

Coursework C1:

RDF to HTML Generator for Bolzano Tourism Information

Intention

The idea of this coursework is to practice

1. modeling data in RDF, and
2. manipulating RDF data using Jena.

Goal

The goal of this work is twofold:

1. to create a dataset about hotel and restaurant information in Bolzano, and
2. to write a Jena program that can access such a dataset and generate HTML pages from it.

Dataset with Tourism Info

Model in RDF tourism information about hotels and restaurants in Bolzano. For this part of the coursework, you can reuse and extend the work you did in Lab 1.

A crucial choice for modeling information is the choice of the vocabulary. Try to use as far as possible existing vocabularies such as the ones from `Schema.org`, `DBpedia`, `FOAF`, or `VCARD`.

For each type, hotel and restaurant, model at least three instances. Each instance should be described by at least eight properties. To make the set more interesting, choose more than eight properties and introduce instances with different sets of properties. The properties might include general information (e.g., name, address, phone number) and type-specific information (e.g., number of stars for hotels). Think also of complex properties that are modeled by an extra node (like the wellness facilities in a hotel that themselves may have various properties).

The RDF datasets should be represented in Turtle syntax.

RDF2HTML Generator

Next, write a Jena program that can access such RDF datasets with the vocabulary you have chosen and generate HTML aggregation pages from the datasets. An aggregation page is a page showing a collection of informations of the same type (e.g., list of hotels in Bolzano). Consider the following requirements:

- The generator produces a separate HTML page for each type of resource (i.e., there will be a hotels aggregation page for the hotels and a restaurants aggregation page for the restaurants).
- The HTML page of each type should be generated by a specific method (e.g., `generateHTMLForHotels`).
- Each HTML page of each type should show general information about the tourism objects and type-specific information.

Hint 1: You might find the method `listStatements()` of the `Model` interface useful.

Hint 2: The hotels and restaurants might have images. The images might be represented using external URIs¹. You then can display the images on an HTML page using the `` tag.

- A user should be able to call your program with a “type” parameter (with possible values `hotel` or `restaurant`). Depending on the parameter, it should generate an aggregation page for either hotels or restaurants.

As an example, the aggregation page for hotels could look like the one on the last page. However, a simple, vanilla HTML page is enough for this coursework. The only requirement is that the page clearly shows a list of hotels or restaurants with their properties.

Deliverables

Send the following files as a zipped package to `fariz.darari@stud-inf.unibz.it` by 21 November 2014:

- RDF dataset
- generated HTML pages
- runnable JAR program
- source code of the program
- report containing descriptions of the datasets, the program and how to use the program.

¹E.g., the URI `http://www.laurin.it/smartedit/images/slider/MEETING-3A.jpg` points to an image of Hotel Laurin.

Hotels in Bolzano, Italy




	Four Points By Sheraton Bolzano Guest Rating: 8.2/10 Address: Via Bruno Buozzi, 35, 39100 Bolzano, Italy Phone: +39 0471 195 0000	★★★ prices from \$102
<ul style="list-style-type: none">• Free Internet Available		
	Albergo Hofer Guest Rating: 7.9/10 Address: Via Bergamo, 39100 Bolzano BZ, Italy Phone: +39 0471 913522	★★ prices from \$108
<ul style="list-style-type: none">• Free Internet Available• Free Parking		
	Hotel Steidlerhof Guest Rating: 7.1/10 Address: Amalfistr. 10 I - 39100 Bolzano Phone: +39 0471 91 82 27	★★★ prices from \$126
<ul style="list-style-type: none">• Free Internet Available		

Figure 1: An example of an HTML page generated from RDF data