

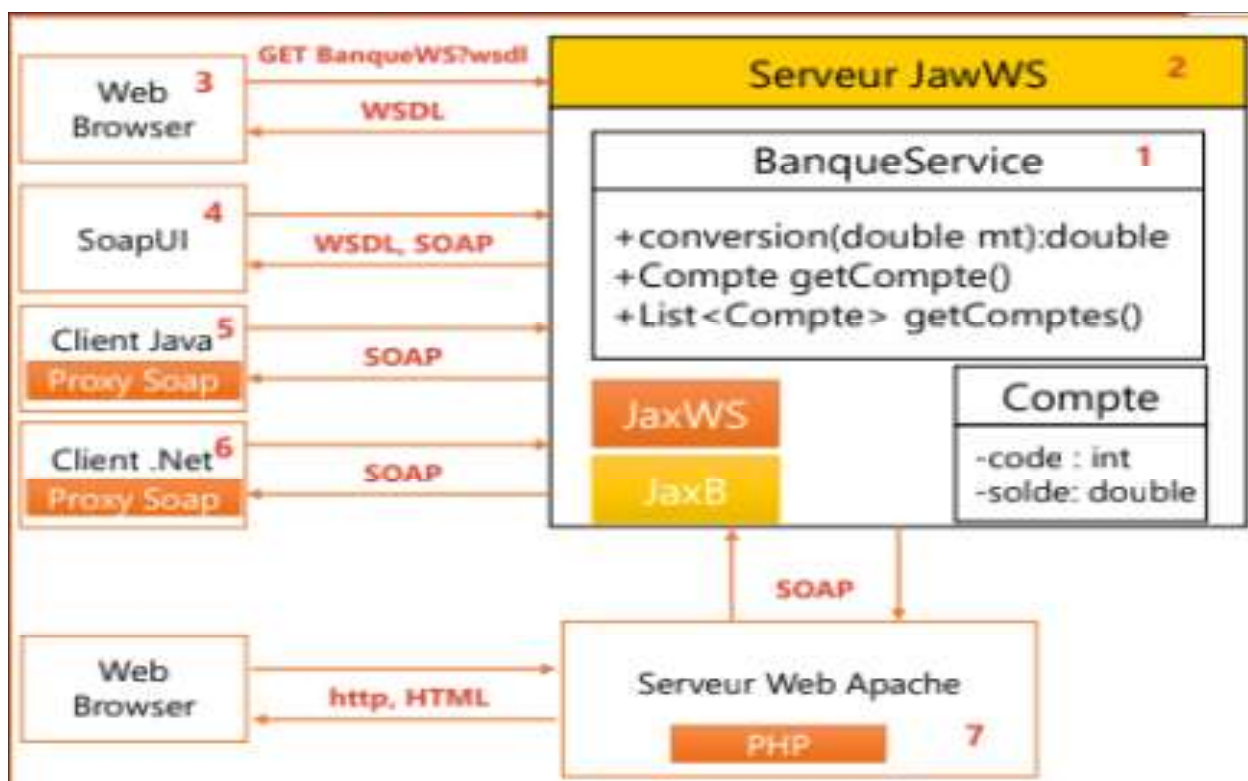
Département Mathématiques et Informatique

Cycle Ingénieur

« Ingénierie Informatique – Big Data et Cloud Computing »

COMPTE-RENDU D'Activité Pratique N° 3:

Web services SOAP, WSDL, UDDI avec JAXWS



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Application

1. Créer un Web service qui permet de :
 - Convertir un montant de l'auro en DH
 - Consulter un Compte
 - Consulter une Liste de comptes
2. Déployer le Web service avec un simple Serveur JaxWS
3. Consulter et analyser le WSDL avec un Browser HTTP
4. Tester les opérations du web service avec un outil
 1. comme SoapUI ou Oxygen
5. Créer un Client SOAP Java
6. Créer un Client SOAP Dot Net
7. Créer un Client SOAP PHP
8. Déployer le Web Service dans un Projet Spring Boot

Les dépendances a ajoutée :

```
m pom.xml (BanqueService) x Compte.java x ServerJWS.java x BanqueService.java x
11 <properties>
12     <maven.compiler.source>17</maven.compiler.source>
13     <maven.compiler.target>17</maven.compiler.target>
14 </properties>
15
16 <dependencies>
17     <!-- https://mvnrepository.com/artifact/com.sun.xml.ws/jaxws-rt -->
18     <dependency>
19         <groupId>com.sun.xml.ws</groupId>
20         <artifactId>jaxws-rt</artifactId>
21         <version>4.0.0</version>
22     </dependency>
23
24 </dependencies>
25 </project>
```

