TP SOA

COMPTE RENDU TP SOAP

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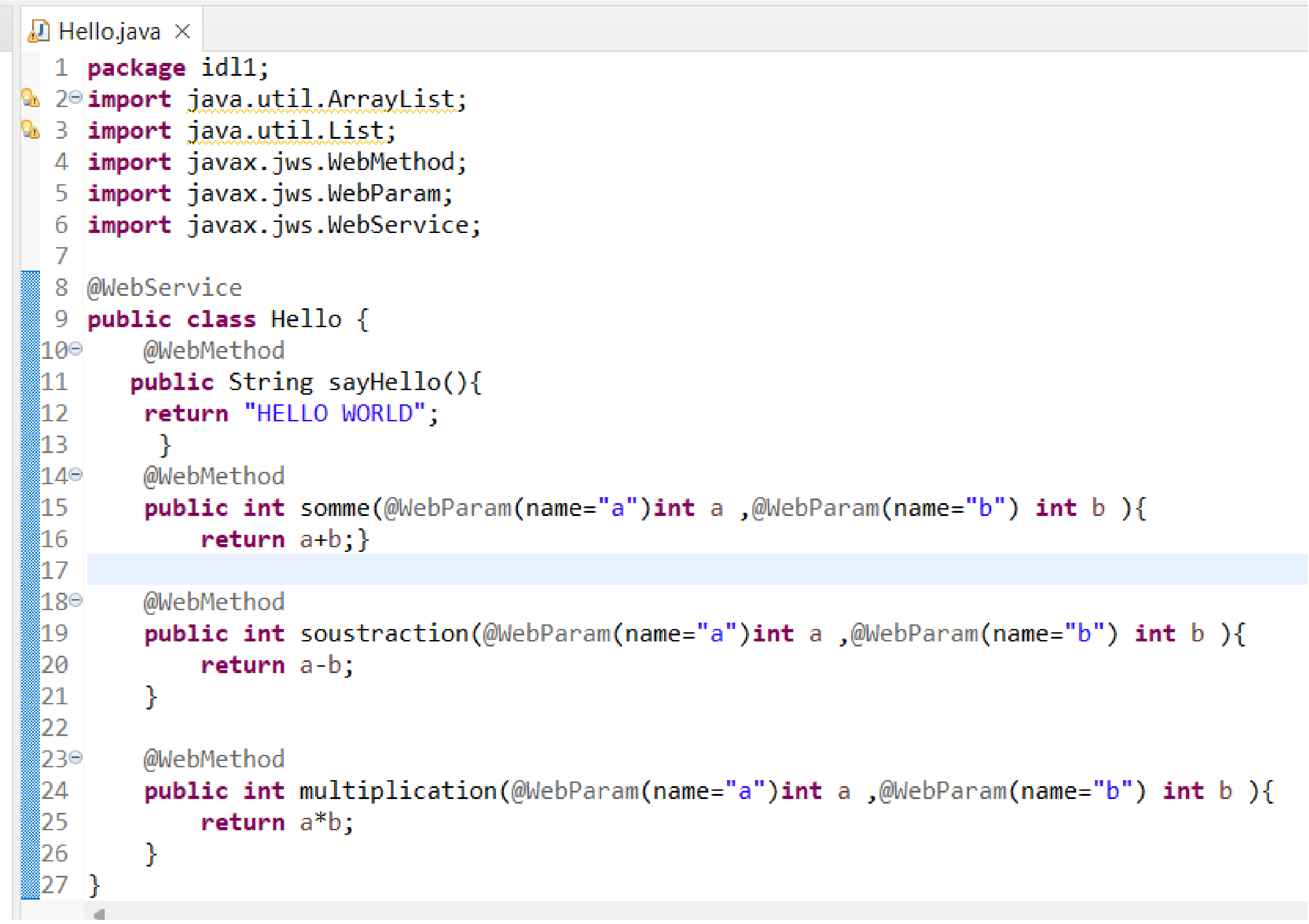
EXERCICE 1

classe Hello

La classe «Hello» implémente les méthodes du web services



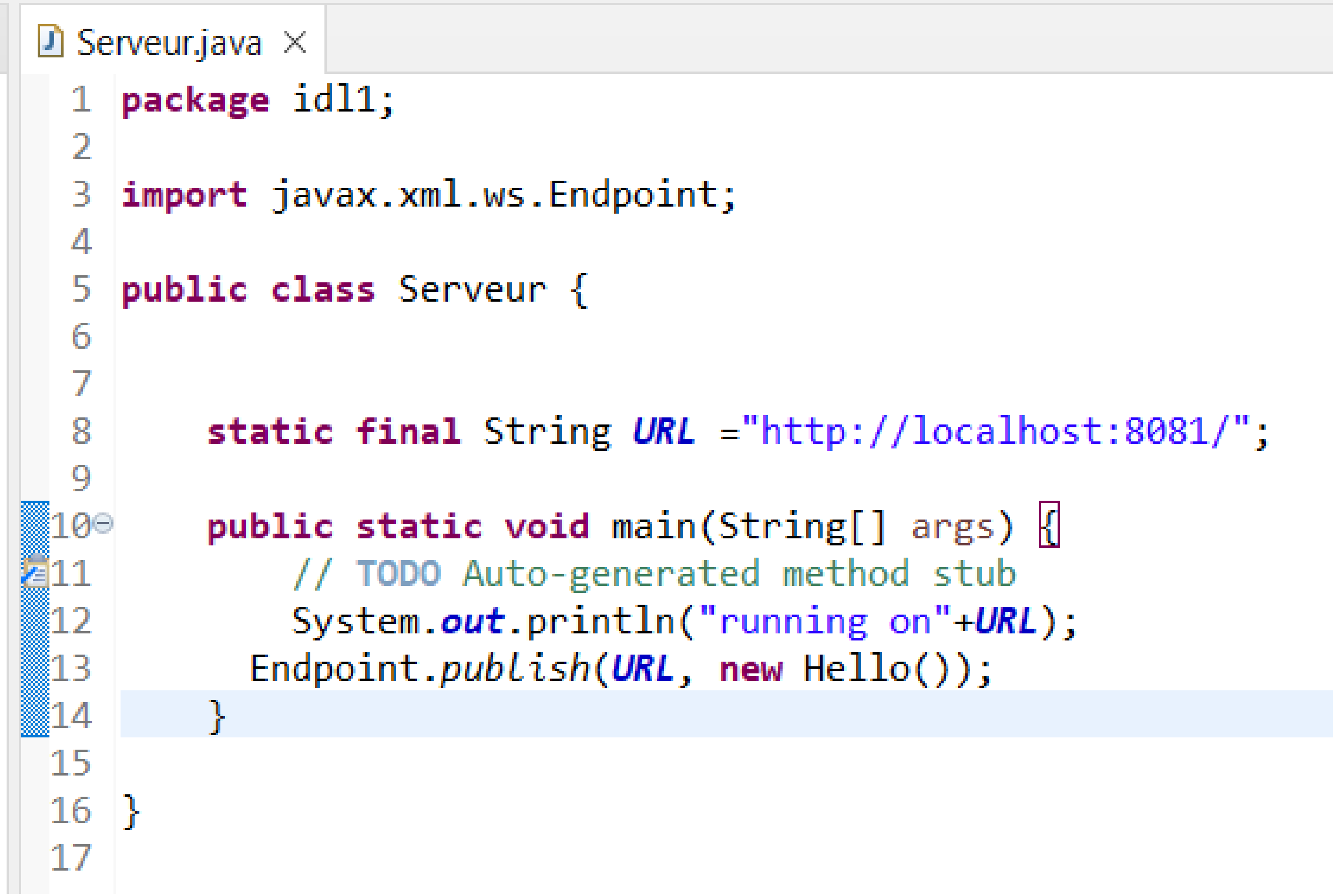
```
package idl1;
import java.util.ArrayList;
import java.util.List;
import javax.jws.WebMethod;
import javax.jws.WebParam;
import javax.jws.WebService;

@WebService
public class Hello {
    @WebMethod
   public String sayHello(){
    return "HELLO WORLD";
     }
    @WebMethod
    public int somme(@WebParam(name="a")int a ,@WebParam(name="b") int b ){
        return a+b;}

    @WebMethod
    public int soustraction(@WebParam(name="a")int a ,@WebParam(name="b") int b ){
        return a-b;
    }

    @WebMethod
    public int multiplication(@WebParam(name="a")int a ,@WebParam(name="b") int b ){
        return a*b;
    }
}
```

Cette classe permet de définir l'implémentation des méthodes somme, soustraction, multiplication et sayhello

EXERCICE 1

Classe Serveur

La classe «Serveur» permet d'instancier le service et l'associer à une URL pour l'accéder à distance grâce à la méthode Endpoint.publish

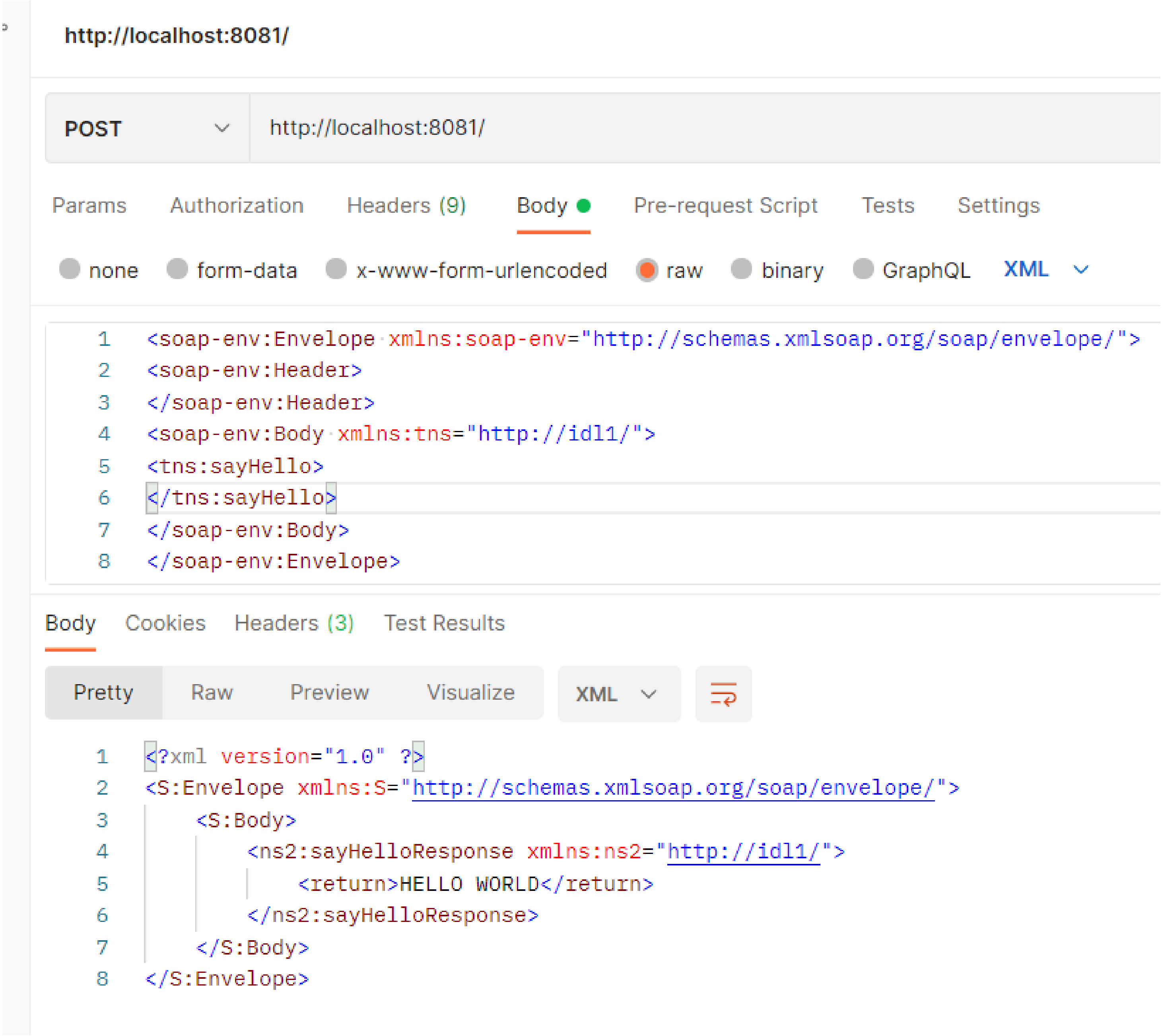


```java
package idl1;

import javax.xml.ws.Endpoint;

public class Serveur {


    static final String URL ="http://localhost:8081/";

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        System.out.println("running on"+URL);
      Endpoint.publish(URL, new Hello());
    }

}

