



Master 1, HMIN202

Comprendre WSDL et SOAP

1 Web Service Description Language

1. Étudiez ligne à ligne le fichier `getDate1.wsdl` afin de comprendre :
 - dans un premier temps, sans se préoccuper des espaces de noms et autres problèmes xml, quel service est déclaré dans ce fichier
 - ensuite les détails xml nécessaires
 - enfin le fonctionnement de la partie concrète (avec les bindings)
2. Quel service est publié dans le fichier `getDate2.wsdl` ?
3. Quel service est publié dans le fichier `getDate3.wsdl` ?
4. Avec la connaissance du fichier `.cs` qui a permis la génération des wsdl, réfléchissez à la bonne façon d'écrire vos méthodes de service de manière à ce que les services soient facilement utilisables.

2 SOAP

1. Étudiez les requêtes SOAP correspondant à un appel au service web `getDate1` défini section précédente de manière à comprendre l'encodage SOAP en fonction du fichier WSDL. Cet encodage dépend de ce qui est spécifié dans les bindings. Vous trouverez des détails à ce sujet à cette adresse :
<http://www.ibm.com/developerworks/webservices/library/ws-whichwsdl/>
2. Mêmes questions pour `getDate2` et `getDate3`.

3 Documents

Listing 1 – `getDate1.wsdl`

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
3   xmlns:tns="http://mondomaine.fr/monAppli"
4   xmlns:s="http://www.w3.org/2001/XMLSchema"
5   xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
6   targetNamespace="http://mondomaine.fr/monAppli"
7   xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
8   <wsdl:types>
9     <s:schema elementFormDefault="qualified" targetNamespace="http://mondomaine.fr/monAppli">
10       <s:element name="getDate1">
11         <s:complexType/>
12       </s:element>
13       <s:element name="getDate1Response">
14         <s:complexType>
15           <s:sequence>
16             <s:element minOccurs="0" maxOccurs="1" name="getDate1Result" type="s:string"/>
17           </s:sequence>
18         </s:complexType>
19       </s:element>
20     </s:schema>
21   </wsdl:types>
22   <wsdl:message name="getDate1SoapIn">
23     <wsdl:part name="parameters" element="tns:getDate1"/>
24   </wsdl:message>
25   <wsdl:message name="getDate1SoapOut">
26     <wsdl:part name="parameters" element="tns:getDate1Response"/>
27   </wsdl:message>
28   <wsdl:portType name="ServiceDateSoap">
29     <wsdl:operation name="getDate1">
30       <wsdl:input message="tns:getDate1SoapIn"/>
31       <wsdl:output message="tns:getDate1SoapOut"/>
32     </wsdl:operation>
33   </wsdl:portType>
34   <wsdl:binding name="ServiceDateSoap" type="tns:ServiceDateSoap">
35     <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
```

