

Universidad De las Américas

Facultad de Ingeniería y ciencias aplicadas

Taller SOAP

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Usar un Soap Web service en python

Usamos el servicio online : [http://www.dneonline.com/calculator.asmx?](http://www.dneonline.com/calculator.asmx?op=Add), que es una calculadora que realiza las operaciones basicas (sumar restar multiplicar y dividir) usando webservices

The screenshot shows a web browser window with the URL www.dneonline.com/calculator.asmx?op=Add. The page title is "Calculator". Below the title, there is a link to a complete list of operations. The main content area is titled "Add" and describes the service as a test WebService. It includes a "Test" section with a note that the test form is only available for requests from the local machine. Below this, there is a "SOAP 1.1" section with a sample request and response. The request is a POST to /calculator.asmx HTTP/1.1 with a SOAPAction of "http://tempuri.org/Add". The response is an HTTP/1.1 200 OK with a SOAP response containing an AddResult.

```
POST /calculator.asmx HTTP/1.1
Host: www.dneonline.com
Content-Type: text/xml; charset=utf-8
Content-Length: length
SOAPAction: "http://tempuri.org/Add"

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <Add xmlns="http://tempuri.org/">
      <int>int</int>
      <int>int</int>
    </Add>
  </soap:Body>
</soap:Envelope>

HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: length

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <AddResponse xmlns="http://tempuri.org/">
      <AddResult>int</AddResult>
    </AddResponse>
  </soap:Body>
</soap:Envelope>
```

Aqui podemos ver como nos da un ejemplo de como usar y solicitar el servicio por medio de su API,

The following is a sample SOAP 1.1 request and response. The placeholders shown need to be replaced with actual values.

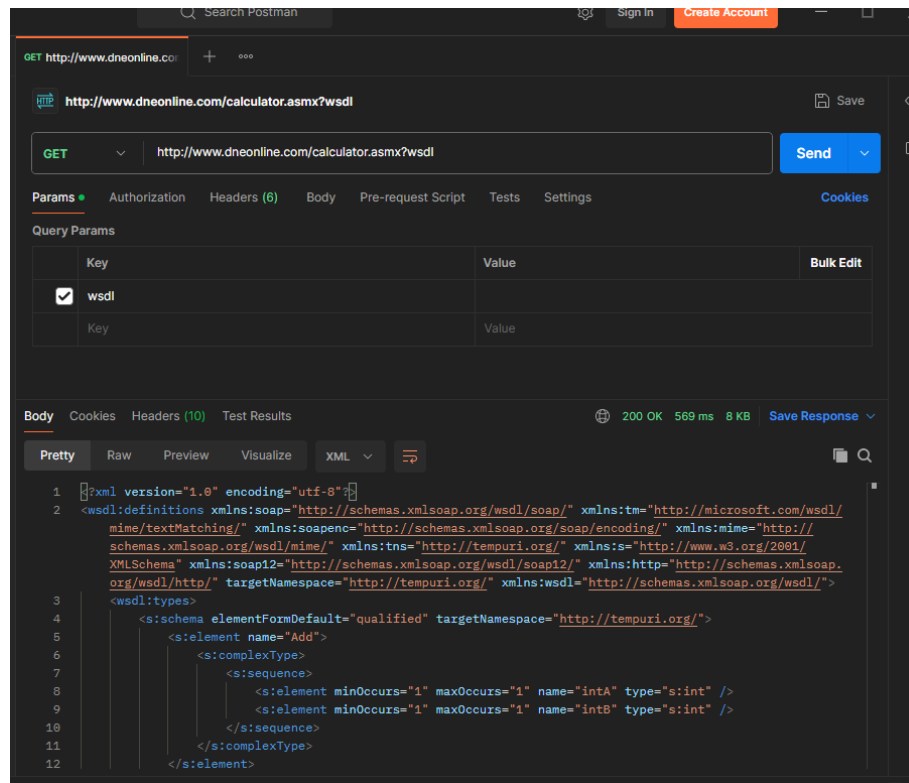
```
POST /calculator.asmx HTTP/1.1
Host: www.dneonline.com
Content-Type: text/xml; charset=utf-8
Content-Length: length
SOAPAction: "http://tempuri.org/Add"

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <Add xmlns="http://tempuri.org/">
      <int>int</int>
      <int>int</int>
    </Add>
  </soap:Body>
</soap:Envelope>
```