```

EXERCICE 1

Capture Postman

Exécution de la méthode «sayHello» qui permet d'afficher le message "Hello Word"

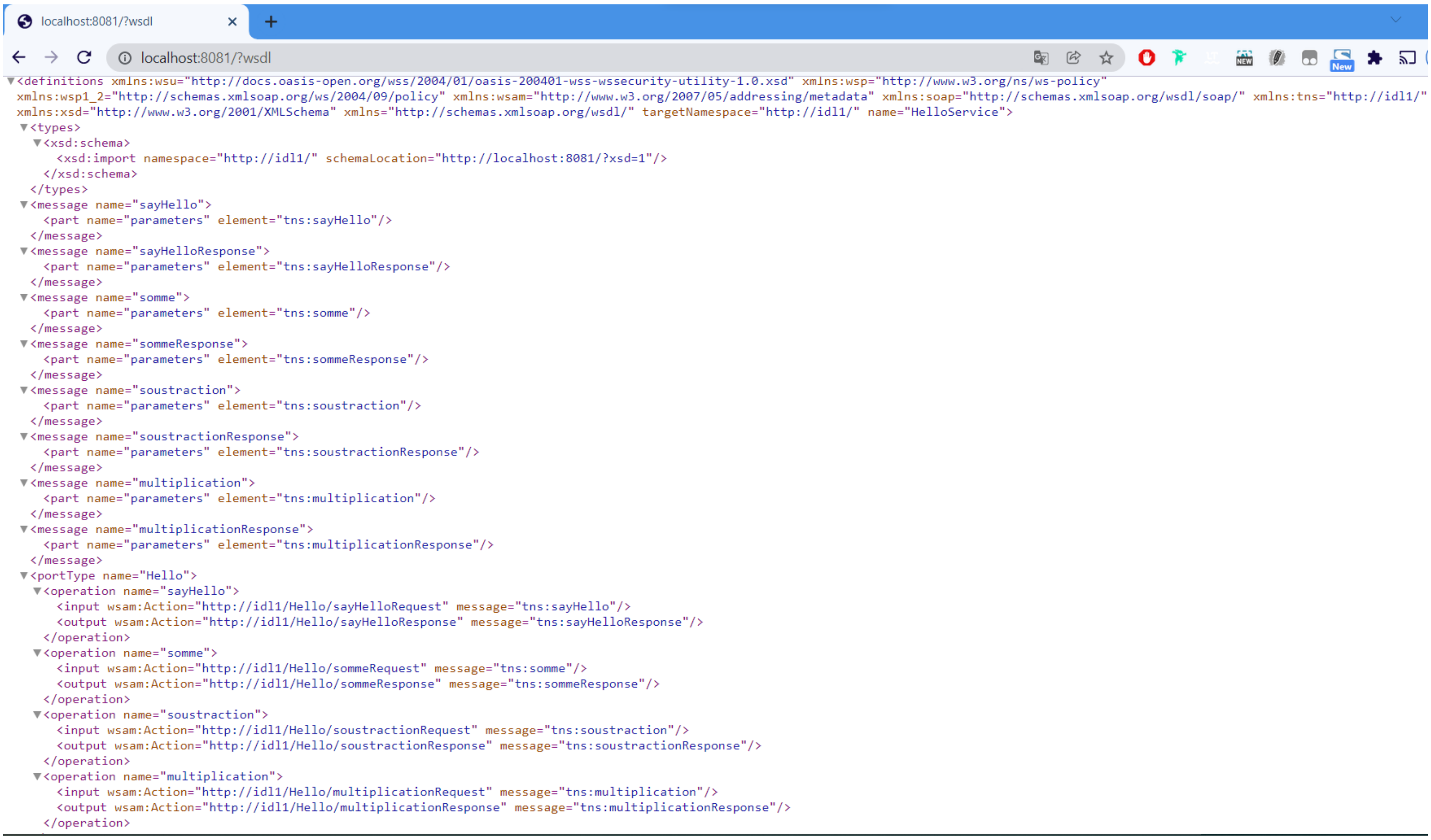


```
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:sayHello>
</tns:sayHello>
</soap-env:Body>
</soap-env:Envelope>
```

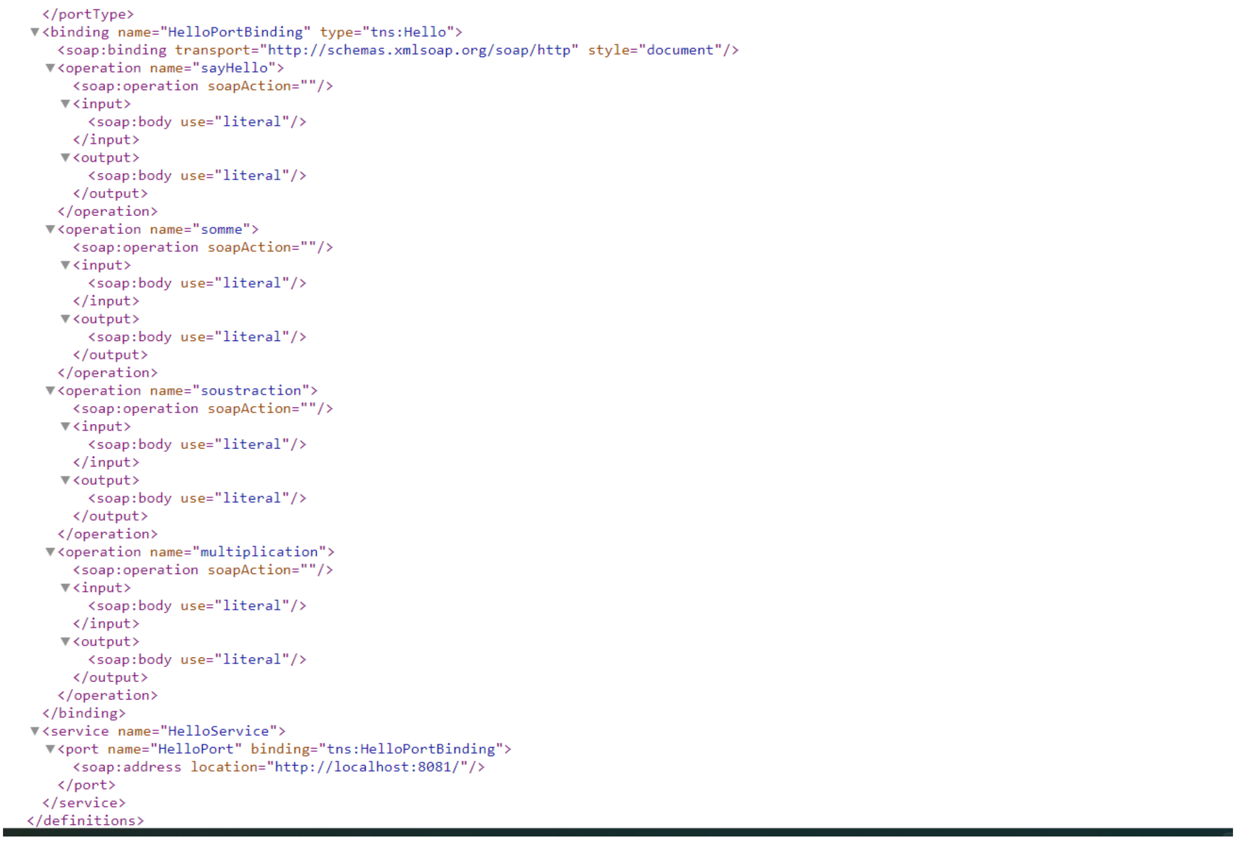
```
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:sayHelloResponse xmlns:ns2="http://idl1/">
            <return>HELLO WORLD</return>
        </ns2:sayHelloResponse>
    </S:Body>
</S:Envelope>
```

EXERCICE 1

Fichier wsdl



```
▼<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://idl1/"
 xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://idl1/" name="HelloService">
  ▼<types>
    ▼<xsd:schema>
       <xsd:import namespace="http://idl1/" schemaLocation="http://localhost:8081/?xsd=1"/>
     </xsd:schema>
   </types>
  ▼<message name="sayHello">
     <part name="parameters" element="tns:sayHello"/>
   </message>
  ▼<message name="sayHelloResponse">
     <part name="parameters" element="tns:sayHelloResponse"/>
   </message>
  ▼<message name="somme">
     <part name="parameters" element="tns:somme"/>
   </message>
  ▼<message name="sommeResponse">
     <part name="parameters" element="tns:sommeResponse"/>
   </message>
  ▼<message name="soustraction">
     <part name="parameters" element="tns:soustraction"/>
   </message>
  ▼<message name="soustractionResponse">
     <part name="parameters" element="tns:soustractionResponse"/>
   </message>
  ▼<message name="multiplication">
     <part name="parameters" element="tns:multiplication"/>
   </message>
  ▼<message name="multiplicationResponse">
     <part name="parameters" element="tns:multiplicationResponse"/>
   </message>
  ▼<portType name="Hello">
    ▼<operation name="sayHello">
       <input wsam:Action="http://idl1/Hello/sayHelloRequest" message="tns:sayHello"/>
       <output wsam:Action="http://idl1/Hello/sayHelloResponse" message="tns:sayHelloResponse"/>
     </operation>
    ▼<operation name="somme">
       <input wsam:Action="http://idl1/Hello/sommeRequest" message="tns:somme"/>
       <output wsam:Action="http://idl1/Hello/sommeResponse" message="tns:sommeResponse"/>
     </operation>
    ▼<operation name="soustraction">
       <input wsam:Action="http://idl1/Hello/soustractionRequest" message="tns:soustraction"/>
       <output wsam:Action="http://idl1/Hello/soustractionResponse" message="tns:soustractionResponse"/>
     </operation>
    ▼<operation name="multiplication">
       <input wsam:Action="http://idl1/Hello/multiplicationRequest" message="tns:multiplication"/>
       <output wsam:Action="http://idl1/Hello/multiplicationResponse" message="tns:multiplicationResponse"/>
     </operation>
```

