



STI · INNSBRUCK

Semantic Web Services PS

Exercise Sheet 4 – 08.04.2014

Please answer the following questions. Provide your elaborated answers in a PDF or a plain text file. If you make use of references when elaborating your answers, please add the proper citations to your document. The deadline for submissions to the tutors (ioan.toma@sti2.at and jose.garcia@sti2.at) is 28th April 2014 at 20:00 CET.

Exercise 1 (5 points)

Create a WADL file that corresponds to a business service providing the following functionality:

- Create a new order
`public PurchaseOrderStatus acceptPO(PurchaseOrder order)`
- Retrieve an existing order
`public PurchaseOrder retrievePO(String orderID)`
- Modify an existing order
`public PurchaseOrder updatePO(PurchaseOrder order)`
- Cancel an order already submitted
`public void cancelPO(String orderID)`

The service should be available at the following endpoint address:

<http://www.swstutorial.at/theRESTfulService>

Exercise 2 (5 points)

Consider a bus transportation company being a company that provides tourism services as part of the VTA scenario introduced in the lectures. Design a WADL description for one of the services this company provides and explain all its elements.

Exercise 3 (5 points)

Given the XML representation of a data object exchanged with a RESTful service that provides music information in Listing 1, create the corresponding JSON textual representation.

Exercise 4 (5 points)

Create a JSON representation, both text and XML of the data exchanged between the VTA application and the bus transportation company service. The VTA is the client, the bus transportation company is the service in this particular interaction. The information returned by the bus transportation company

includes: the start and end city of the trip, the price for the ticket and a list of departure hours. The bus transportation company offers trips from multiple cities in Austria.

Listing 1. Rock band music info – XML representation

```
<!DOCTYPE glossary PUBLIC "-//OASIS/DTD DocBook V3.1//EN">
```

```
<Rockbands>
  <Rockband>
    <Name>Beatles</Name>
    <Country>England</Country>
    <YearFormed>1959</YearFormed>
    <Members>
      <Member>Paul</Member>
      <Member>John</Member>
      <Member>George</Member>
      <Member>Ringo</Member>
    </Members>
  </Rockband>
  <Rockband>
    <Name>Rolling Stones</Name>
    <Country>England</Country>
    <YearFormed>1962</YearFormed>
    <Members>
      <Member>Mick</Member>
      <Member>Keith</Member>
      <Member>Charlie</Member>
      <Member>Bill</Member>
    </Members>
  </Rockband>
  <Rockband>
    <Name>Queen</Name>
    <Country>England</Country>
    <YearFormed>1970</YearFormed>
    <Members>
      <Member>Freddie</Member>
      <Member>Brian</Member>
      <Member>Roger</Member>
      <Member>John</Member>
    </Members>
  </Rockband>
  <Rockband>
    <Name>Pink Floyd</Name>
    <Country>England</Country>
    <YearFormed>1965</YearFormed>
    <Members>
      <Member>Nick</Member>
      <Member>Syd</Member>
      <Member>David</Member>
      <Member>Roger</Member>
      <Member>Richard</Member>
    </Members>
  </Rockband>
</Rockbands>
```