

# ASSIGNMENT-7

CS-548

Fall 2016

Submitted By:-

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***In this assignment, you define a REST interface for the domain-driven design that you developed in an earlier assignment, as an alternative to the SOA architecture of the previous assignment. You will define resources that provide access to your domain model in terms of representations transferred to and from clients. You will define a Web service interface for clients that want to access your application over the Web, that includes a hypermedia network linking resources to other resources.***

## Some of the important points

1. Designed a ClinicData.xsd (xml schema file) which defines the structure of patient, provider and treatment. It also defines the types of treatments and different specialization of providers. Using this ClinicData, JAXB classes were generated like PatientType, ProviderType, TreatmentType, RadiologyType, etc. Note: The relations inside this schema file were linked together using LinkType schema file, which is an essential step for making Rest Web Service assignment.
2. After the classes were generated, their corresponding representation classes were developed like PatientRepresentation that returns the link for that corresponding class and also a constructor which takes a UriInfo object and a DTO object as arguments which sets up the link.
3. After that Rest resources were developed like Patient Resource and Provider Resource, which defines several methods that the client could call or the server would initiate depending on the GET or POST annotation. The data input or output is either Consumed or Produced depending on those annotations only. A post annotation usually means it will Consume the data and then proceed with the function procedure like adding data into database, whereas Produce annotation will produce the data like getting a Patient ID from the database.
4. HTTP error codes were set in these methods only.
5. Annotations like RequestScoped, Context and Inject were used for the web service for their required function.

Below you can find the **APPLICATION.WADL** file

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<application xmlns="http://widl.dev.java.net/2009/02">
<doc xmlns:jersey="http://jersey.java.net/" jersey:generatedBy="Jersey: 2.10.4 2014-08-08
15:09:00"/>
<doc xmlns:jersey="http://jersey.java.net/" jersey:hint="This is simplified WADL with user and
core resources only. To get full WADL with extended resources use the query parameter detail.
Link: http://localhost:8080/ClinicRestWebService-
1.0.0/resources/application.wadl?detail=true"/>
<grammars>
<include href="application.wadl/xsd2.xsd">
<doc title="Generated" xml:lang="en"/>
</include>
<include href="application.wadl/xsd0.xsd">
<doc title="Generated" xml:lang="en"/>
</include>
<include href="application.wadl/xsd1.xsd">
<doc title="Generated" xml:lang="en"/>
</include>
<include href="application.wadl/xsd3.xsd">
<doc title="Generated" xml:lang="en"/>
</include>
</grammars>
<resources base="http://localhost:8080/ClinicRestWebService-1.0.0/resources/">
<resource path="/provider">
<method id="addProvider" name="POST">
<request>
<ns2:representation xmlns:ns2="http://widl.dev.java.net/2009/02" xmlns="" element="provide
rRepresentation" mediaType="application/xml"/>
</request>
<response>
<representation mediaType="*/*/>
</response>
</method>
<method id="putXml" name="PUT">
<request>
<representation mediaType="application/xml"/>
</request>
</method>
<method id="getXml" name="GET">
```

```

<response>
<representation mediaType="application/xml"/>
</response>
</method>
<resource path="id/treatments">
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="id" style="template" type="xs:string"/>
<method id="addTreatments" name="POST">
<request>
<ns2:representation xmlns:ns2="http://wadl.dev.java.net/2009/02" xmlns="" element="treatmentRepresentation" mediaType="application/xml"/>
</request>
<response>
<representation mediaType="*/*/">
</response>
</method>
<method id="getTreatmentofPatient" name="GET">
<request>
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="patient" style="query" type="xs:string"/>
</request>
<response>
<representation mediaType="application/xml"/>
</response>
</method>
</resource>
<resource path="byNPI">
<method id="getProviderByNpi" name="GET">
<request>
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="id" style="query" type="xs:string"/>
</request>
<response>
<ns2:representation xmlns:ns2="http://wadl.dev.java.net/2009/02" xmlns="" element="providerRepresentation" mediaType="application/xml"/>
</response>
</method>
</resource>
<resource path="{id}">
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="id" style="template" type="xs:string"/>
<method id="getProviderById" name="GET">

```

```
<response>
<ns2:representation xmlns:ns2="http://widl.dev.java.net/2009/02" xmlns="" element="provide
rRepresentation" mediaType="application/xml"/>
</response>
</method>
</resource>
</resource>
<resource path="/patient">
<method id="addPatient" name="POST">
<request>
<ns2:representation xmlns:ns2="http://widl.dev.java.net/2009/02" xmlns="" element="patient
Representation" mediaType="application/xml"/>
</request>
<response>
<representation mediaType="*/*/">
</response>
</method>
<resource path="PatientNameDob">
<method id="getPatientByNameDob" name="GET">
<request>
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="name" style="query" type="xs:
string"/>
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="dob" style="query" type="xs:
string"/>
</request>
<response>
<representation mediaType="application/xml"/>
</response>
</method>
</resource>
<resource path="patientTreatment">
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="id" style="template" type="xs:
string"/>
<param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="tid" style="template" type="
xs:string"/>
<method id="getPatientTreatment" name="GET">
<response>
<ns2:representation xmlns:ns2="http://widl.dev.java.net/2009/02" xmlns="" element="treatm
entRepresentation" mediaType="application/xml"/>
</response>
</method>
</resource>
```

```
<resource path="site">
  <method id="getSiteInfo" name="GET">
    <response>
      <representation mediaType="text/plain"/>
    </response>
  </method>
</resource>
<resource path="{id}">
  <param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="id" style="template" type="xs:string"/>
  <method id="getPatient" name="GET">
    <response>
      <ns2:representation xmlns:ns2="http://wadl.dev.java.net/2009/02" xmlns="" element="patientRepresentation" mediaType="application/xml"/>
    </response>
  </method>
</resource>
<resource path="byPatientId">
  <method id="getPatientByPatientId" name="GET">
    <request>
      <param xmlns:xs="http://www.w3.org/2001/XMLSchema" name="id" style="query" type="xs:string"/>
    </request>
    <response>
      <ns2:representation xmlns:ns2="http://wadl.dev.java.net/2009/02" xmlns="" element="patientRepresentation" mediaType="application/xml"/>
    </response>
  </method>
</resource>
</resources>
</application>
```