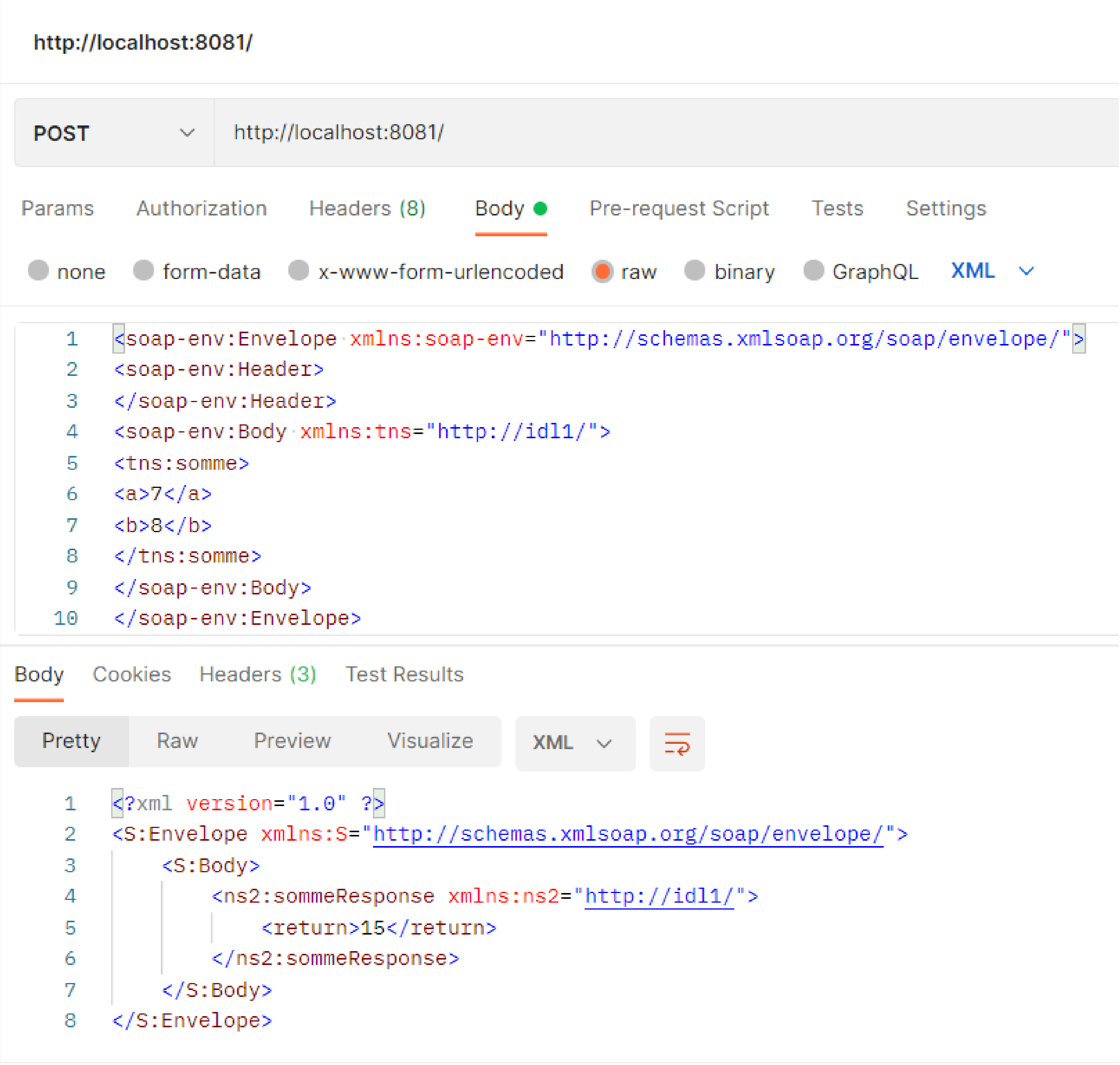


```
   </portType>
  ▼<binding name="HelloPortBinding" type="tns:Hello">
     <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
    ▼<operation name="sayHello">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
    ▼<operation name="somme">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
    ▼<operation name="soustraction">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
    ▼<operation name="multiplication">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
   </binding>
  ▼<service name="HelloService">
    ▼<port name="HelloPort" binding="tns:HelloPortBinding">
       <soap:address location="http://localhost:8081/"/>
     </port>
   </service>
 </definitions>
```

EXERCICE 1

Capture Postman

Exécution de la méthode «somme»



POST http://localhost:8081/

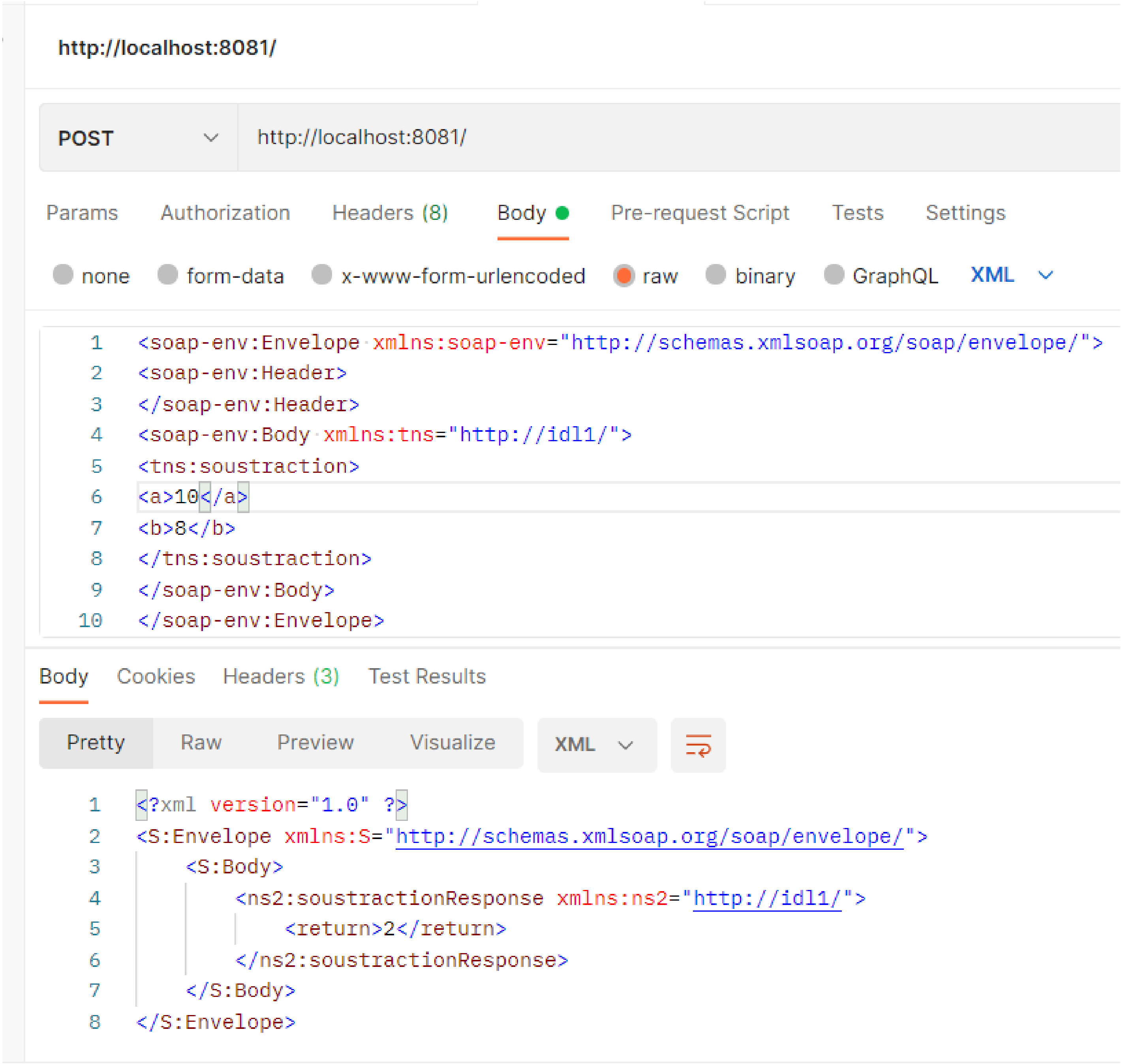
```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:somme>
<a>7</a>
<b>8</b>
</tns:somme>
</soap-env:Body>
</soap-env:Envelope>
```

```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:sommeResponse xmlns:ns2="http://idl1/">
            <return>15</return>
        </ns2:sommeResponse>
    </S:Body>
</S:Envelope>
```

EXERCICE 1

Capture Postman

Exécution de la méthode «soustraction»



http://localhost:8081/

POST http://localhost:8081/

Body: ● raw XML

```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:soustraction>
<a>10</a>
<b>8</b>
</tns:soustraction>
</soap-env:Body>
</soap-env:Envelope>
```

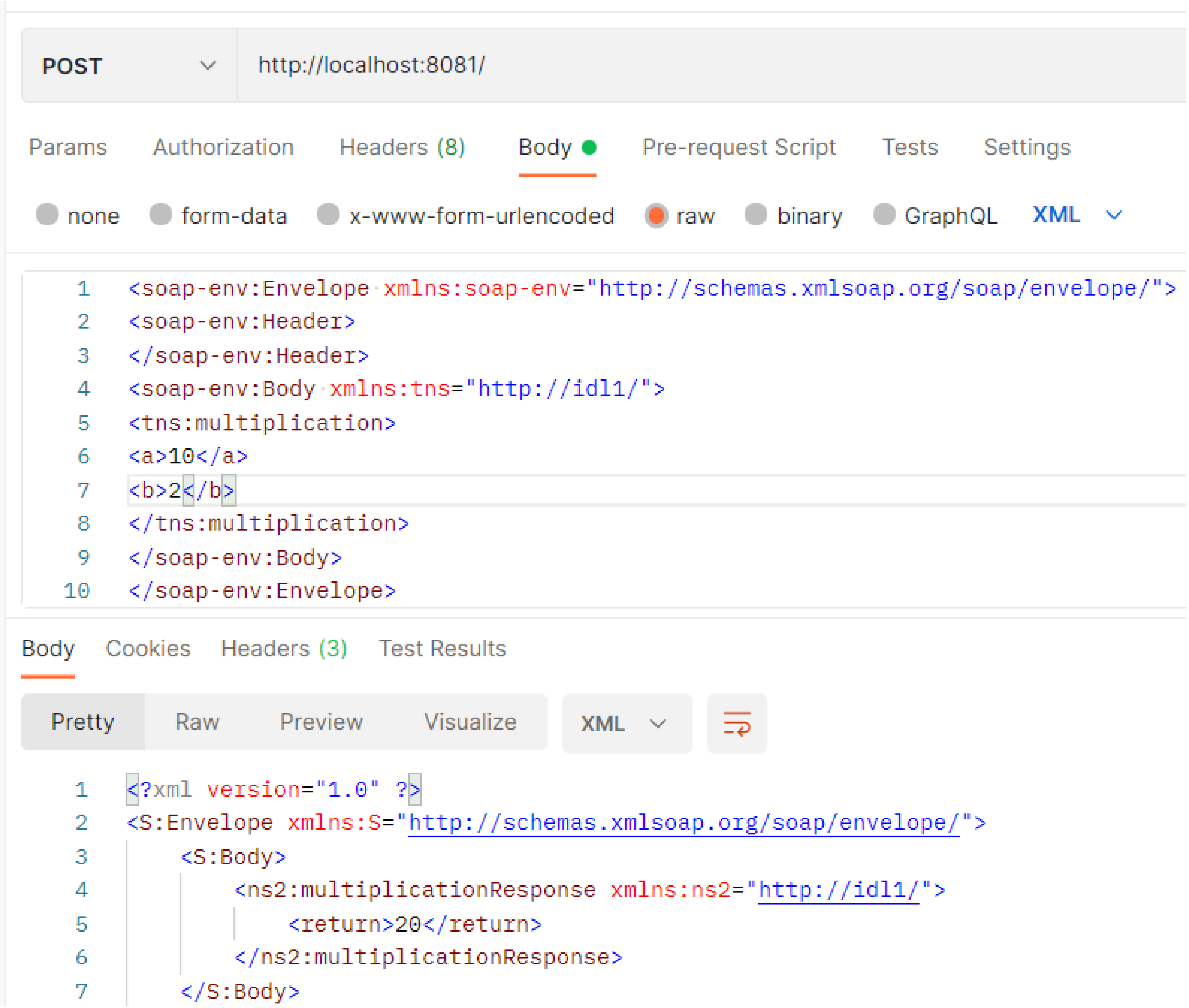
Body — Pretty — XML

```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:soustractionResponse xmlns:ns2="http://idl1/">
            <return>2</return>
        </ns2:soustractionResponse>
    </S:Body>
</S:Envelope>
```

