt.cba;
2
3 import ifmt.cba.servico.ServicoCalculadoraImpl;
4 import jakarta.xml.ws.Endpoint;
5
6 public class App {
7     public static void main(String[] args) {
8         ServicoCalculadoraImpl calculadoraImpl = new ServicoCalculadoraImpl();
9         Endpoint.publish("http://localhost:8083/servico/calculadora", calculadoraImpl);
10        System.out.println("Serviço publicado com sucesso");
11    }
12 }
```

Serviço Publicado e Executando



Acessando o Serviço Publicado



The screenshot shows a web browser window with the title 'Web Services'. The address bar displays 'localhost:8083/servico/calculadora'. The page content includes a heading 'Web Services' and a table with two main sections: 'Ponto Final' and 'Informações'.

Ponto Final	Informações
Nome do Serviço: {http://servico.cba.ifmt/} ServicoCalculadoraImplService	Endereço: http://localhost:8083/servico/calculadora
Port Name: {http://servico.cba.ifmt/} ServicoCalculadoraImplPort	WSDL: http://localhost:8083/servico/calculadora?wsdl
	Classe de implementação: ifmt.cba.servico.ServicoCalculadoraImpl

Acessando o Serviço Publicado

localhost:8083/servico/calculadora?wsdl

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<!-- Published by JAX-WS RI (https://github.com/eclipse-ee4j/metro-jax-ws). RI's version is JAX-WS RI 3.0.0 git-revision#...
<!-- Generated by JAX-WS RI (https://github.com/eclipse-ee4j/metro-jax-ws). RI's version is JAX-WS RI 3.0.0 git-revision#...
<definitions xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
  xmlns:wsp="http://www.w3.org/ns/ws-policy" xmlns:wsp1_2="http://schemas.xmlsoap.org/ws/2004/09/policy"
  xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:tns="http://servico.cba.ifmt/" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/"
  targetNamespace="http://servico.cba.ifmt/" name="ServicoCalculadoraImplService">
  <types/>
  <message name="subtrair">
    <part name="arg0" type="xsd:double"/>
    <part name="arg1" type="xsd:double"/>
  </message>
  <message name="subtrairResponse">
    <part name="return" type="xsd:double"/>
  </message>
  <message name="multiplicar">
    <part name="arg0" type="xsd:double"/>
    <part name="arg1" type="xsd:double"/>
  </message>
  <message name="multiplicarResponse">
    <part name="return" type="xsd:double"/>
  </message>
  <message name="dividir">
    <part name="arg0" type="xsd:double"/>
```