La classe Compte

```
5 public class Compte {
6     private int code;
7     private double solde;
8     private Date dateCreation;
9
10    public Compte(int code, double solde, Date dateCreation) {
11        this.code = code;
12        this.solde = solde;
13        this.dateCreation = dateCreation;
14    }
15
16    public Compte() {
17    }
18
19    public int getCode() { return code; }
20
21    public void setCode(int code) { this.code = code; }
22
23    public double getSolde() { return solde; }
24
25    public void setSolde(double solde) { this.solde = solde; }
```

La classe Banque Service

```
7 import java.util.Date;
8 import java.util.List;
9 @WebService(serviceName = "BanqueWS")
10 public class BanqueService {
11     @WebMethod(operationName = "Convert")
12     public double conversion(@WebParam(name="montant") double mt){
13         return mt*10.54;
14     }
15
16     @WebMethod
17     public Compte getCompte(@WebParam(name="code") int code){
18         return new Compte(code, solde: Math.random()*9888,new Date());
19     }
20
21     @WebMethod
22     public List<Compte> listComptes(){
23         return List.of(
24             new Compte( code: 1, solde: Math.random()*9888 ,new Date() ) ,
25             new Compte( code: 2, solde: Math.random()*9888 ,new Date() ) ,
26             new Compte( code: 3, solde: Math.random()*9888 ,new Date() )
27         );
28     }
29 }
```

La classe ServerJWS

```
1 import jakarta.xml.ws.Endpoint;
2 import ws.BanqueService;
3
4 public class ServerJWS {
5     public static void main(String[] args) {
6         Endpoint.publish( address: "http://0.0.0.0:9191/", new BanqueService());
7         System.out.println("Web service deploye sur http://0.0.0.0:9191/");
8     }
9 }
```

Run: ServerJWS x

C:\Users\HP\.jdk\corretto-17.0.4.1\bin\java.exe ...

Web service deploye sur <http://0.0.0.0:9191/>

<http://localhost:9191/?xsd=1>

← → ↻ ⓘ localhost:9191/?wsdl

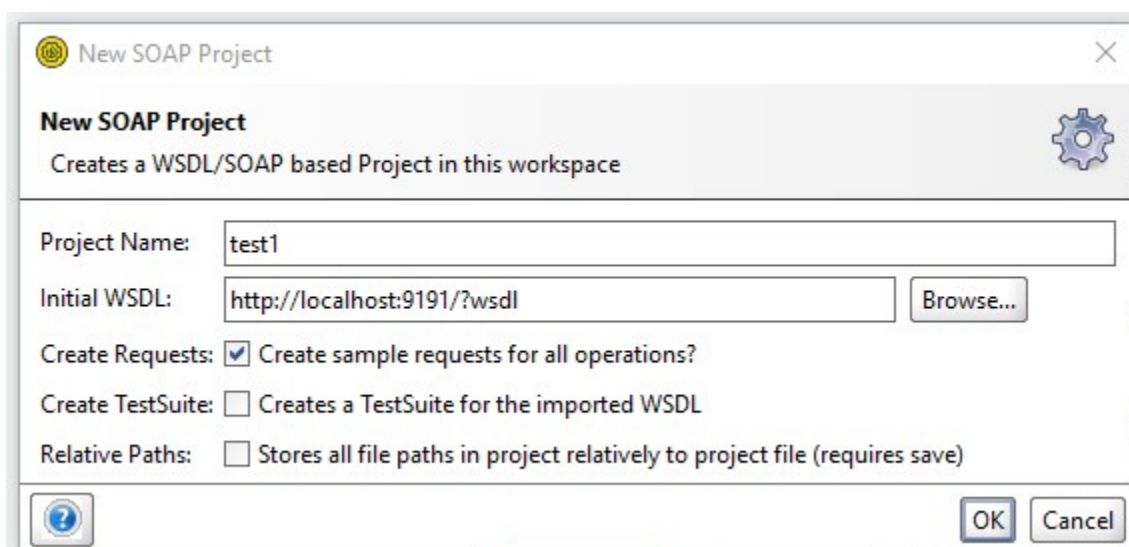
This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<!-- Published by XML-WS Runtime (https://github.com/eclipse-ee4j/metro-jax-ws). Runtime's version is XML-WS Runtime 4.0.0 gi
<!-- Generated by XML-WS Runtime (https://github.com/eclipse-ee4j/metro-jax-ws). Runtime's version is XML-WS Runtime 4.0.0 gi
<definitions xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd" xmlns:wsp="http://
xmlns:wsp1_2="http://schemas.xmlsoap.org/ws/2004/09/policy" xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata" xmlns:s
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://ws/" name="Banqu
  <types>
    <xsd:schema>
      <xsd:import namespace="http://ws/" schemaLocation="http://localhost:9191/?xsd=1"/>
    </xsd:schema>
  </types>
  <message name="Convert">
    <part name="parameters" element="tns:Convert"/>
  </message>
  <message name="ConvertResponse">
    <part name="parameters" element="tns:ConvertResponse"/>
  </message>
  <message name="listComptes">
    <part name="parameters" element="tns:listComptes"/>
  </message>
  <message name="listComptesResponse">
    <part name="parameters" element="tns:listComptesResponse"/>
  </message>
  <message name="getCompte">
    <part name="parameters" element="tns:getCompte"/>
  </message>
  <message name="getCompteResponse">
    <part name="parameters" element="tns:getCompteResponse"/>
  </message>
  <portType name="BanqueService">
    <operation name="Convert">
      <input wsam:Action="http://ws/BanqueService/ConvertRequest" message="tns:Convert"/>
      <output wsam:Action="http://ws/BanqueService/ConvertResponse" message="tns:ConvertResponse"/>
    </operation>
    <operation name="listComptes">
      <input wsam:Action="http://ws/BanqueService/listComptesRequest" message="tns:listComptes"/>
      <output wsam:Action="http://ws/BanqueService/listComptesResponse" message="tns:listComptesResponse"/>
    </operation>
    <operation name="getCompte">
      <input wsam:Action="http://ws/BanqueService/getCompteRequest" message="tns:getCompte"/>
      <output wsam:Action="http://ws/BanqueService/getCompteResponse" message="tns:getCompteResponse"/>
    </operation>
  </portType>
```