EXERCICE 1

Capture Postman

Exécution de la méthode «multiplication»



POST http://localhost:8081/

```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:multiplication>
<a>10</a>
<b>2</b>
</tns:multiplication>
</soap-env:Body>
</soap-env:Envelope>
```

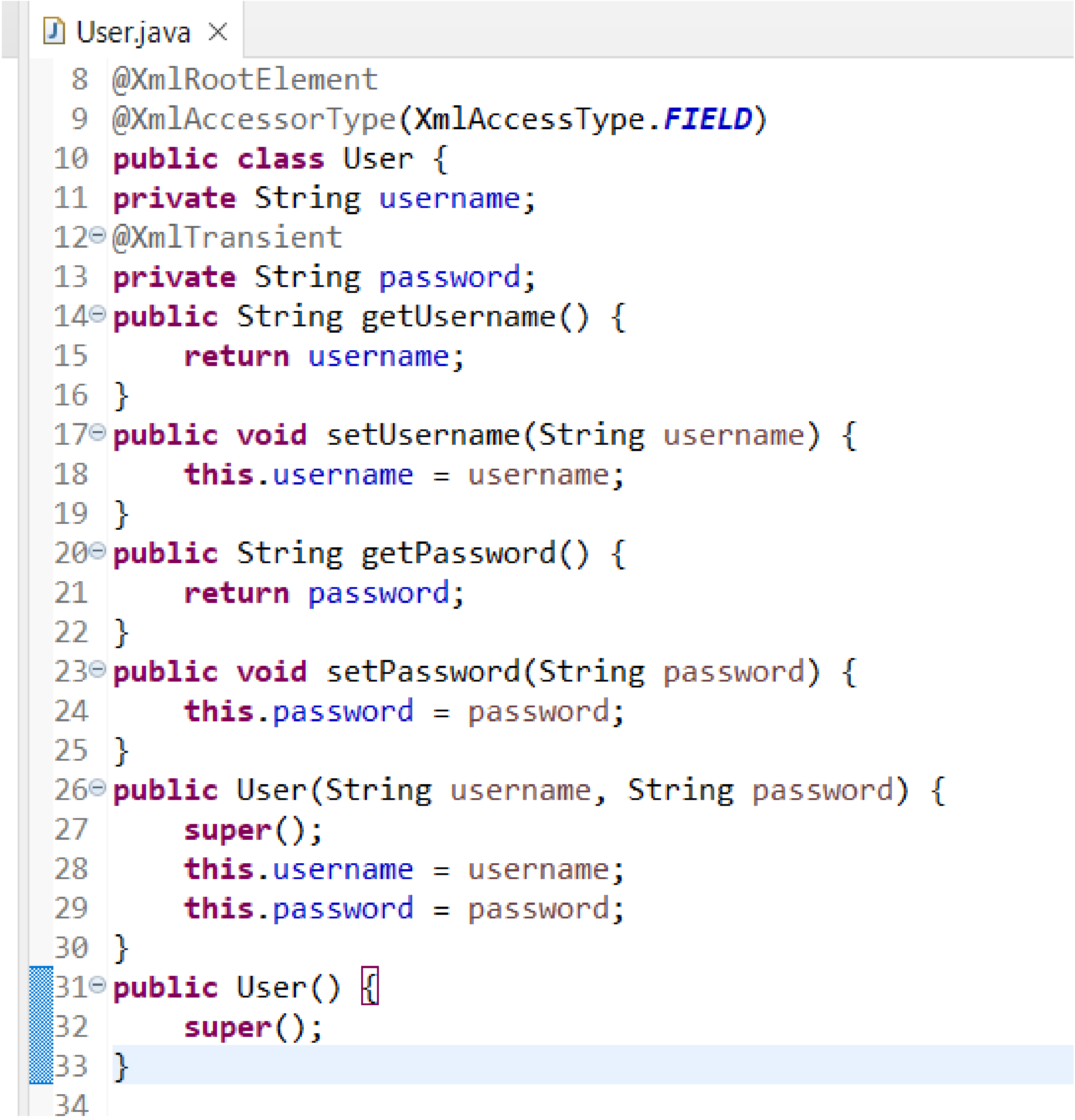
```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:multiplicationResponse xmlns:ns2="http://idl1/">
            <return>20</return>
        </ns2:multiplicationResponse>
    </S:Body>
```

EXERCICE 2

Création du web services permettant d'ajouter un utilisateur, supprimer un utilisateur, d'afficher les utilisateurs

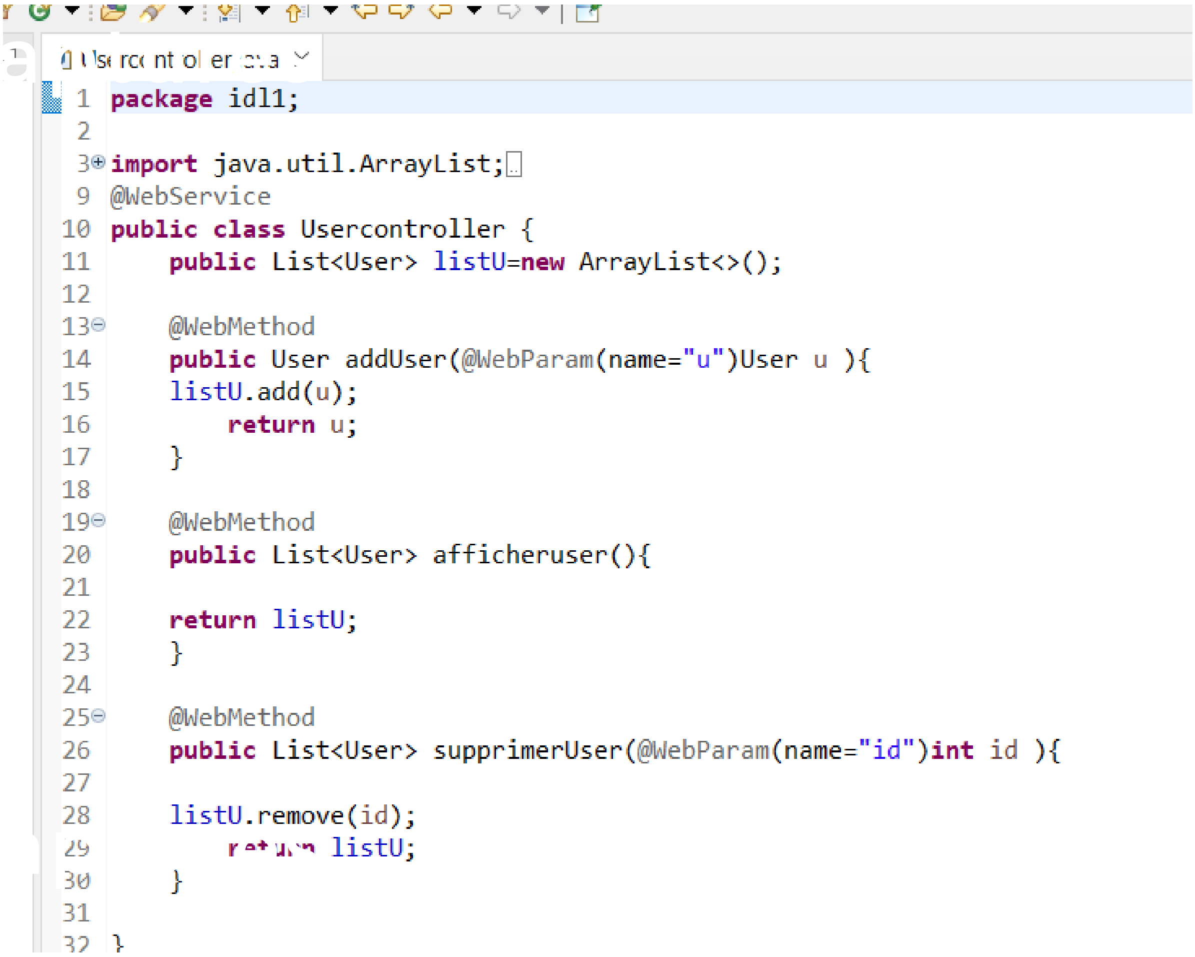
Captures

L'image présente l'implémentation de la classe User contenant les attributs username et password:



```java
@XmlRootElement
@XmlAccessorType(XmlAccessType.FIELD)
public class User {
private String username;
@XmlTransient
private String password;
public String getUsername() {
    return username;
}
public void setUsername(String username) {
    this.username = username;
}
public String getPassword() {
    return password;
}
public void setPassword(String password) {
    this.password = password;
}
public User(String username, String password) {
    super();
    this.username = username;
    this.password = password;
}
public User() {
    super();
}
```

