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Your name: _____

Enterprise Computing (WS 2016/17)

Exercise 1 (3 Portfoliopunkte)

Info:

- The solution to this exercise must be handed in by Wednesday, Nov 2th 2016, 12AM.
- Any written solution must be in an accessible PDF. Any source code in a separate ZIP File. All Files are uploaded in the Information System for Instructors and Students in a single ZIP File (https://isis.tu-berlin.de/course/view.php?id=8586).
- Please write your name on the solution sheet.

Prerequisites

- **Register for AWS & Bluemix**
- **Register at either GitLab or Github**

Task 1 – REST Client (25+25 = 50%)

There is a Service available for you which calculates the number of days till a certain date (i.e.: How many days till Christmas). Your Task is to write a HTTP client program in the programming language of your choice, which does the following:

1) Insert an event name (corresponding to your name) and a date value via a HTTP **PUT** with the following parameters:

   Endpoint: http://api-server.eu-gb.mybluemix.net/api/Calendars

   Request Parameter:

   {"name": <String>, // i.e.: “chrismas_marco_peise”
   "date": <Date> // i.e.: “2016-12-24"}

   Possible Response:

   {"id": "56437462ed1d293800aa4c7e",
   "name": "chrismas_marco_peise",
   "date": "2016-12-24T00:00:00.000Z"}

2) Use the Service “timeToDate” for a given Event via a HTTP **GET** with the following parameters:

   Endpoint: http://api-server.eu-gb.mybluemix.net/api/Calendars/timeToDate

   Request Parameter:

   {"eventName": <String> // i.e.: “chrismas_marco_peise”}

Possible Response:

{"TimeToEvent": "1 month 12 days 7 hours 9 minutes 47 seconds"}

Hand in your programmed lines of code for your client.

Task 2 – HTTP Methods (20%)

Review the API of Liquidfeedback (http://dev.liquidfeedback.org/trac/lf/wiki/API). Discuss the following four HTTP Requests: GET /issue, POST /voter, POST /interest, GET /suggestion. State for each Request an example call (endpoint, request attributes etc.)

Please check in the following table whether the HTTP method is idempotent and / or safe.

HTTP Methode	Idempotent	Safe	None
GET /issue			
POST /voter			
POST /interest			
GET /suggestion			

Task 3 – WebServices (30%)

Given is a WebService with the following WSDL Description:

```
<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:s1="http://microsoft.com/wsdl/types"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:tns="http://tu-berlin.de/ise/ec/" xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/"
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/" targetNamespace="http://tu-berlin.de/ise/ec"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
<wsdl:types>
 <s:schema elementFromDefault="qualified" targetNamespace="http://tu-berlin.de/ise/ec">
  <s:import namespace="http://microsoft.com/wsdl/type/"/>
  <s:element name="GetPositionsOfSymbolInText">
   <s:complextType>
    <s:sequence>
     <s:element minOccurs="0" maxOccurs="1" name="text" type="s:string"/>
     <s:element minOccurs="1" maxOccurs="1" name="symbol" type="s1:char"/>
    </sequence>
   </s:complexType>
  </s:element>
  <s:element name="GetPositionsOfSymbolInTextResponse">
   <s:complextType>
    <s:sequence>
     <s:element minOccurs="0" maxOccurs="1"
      name="GetPositionsOfSymbolInTextResult" type="tns:ArrayOfInt"/>
    </sequence>
   </s:complexType>
  </s:element>
  <s:complextType name="ArrayOfInt">
   <s:sequence>
    <s:element minOccurs="0" maxOccurs="unbounded" name="int" type="s:int"/>
```

```
    </sequence>
   </s:complexType>
  </s:schema>
  <s:schema elementFromDefault="qualified"
   targetNamespace="http://microsoft.com/wsdl/types">
   <s:simpleType name="char">
    <s:restriction base="s:unsignedShort"/>
   </s:simpleType>
  </s:schema>
</wsdl:types>
<wsdl:message name="GetPositionsOfSymbolInTextSoapIn">
 <wsdl:part name="parameters" element="tns:GetPositionsOfSymbolInText"/>
</wsdl:message>
<wsdl:message name="GetPositionsOfSymbolInTextSoapOut">
 <wsdl:part name="parameters" element="tns:GetPositionsOfSymbolInTextResponse"/>
</wsdl:message>
<wsdl:portType name="ECServiceSoap">
 <wsdl:operation name="GetPositionsOfSymbolInText">
  <documentation xmlns="http://schemas.smlsoap.org/wsdl/">Liefert Position eines Zeichens in einem
Text</documentation>
  <wsdl:input message="tns:GetPositionsOfSymbolInTextSoapIn"/>
  <wsdl:output message="tns:GetPositionsOfSymbolInTextSoapOut"/>
 </wsdl:operation>
</wsdl:portType>
<wsdl:binding name="ECServiceSoap" type="tns:ECServiceSoap">
 <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
 <wsdl:operation name="GetPositionsOfSymbolInText">
  <soap:operation soapAction="http://tu-berlin.de/ise/ec/GetPositionsOfSymbolInText" styple="document"/>
  <wsdl:input>
   <soap:body use="literal"/>
  </wsdl:input>
  <wsdl:output>
   <soap:body use="literal"/>
  </wsdl:output>
 </wsdl:operation>
</wsdl:binding>
<wsdl:service name="ECService">
 <documentation xmlns="http://schemas.smlsoap.org/wsdl/">This service is intended to teach the WSDL and
SOAP protocols to the students of the Enterprise Computing lecture.</documentation>
 <wsdl:port name="ECServiceSoap" binding="tns:ECServiceSoap">
  <soap:address location="http://ws-server.de/ECService/ExerciseService.asmx"/>
 </wsdl:port>
</wsdl:service>
</wsdl:definitions>
```

Task 3.1

Enter the signature of the method(s) in the typical Java / C # / C ++ Notation like:
ReturnType MethodName ([ParamType ParamName [, ParamType ParamName] *])

Task 3.2

Specifically which data is transferred from (1) a client to the server and (2) back again when SOAP / HTTP is used as a transfer protocol? (the XML part is sufficient)

Requirements:
You are using the parameters "Enterprise Computing is fun!" And "u". Assume that the service has the functionality indicated by the method signature.

Caution: This task is based on WSDL 1.1, while you have learned WSDL 2.0 in the lecture.