```
← → ↻ ⓘ localhost:9191/?xsd=1
This XML file does not appear to have any style information associated with it. The document tree is shown below.
<!-- Published by XML-WS Runtime (https://github.com/eclipse-ee4j/metro-jax-ws). Runtime's version is XML-WS Runtime 4.0.0
<xs:schema xmlns:tns="http://ws/" xmlns:xs="http://www.w3.org/2001/XMLSchema" version="1.0" targetNamespace="http://ws/">
  <xs:element name="Convert" type="tns:Convert"/>
  <xs:element name="ConvertResponse" type="tns:ConvertResponse"/>
  <xs:element name="getCompte" type="tns:getCompte"/>
  <xs:element name="getCompteResponse" type="tns:getCompteResponse"/>
  <xs:element name="listComptes" type="tns:listComptes"/>
  <xs:element name="listComptesResponse" type="tns:listComptesResponse"/>
  <xs:complexType name="Convert">
    <xs:sequence>
      <xs:element name="montant" type="xs:double"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="ConvertResponse">
    <xs:sequence>
      <xs:element name="return" type="xs:double"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="getCompte">
    <xs:sequence>
      <xs:element name="code" type="xs:int"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="getCompteResponse">
    <xs:sequence>
      <xs:element name="return" type="tns:compte" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="compte">
    <xs:sequence>
      <xs:element name="code" type="xs:int"/>
      <xs:element name="dateCreation" type="xs:dateTime" minOccurs="0"/>
      <xs:element name="solde" type="xs:double"/>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="listComptes">
    <xs:sequence/>
  </xs:complexType>
  <xs:complexType name="listComptesResponse">
    <xs:sequence>
      <xs:element name="return" type="tns:compte" minOccurs="0" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
```

Installation de SOAP :



The image shows a 'New SOAP Project' dialog box. It has a title bar with a yellow icon and the text 'New SOAP Project'. Below the title bar is a header section with the text 'New SOAP Project' and 'Creates a WSDL/SOAP based Project in this workspace'. To the right of this text is a gear icon. The main area contains several fields and checkboxes: 'Project Name:' with the value 'test1', 'Initial WSDL:' with the value 'http://localhost:9191/?wsdl' and a 'Browse...' button, 'Create Requests:' with a checked checkbox and the text 'Create sample requests for all operations?', 'Create TestSuite:' with an unchecked checkbox and the text 'Creates a TestSuite for the imported WSDL', and 'Relative Paths:' with an unchecked checkbox and the text 'Stores all file paths in project relatively to project file (requires save)'. At the bottom left is a question mark icon, and at the bottom right are 'OK' and 'Cancel' buttons.

New SOAP Project
Creates a WSDL/SOAP based Project in this workspace

Project Name: test1

Initial WSDL: http://localhost:9191/?wsdl Browse...

Create Requests: ☒ Create sample requests for all operations?

Create TestSuite: ☐ Creates a TestSuite for the imported WSDL

Relative Paths: ☐ Stores all file paths in project relatively to project file (requires save)

? OK Cancel

objects

- test1
 - BanqueServicePortBinding
 - Convert
 - Request 1
 - getCompte
 - Request 1
 - listComptes
 - Request 1

Request 1

http://localhost:9191/

XML

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header/>
  <soapenv:Body>
    <ws:Convert>
      <montant>806</montant>
    </ws:Convert>
  </soapenv:Body>
</soapenv:Envelope>
```

Raw

XML

```
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
  <S:Body>
    <ns2:ConvertResponse xmlns:ns2="http://ws/">
      <return>8495.24</return>
    </ns2:ConvertResponse>
  </S:Body>
</S:Envelope>
```

Raw