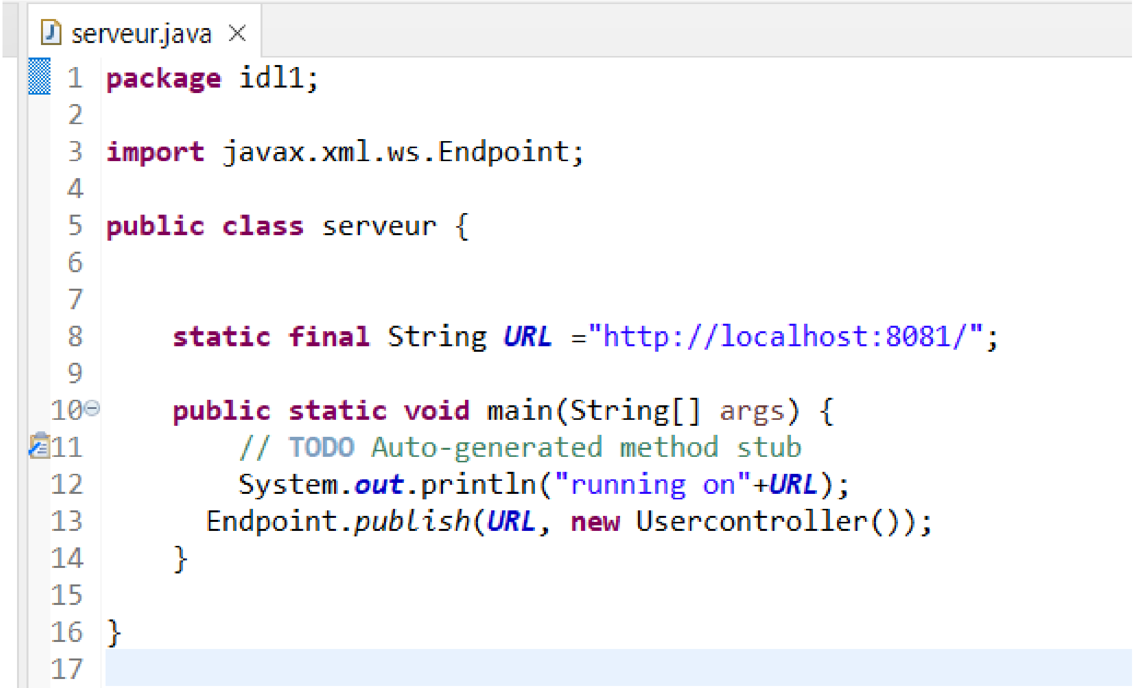
La classe«Usercontroller»:



```java
package idl1;

import java.util.ArrayList;□
@WebService
public class Usercontroller {
    public List<User> listU=new ArrayList<>();

    @WebMethod
    public User addUser(@WebParam(name="u")User u ){
    listU.add(u);
        return u;
    }

    @WebMethod
    public List<User> afficheruser(){

    return listU;
    }

    @WebMethod
    public List<User> supprimerUser(@WebParam(name="id")int id ){

    listU.remove(id);
        return listU;
    }

}
```

Cette classe permet de définir l'implémentation des méthodes du web services

La classe« Serveur»:

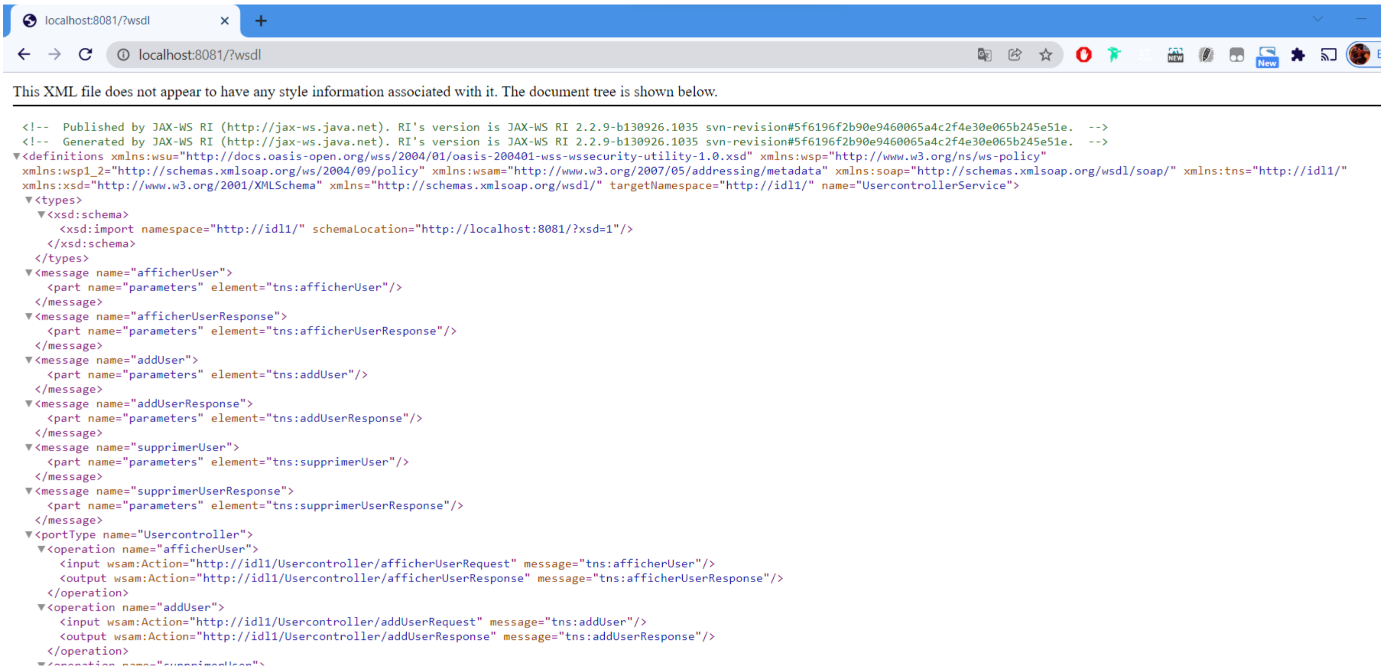


```java
package idl1;

import javax.xml.ws.Endpoint;

public class serveur {


    static final String URL ="http://localhost:8081/";

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        System.out.println("running on"+URL);
      Endpoint.publish(URL, new Usercontroller());
    }

}

```

Cette classe permet d'instancier le service, l'associer à une URL pour l'accéder à distance grâce à la méthode Endpoint.publish

