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 fonctionnemement de la partie concrête (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>
```