```

36     <wsdl:operation name="getDate1">
37       <soap:operation soapAction="http://mondomaine.fr/monAppli/getDate1" style="document"/>
38       <wsdl:input>
39         <soap:body use="literal"/>
40       </wsdl:input>
41       <wsdl:output>
42         <soap:body use="literal"/>
43       </wsdl:output>
44     </wsdl:operation>
45 </wsdl:binding>
46 <wsdl:binding name="ServiceDateSoap12" type="tns:ServiceDateSoap">
47   <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
48   <wsdl:operation name="getDate1">
49     <soap12:operation soapAction="http://mondomaine.fr/monAppli/getDate1" style="document"/>
50     <wsdl:input>
51       <soap12:body use="literal"/>
52     </wsdl:input>
53     <wsdl:output>
54       <soap12:body use="literal"/>
55     </wsdl:output>
56   </wsdl:operation>
57 </wsdl:binding>
58 <wsdl:service name="ServiceDate">
59   <wsdl:port name="ServiceDateSoap" binding="tns:ServiceDateSoap">
60     <soap:address location="http://localhost/ws.asmx"/>
61   </wsdl:port>
62   <wsdl:port name="ServiceDateSoap12" binding="tns:ServiceDateSoap12">
63     <soap12:address location="http://localhost/ws.asmx"/>
64   </wsdl:port>
65 </wsdl:service>
66 </wsdl:definitions>

```

Listing 2 – getDate2.wsdl

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <wsdl:definitions
3   xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
4   xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
5   xmlns:tns="http://mondomaine.fr/monAppli"
6   xmlns:s="http://www.w3.org/2001/XMLSchema"
7   xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
8   targetNamespace="http://mondomaine.fr/monAppli"
9   xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
10  <wsdl:types>
11    <s:schema elementFormDefault="qualified" targetNamespace="http://mondomaine.fr/monAppli">
12      <s:element name="getDate2">
13        <s:complexType>
14          <s:sequence>
15            <s:element minOccurs="1" maxOccurs="1" name="f" type="tns:Format"/>
16          </s:sequence>
17        </s:complexType>
18      </s:element>
19      <s:simpleType name="Format">
20        <s:restriction base="s:string">
21          <s:enumeration value="JMA"/>
22          <s:enumeration value="HMS"/>
23          <s:enumeration value="HMSJMA"/>
24        </s:restriction>
25      </s:simpleType>
26      <s:element name="getDate2Response">
27        <s:complexType>
28          <s:sequence>
29            <s:element minOccurs="0" maxOccurs="1" name="getDate2Result" type="s:string"/>
30          </s:sequence>
31        </s:complexType>
32      </s:element>
33    </s:schema>
34  </wsdl:types>
35  <wsdl:message name="getDate2SoapIn">
36    <wsdl:part name="parameters" element="tns:getDate2"/>
37  </wsdl:message>
38  <wsdl:message name="getDate2SoapOut">
39    <wsdl:part name="parameters" element="tns:getDate2Response"/>
40  </wsdl:message>
41  <wsdl:portType name="ServiceDateSoap">
42    <wsdl:operation name="getDate2">
43      <wsdl:input message="tns:getDate2SoapIn"/>
44      <wsdl:output message="tns:getDate2SoapOut"/>
45    </wsdl:operation>
46  </wsdl:portType>
47  <wsdl:binding name="ServiceDateSoap" type="tns:ServiceDateSoap">
48    <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
49    <wsdl:operation name="getDate2">
50      <soap:operation soapAction="http://mondomaine.fr/monAppli/getDate2" style="document"/>
51      <wsdl:input>
52        <soap:body use="literal"/>
53      </wsdl:input>
54      <wsdl:output>
55        <soap:body use="literal"/>
56      </wsdl:output>
57    </wsdl:operation>
58  </wsdl:binding>
59  <wsdl:binding name="ServiceDateSoap12" type="tns:ServiceDateSoap">
60    <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
61    <wsdl:operation name="getDate2">
62      <soap12:operation soapAction="http://mondomaine.fr/monAppli/getDate2" style="document"/>
63      <wsdl:input>
64        <soap12:body use="literal"/>
65      </wsdl:input>
66      <wsdl:output>
67        <soap12:body use="literal"/>

```

```

68     </wsdl:output>
69 </wsdl:operation>
70 </wsdl:binding>
71 <wsdl:service name="ServiceDate">
72   <wsdl:port name="ServiceDateSoap" binding="tns:ServiceDateSoap">
73     <soap:address location="http://localhost/ws.asmx"/>
74   </wsdl:port>
75   <wsdl:port name="ServiceDateSoap12" binding="tns:ServiceDateSoap12">
76     <soap12:address location="http://localhost/ws.asmx"/>
77   </wsdl:port>
78 </wsdl:service>
79 </wsdl:definitions>

```

Listing 3 – getDate3.wsdl

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <wsdl:definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tm="http://microsoft.com/wsdl/mime
   /textMatching/" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:mime="http://schemas.
   xmlsoap.org/wsdl/mime/" xmlns:tns="http://mondomaine.fr/monAppli" xmlns:s="http://www.w3.org/2001/
   XMLSchema" xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" xmlns:http="http://schemas.xmlsoap.org/
   wsdl/http/" targetNamespace="http://mondomaine.fr/monAppli" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
   >
3   <wsdl:types>
4     <s:schema elementFormDefault="qualified" targetNamespace="http://mondomaine.fr/monAppli">
5       <s:element name="getDate3">
6         <s:complexType/>
7       </s:element>
8       <s:element name="getDate3Response">
9         <s:complexType>
10           <s:sequence>
11             <s:element minOccurs="0" maxOccurs="1" name="getDate3Result" type="tns:Date"/>
12           </s:sequence>
13         </s:complexType>
14       </s:element>
15       <s:complexType name="Date">
16         <s:sequence>
17           <s:element minOccurs="1" maxOccurs="1" name="jour" type="s:int"/>
18           <s:element minOccurs="1" maxOccurs="1" name="mois" type="s:int"/>
19           <s:element minOccurs="1" maxOccurs="1" name="annee" type="s:int"/>
20         </s:sequence>
21       </s:complexType>
22     </s:schema>
23   </wsdl:types>
24   <wsdl:message name="getDate3SoapIn">
25     <wsdl:part name="parameters" element="tns:getDate3"/>
26   </wsdl:message>
27   <wsdl:message name="getDate3SoapOut">
28     <wsdl:part name="parameters" element="tns:getDate3Response"/>
29   </wsdl:message>
30   <wsdl:portType name="ServiceDateSoap">
31     <wsdl:operation name="getDate3">
32       <wsdl:input message="tns:getDate3SoapIn"/>
33       <wsdl:output message="tns:getDate3SoapOut"/>
34     </wsdl:operation>
35   </wsdl:portType>
36   <wsdl:binding name="ServiceDateSoap" type="tns:ServiceDateSoap">
37     <soap:binding transport="http://schemas.xmlsoap.org/soap/http"/>
38     <wsdl:operation name="getDate3">
39       <soap:operation soapAction="http://mondomaine.fr/monAppli/getDate3" style="document"/>
40       <wsdl:input>
41         <soap:body use="literal"/>
42       </wsdl:input>
43       <wsdl:output>
44         <soap:body use="literal"/>
45       </wsdl:output>
46     </wsdl:operation>
47   </wsdl:binding>
48   <wsdl:binding name="ServiceDateSoap12" type="tns:ServiceDateSoap">
49     <soap12:binding transport="http://schemas.xmlsoap.org/soap/http"/>
50     <wsdl:operation name="getDate3">
51       <soap12:operation soapAction="http://mondomaine.fr/monAppli/getDate3" style="document"/>
52       <wsdl:input>
53         <soap12:body use="literal"/>
54       </wsdl:input>
55       <wsdl:output>
56         <soap12:body use="literal"/>
57       </wsdl:output>
58     </wsdl:operation>
59   </wsdl:binding>
60   <wsdl:service name="ServiceDate">
61     <wsdl:port name="ServiceDateSoap" binding="tns:ServiceDateSoap">
62       <soap:address location="http://localhost/ws.asmx"/>
63     </wsdl:port>
64     <wsdl:port name="ServiceDateSoap12" binding="tns:ServiceDateSoap12">
65       <soap12:address location="http://localhost/ws.asmx"/>
66     </wsdl:port>
67   </wsdl:service>
68 </wsdl:definitions>

```

Listing 4 – SOAP pour getDate1