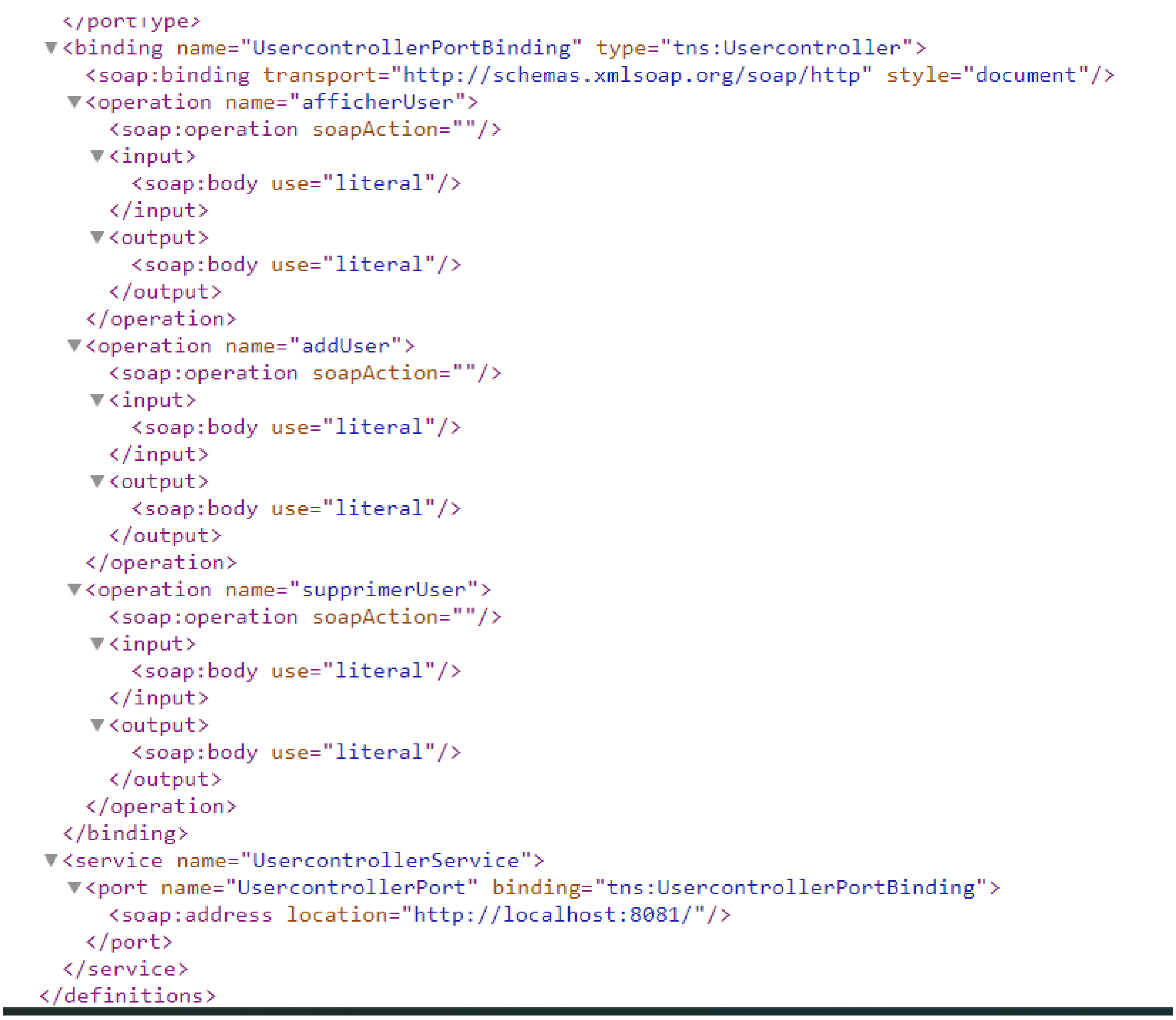
EXERCICE 2

Fichier wsdl



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

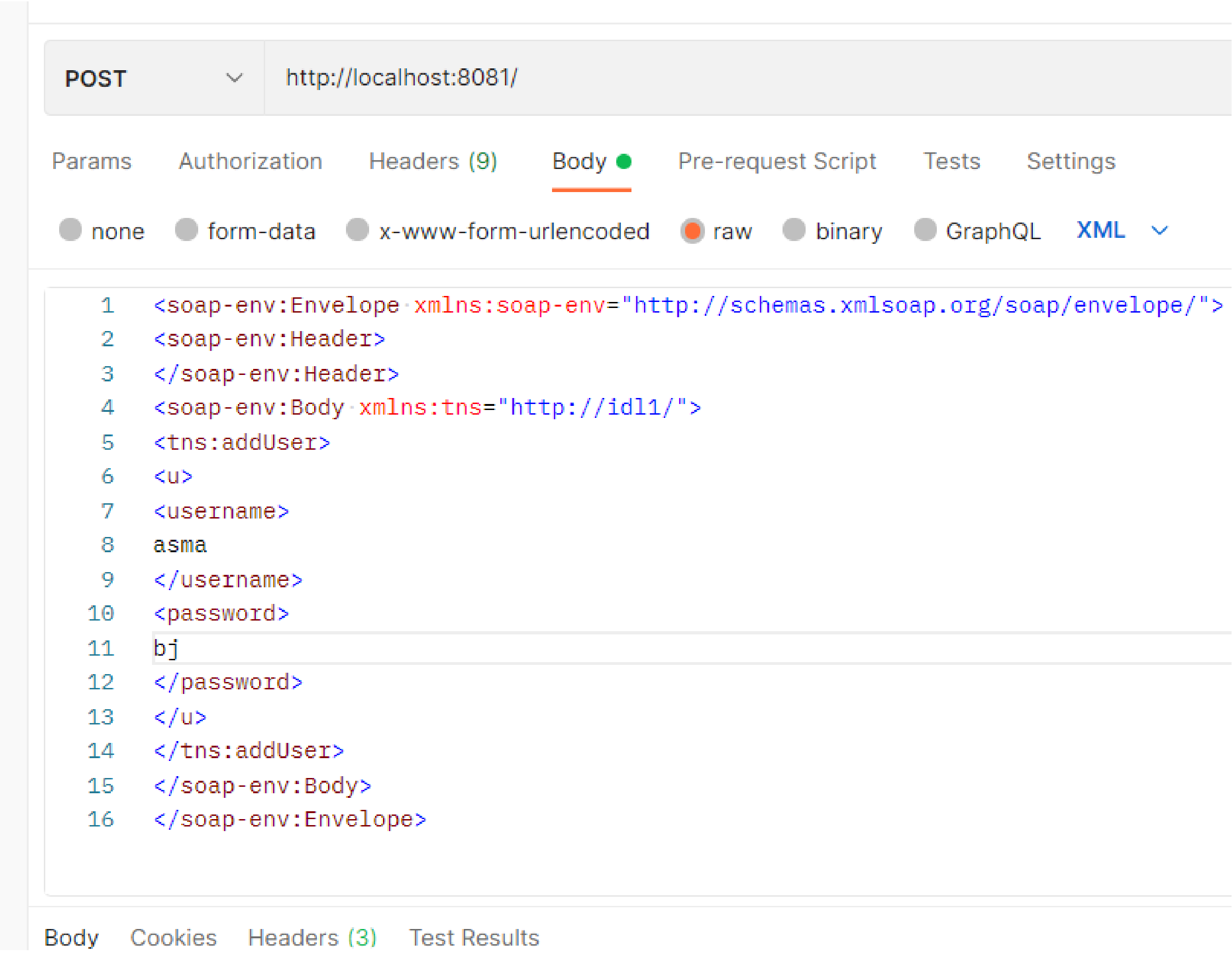
```
<!--  Published by JAX-WS RI (http://jax-ws.java.net). RI's version is JAX-WS RI 2.2.9-b130926.1035 svn-revision#5f6196f2b90e9460065a4c2f4e30e065b245e51e.  -->
<!--  Generated by JAX-WS RI (http://jax-ws.java.net). RI's version is JAX-WS RI 2.2.9-b130926.1035 svn-revision#5f6196f2b90e9460065a4c2f4e30e065b245e51e.  -->
▼<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://idl1/"
 xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://idl1/" name="UsercontrollerService">
  ▼<types>
    ▼<xsd:schema>
       <xsd:import namespace="http://idl1/" schemaLocation="http://localhost:8081/?xsd=1"/>
     </xsd:schema>
   </types>
  ▼<message name="afficherUser">
     <part name="parameters" element="tns:afficherUser"/>
   </message>
  ▼<message name="afficherUserResponse">
     <part name="parameters" element="tns:afficherUserResponse"/>
   </message>
  ▼<message name="addUser">
     <part name="parameters" element="tns:addUser"/>
   </message>
  ▼<message name="addUserResponse">
     <part name="parameters" element="tns:addUserResponse"/>
   </message>
  ▼<message name="supprimerUser">
     <part name="parameters" element="tns:supprimerUser"/>
   </message>
  ▼<message name="supprimerUserResponse">
     <part name="parameters" element="tns:supprimerUserResponse"/>
   </message>
  ▼<portType name="Usercontroller">
    ▼<operation name="afficherUser">
       <input wsam:Action="http://idl1/Usercontroller/afficherUserRequest" message="tns:afficherUser"/>
       <output wsam:Action="http://idl1/Usercontroller/afficherUserResponse" message="tns:afficherUserResponse"/>
     </operation>
    ▼<operation name="addUser">
       <input wsam:Action="http://idl1/Usercontroller/addUserRequest" message="tns:addUser"/>
       <output wsam:Action="http://idl1/Usercontroller/addUserResponse" message="tns:addUserResponse"/>
     </operation>
    ▼<operation name="supprimerUser">
```



```
   </portType>
  ▼<binding name="UsercontrollerPortBinding" type="tns:Usercontroller">
     <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
    ▼<operation name="afficherUser">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
    ▼<operation name="addUser">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
    ▼<operation name="supprimerUser">
       <soap:operation soapAction=""/>
      ▼<input>
         <soap:body use="literal"/>
       </input>
      ▼<output>
         <soap:body use="literal"/>
       </output>
     </operation>
   </binding>
  ▼<service name="UsercontrollerService">
    ▼<port name="UsercontrollerPort" binding="tns:UsercontrollerPortBinding">
       <soap:address location="http://localhost:8081/"/>
     </port>
   </service>
 </definitions>
```

Captures Postman

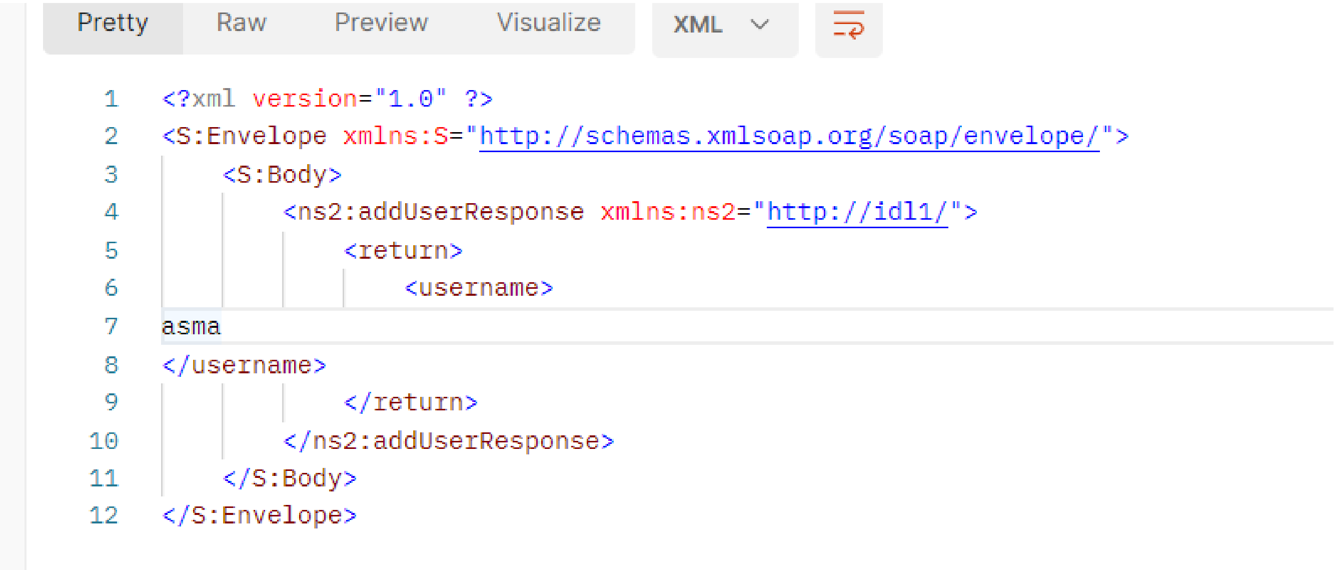
Ajouter le premier utilisateur de la méthode "addUser"



POST http://localhost:8081/

```
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:addUser>
<u>
<username>
asma
</username>
<password>
bj
</password>
</u>
</tns:addUser>
</soap-env:Body>
</soap-env:Envelope>
```

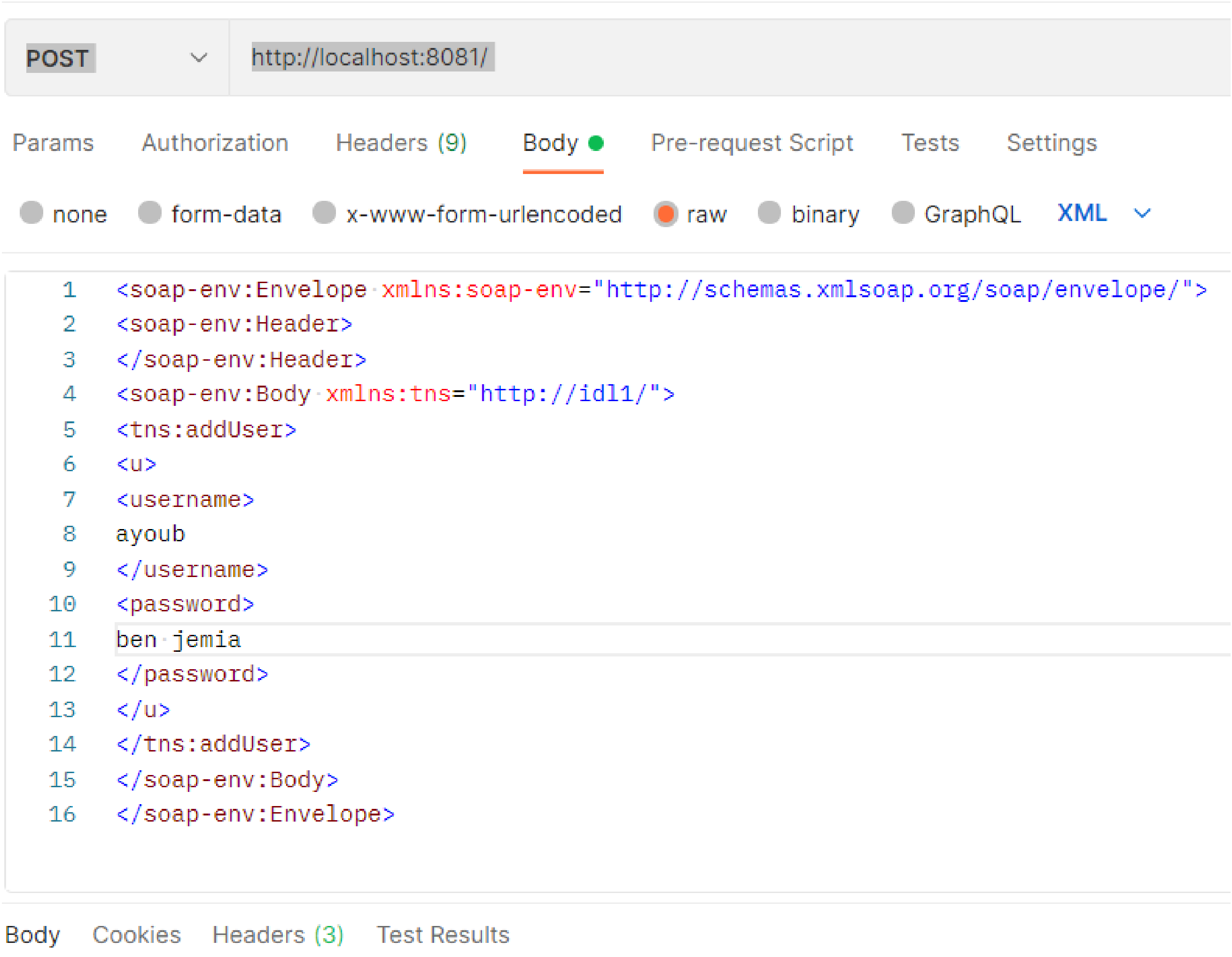
Resultat:



```
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:addUserResponse xmlns:ns2="http://idl1/">
            <return>
                <username>
asma
</username>
            </return>
        </ns2:addUserResponse>
    </S:Body>
</S:Envelope>
```