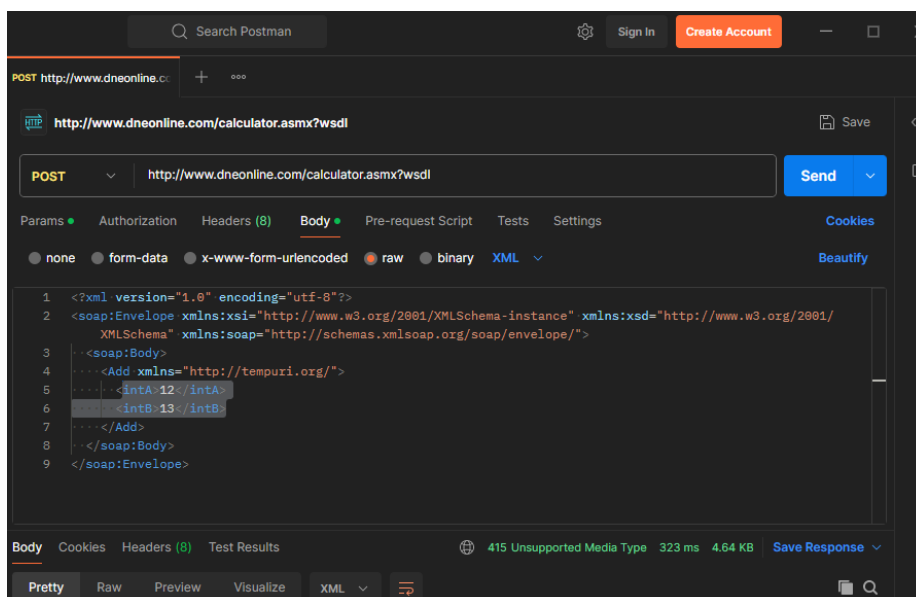
Probamos con el metodo SOAP de anadir usando postman y como podemos ver en el metodo GET requiere dos parametros , 2 numeros de tipo entero en este ejemplo (12 y 13) que introduciremos en modo RAW- TEXT en la peticion y el web service nos otorga este response :

```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: length

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <AddResponse xmlns="http://tempuri.org/">
      <AddResult>int</AddResult>
    </AddResponse>
  </soap:Body>
</soap:Envelope>
```



el cual es un numero entero también , podemos comprobarlo si ejecutamos un metodo POST :



Vamos a realizar esta integración con python , para lo cual usamos un framework llamado “zeep”

```
1 from zeep import Client
2
3 client = Client(wsdl='http://www.dneonline.com/calculator.asmx?wsdl')
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS C:\Users\DVPC\Documents\UDLA\Integracion\deber4> mzeep http://www.dneonline.com/calculator.asmx?wsdl

Prefixes:

- xsd: http://www.w3.org/2001/XMLSchema
- ns0: http://tempuri.org/

Global elements:

- ns0:Add(intA: xsd:int, intB: xsd:int)
- ns0:AddResponse(AddResult: xsd:int)
- ns0:Divide(intA: xsd:int, intB: xsd:int)
- ns0:DivideResponse(DivideResult: xsd:int)
- ns0:Multiply(intA: xsd:int, intB: xsd:int)
- ns0:MultiplyResponse(MultiplyResult: xsd:int)
- ns0:Subtract(intA: xsd:int, intB: xsd:int)
- ns0:SubtractResponse(SubtractResult: xsd:int)

Global types:

- xsd:anyType
- xsd:ENTITIES
- xsd:ENTITY
- xsd:ID
- xsd:IDREF
- xsd:IDREFS
- xsd:NCName
- xsd:NMTOKEN
- xsd:NMTOKENS
- xsd:NOTATION
- xsd:Name
- xsd:QName
- xsd:anySimpleType

Importamos el cliente de Zeep , iniciamos el cliente y conectamos a la URL de la api y lo que zeep hace es importar la definicion del Schema como podemos ver a continuacion :

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

- xsd:nonPositiveInteger
- xsd:normalizedString
- xsd:positiveInteger
- xsd:short
- xsd:string
- xsd:time
- xsd:token
- xsd:unsignedByte
- xsd:unsignedInt
- xsd:unsignedLong
- xsd:unsignedShort

Bindings:

- Soap11Binding: {http://tempuri.org/}CalculatorSoap
- Soap12Binding: {http://tempuri.org/}CalculatorSoap12

Service: Calculator

Port: CalculatorSoap (Soap11Binding: {http://tempuri.org/}CalculatorSoap)

Operations:

- Add(intA: xsd:int, intB: xsd:int) -> AddResult: xsd:int
- Divide(intA: xsd:int, intB: xsd:int) -> DivideResult: xsd:int
- Multiply(intA: xsd:int, intB: xsd:int) -> MultiplyResult: xsd:int
- Subtract(intA: xsd:int, intB: xsd:int) -> SubtractResult: xsd:int

Port: CalculatorSoap12 (Soap12Binding: {http://tempuri.org/}CalculatorSoap12)

Operations:

- Add(intA: xsd:int, intB: xsd:int) -> AddResult: xsd:int
- Divide(intA: xsd:int, intB: xsd:int) -> DivideResult: xsd:int
- Multiply(intA: xsd:int, intB: xsd:int) -> MultiplyResult: xsd:int
- Subtract(intA: xsd:int, intB: xsd:int) -> SubtractResult: xsd:int

y en este apartado esta lo que nos interesa , los servicios conectados , específicamente el servicio de añadir (add), que nos especifica que toma 2 parametros enteros y retorna un valor entero , que seria el resultado de la operación de la calculadora online

Asi que hacemos ese llamado en nuestro proyecto de python con los numeros 12 y 13

```
1 from zeep import Client
2
3 client = Client(wsdl='http://www.dneonline.com/calculator.asmx?wsdl')
4 print(client.service.Add(12, 13))
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL**

```
xsd:nonPositiveInteger
xsd:normalizedString
xsd:positiveInteger
xsd:short
xsd:string
xsd:time
```

guardamos y cuando ejecutamos el archivo .py , ya nos dara el response (25) que es la suma de ambos numeros

```
PS C:\Users\DVPC\Documents\UDLA\Integracion\deber4> python
25
PS C:\Users\DVPC\Documents\UDLA\Integracion\deber4> python
```

link github : <https://github.com/GermanRac/websoap.git>