```

1 POST /ws.asmx HTTP/1.1
2 Host: localhost
3 Content-Type: application/soap+xml; charset=utf-8
4 Content-Length: length
5
6 <?xml version="1.0" encoding="utf-8"?>

```

```

7 <soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/
  XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
8   <soap12:Body>
9     <getDate1 xmlns="http://mondomaine.fr/monAppli" />
10  </soap12:Body>
11 </soap12:Envelope>
12
13 HTTP/1.1 200 OK
14 Content-Type: application/soap+xml; charset=utf-8
15 Content-Length: length
16
17 <?xml version="1.0" encoding="utf-8"?>
18 <soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/
  XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
19   <soap12:Body>
20     <getDate1Response xmlns="http://mondomaine.fr/monAppli">
21       <getDate1Result>string</getDate1Result>
22     </getDate1Response>
23   </soap12:Body>
24 </soap12:Envelope>

```

Listing 5 – SOAP pour getDate2

```

1 POST /ws.asmx HTTP/1.1
2 Host: localhost
3 Content-Type: application/soap+xml; charset=utf-8
4 Content-Length: length
5
6 <?xml version="1.0" encoding="utf-8"?>
7 <soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/
  XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
8   <soap12:Body>
9     <getDate2 xmlns="http://mondomaine.fr/monAppli">
10      <f>JMA or HMS or HMSJMA</f>
11    </getDate2>
12  </soap12:Body>
13 </soap12:Envelope>
14
15
16
17 HTTP/1.1 200 OK
18 Content-Type: application/soap+xml; charset=utf-8
19 Content-Length: length
20
21 <?xml version="1.0" encoding="utf-8"?>
22 <soap12:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/
  XMLSchema" xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
23   <soap12:Body>
24     <getDate2Response xmlns="http://mondomaine.fr/monAppli">
25       <getDate2Result>string</getDate2Result>
26     </getDate2Response>
27   </soap12:Body>
28 </soap12:Envelope>

```

Listing 6 – SOAP pour getDate3

```

1 POST /ws.asmx HTTP/1.1
2 Host: localhost
3 Content-Type: text/xml; charset=utf-8
4 Content-Length: length
5 SOAPAction: "http://mondomaine.fr/monAppli/getDate3"
6
7 <?xml version="1.0" encoding="utf-8"?>
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/">
9   <soap:Body>
10     <getDate3 xmlns="http://mondomaine.fr/monAppli" />
11   </soap:Body>
12 </soap:Envelope>
13
14
15
16
17 HTTP/1.1 200 OK
18 Content-Type: text/xml; charset=utf-8
19 Content-Length: length
20
21 <?xml version="1.0" encoding="utf-8"?>
22 <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/">
23   <soap:Body>
24     <getDate3Response xmlns="http://mondomaine.fr/monAppli">
25       <getDate3Result>
26         <jour>int</jour>
27         <mois>int</mois>
28         <annee>int</annee>
29       </getDate3Result>
30     </getDate3Response>
31   </soap:Body>
32 </soap:Envelope>

```