Captures Postman

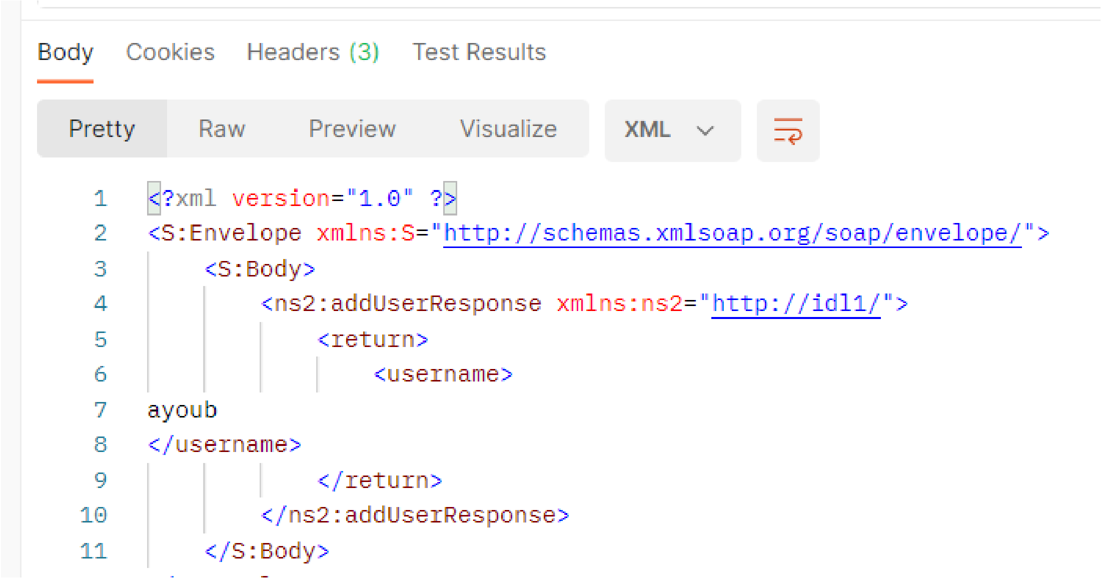
Ajouter le deuxiéme utilisateur de la méthode "addUser"



POST http://localhost:8081/

```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:addUser>
<u>
<username>
ayoub
</username>
<password>
ben jemia
</password>
</u>
</tns:addUser>
</soap-env:Body>
</soap-env:Envelope>
```

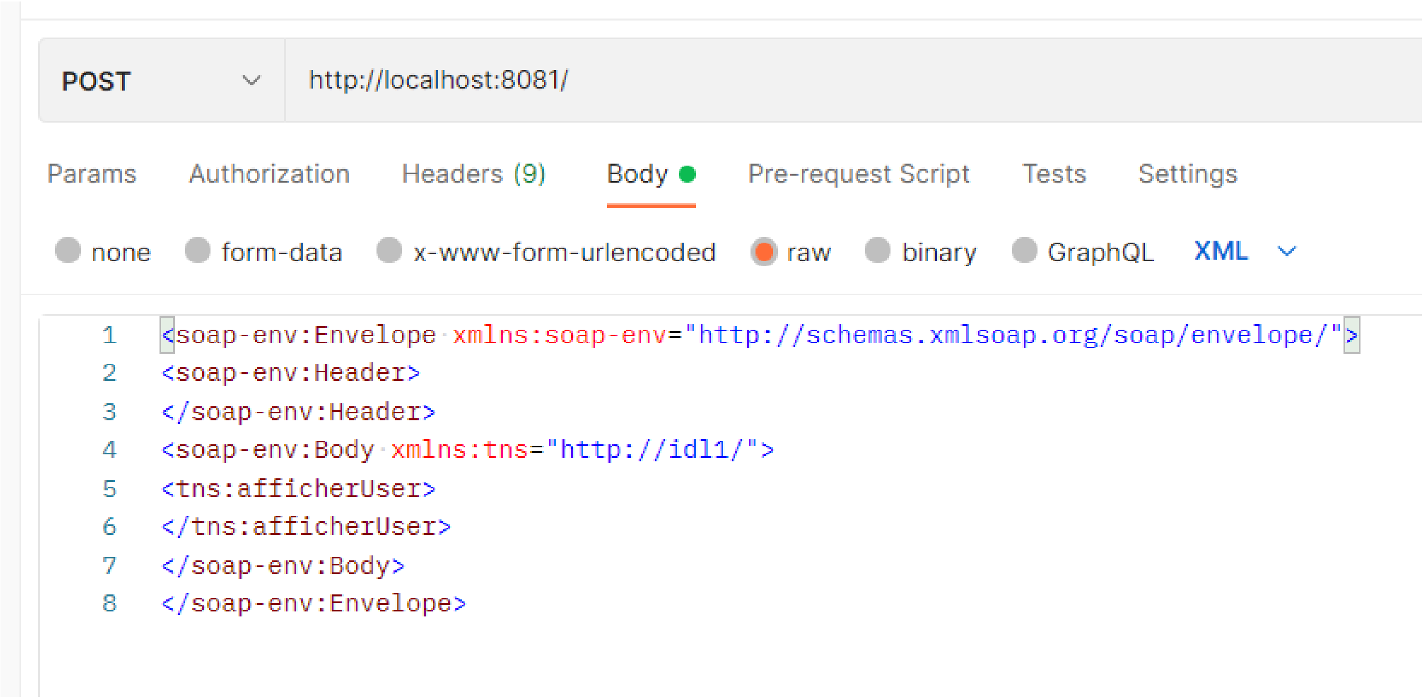
Resultat:



```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:addUserResponse xmlns:ns2="http://idl1/">
            <return>
                <username>
ayoub
</username>
            </return>
        </ns2:addUserResponse>
    </S:Body>
```

Captures Postman

Test de la méthode "afficherUser"

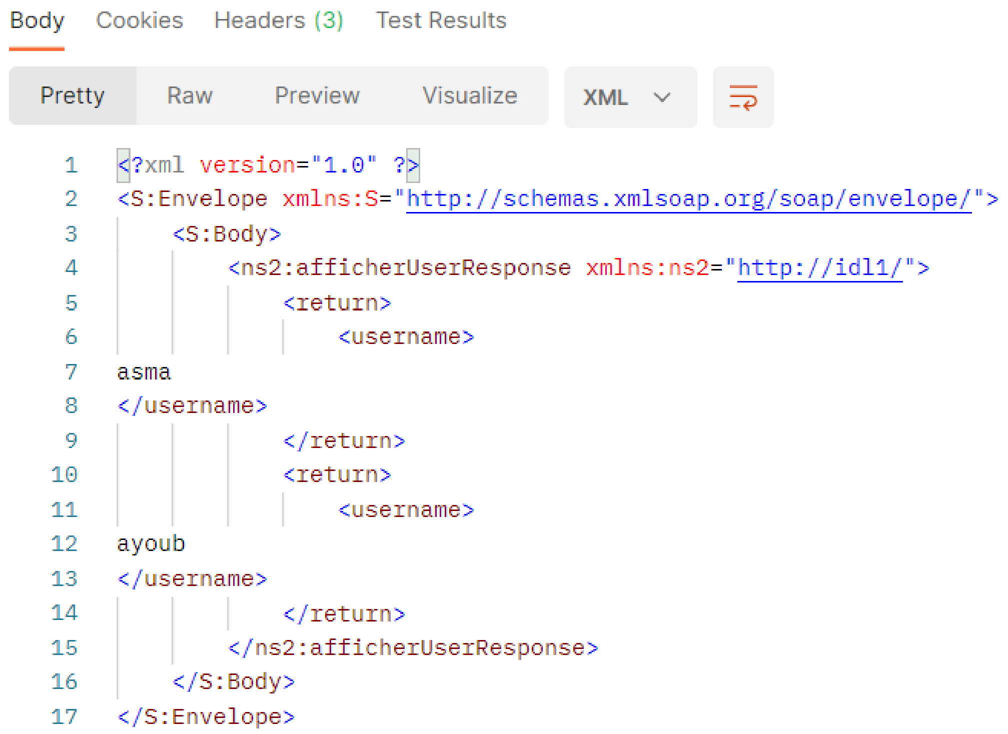


POST http://localhost:8081/

○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL XML

```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:afficherUser>
</tns:afficherUser>
</soap-env:Body>
</soap-env:Envelope>
```

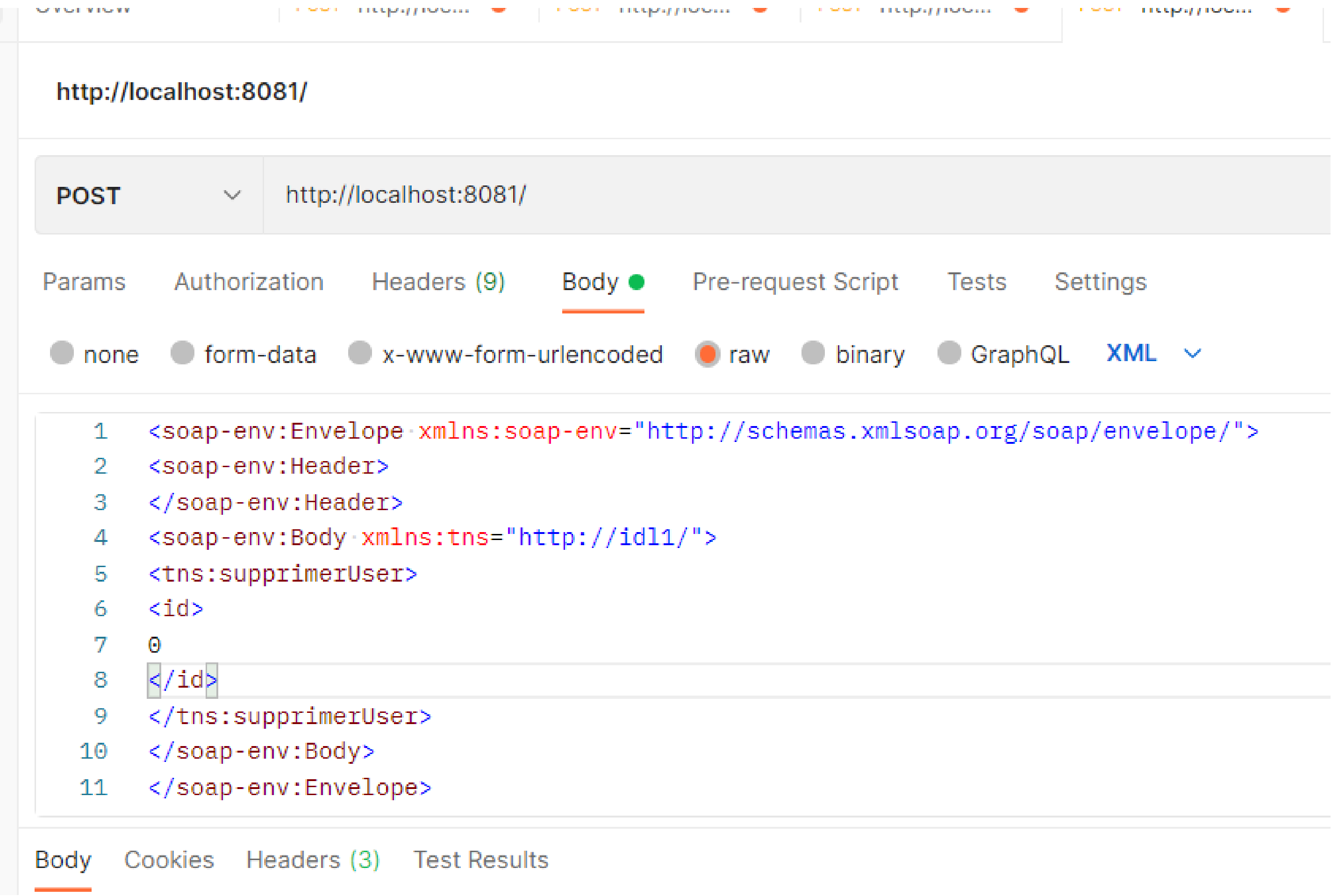
Resultat:



```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:afficherUserResponse xmlns:ns2="http://idl1/">
            <return>
                <username>
asma
</username>
            </return>
            <return>
                <username>
ayoub
</username>
            </return>
        </ns2:afficherUserResponse>
    </S:Body>
</S:Envelope>
```

Captures Postman

Test de la méthode "supprimerUser"

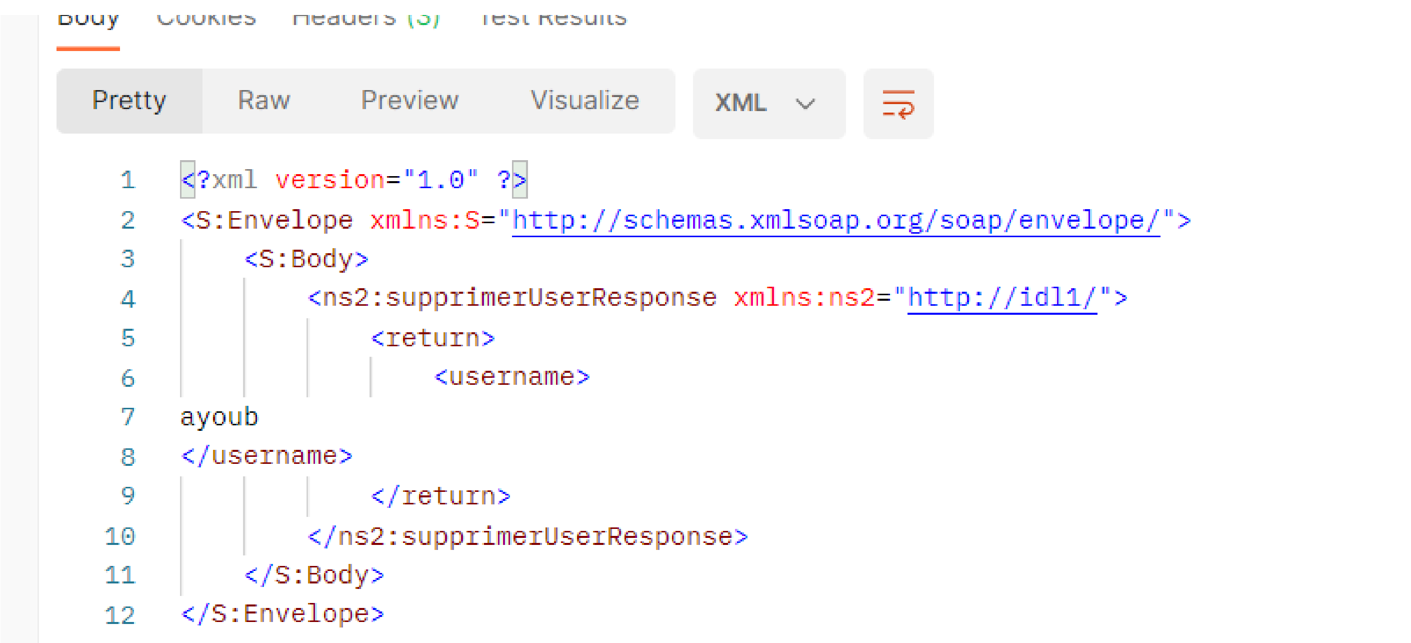


http://localhost:8081/

POST http://localhost:8081/

```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:supprimerUser>
<id>
0
</id>
</tns:supprimerUser>
</soap-env:Body>
</soap-env:Envelope>
```

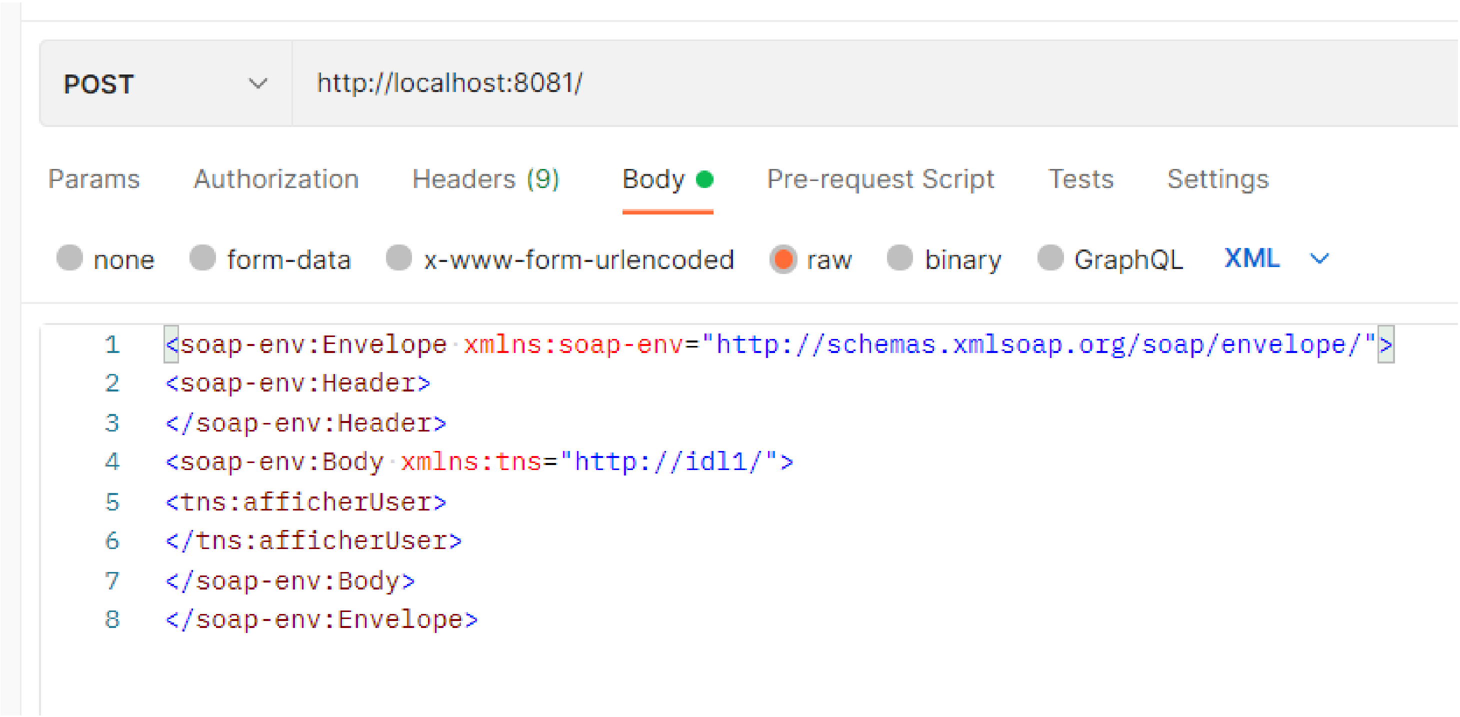
Resultat:



```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:supprimerUserResponse xmlns:ns2="http://idl1/">
            <return>
                <username>
ayoub
</username>
            </return>
        </ns2:supprimerUserResponse>
    </S:Body>
</S:Envelope>
```

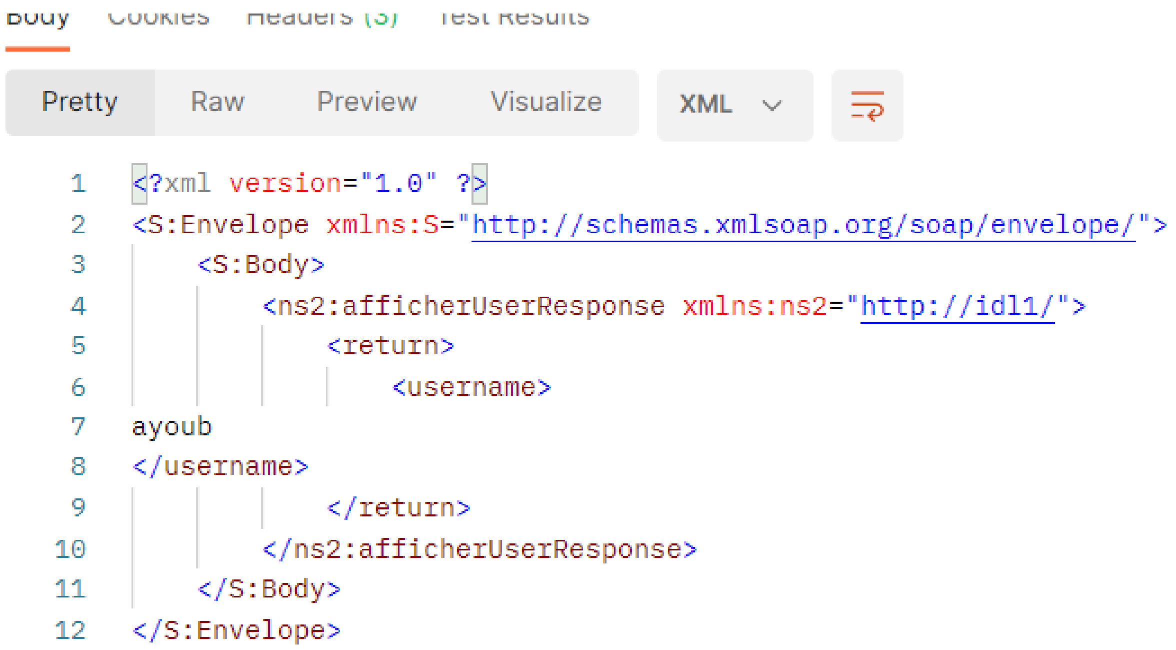
Captures Postman

Vérification avec la méthode "afficherUser"



```xml
<soap-env:Envelope xmlns:soap-env="http://schemas.xmlsoap.org/soap/envelope/">
<soap-env:Header>
</soap-env:Header>
<soap-env:Body xmlns:tns="http://idl1/">
<tns:afficherUser>
</tns:afficherUser>
</soap-env:Body>
</soap-env:Envelope>
```

Resultat:



```xml
<?xml version="1.0" ?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/">
    <S:Body>
        <ns2:afficherUserResponse xmlns:ns2="http://idl1/">
            <return>
                <username>
ayoub
</username>
            </return>
        </ns2:afficherUserResponse>
    </S:Body>
</S:Envelope>
```