Salesforce RDF Extension

Supervisor

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Team

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Overview

LUCID Project
is a Federal Ministry of Education and Research (BMBF) funded project to change the way how partners in supply chain networks will communicate with each other. IAIS is one of the partners of the project and contributes to all research topics, especially to research on distributed semantic social networks and supply chain vocabularies.

Goal of the Lab
is to create a prototype in order to read, write and transfrorm the data from Salesforce.

Salesforce

Salesforce
is a cloud CRM system and many companies use and integrate this application in their business processes. One way to improve the information exchange between partners is to use this platform and provide additional services such as RDF transformation of the Salesforce data.

Sales objects
are a set of most common objects in salesforce. While salesforce provides more objects for integration we focused only on a small part of sales objects.

REST API
is one way to integrate the access to the salesforce objects, which we have used in our project.

Requirements

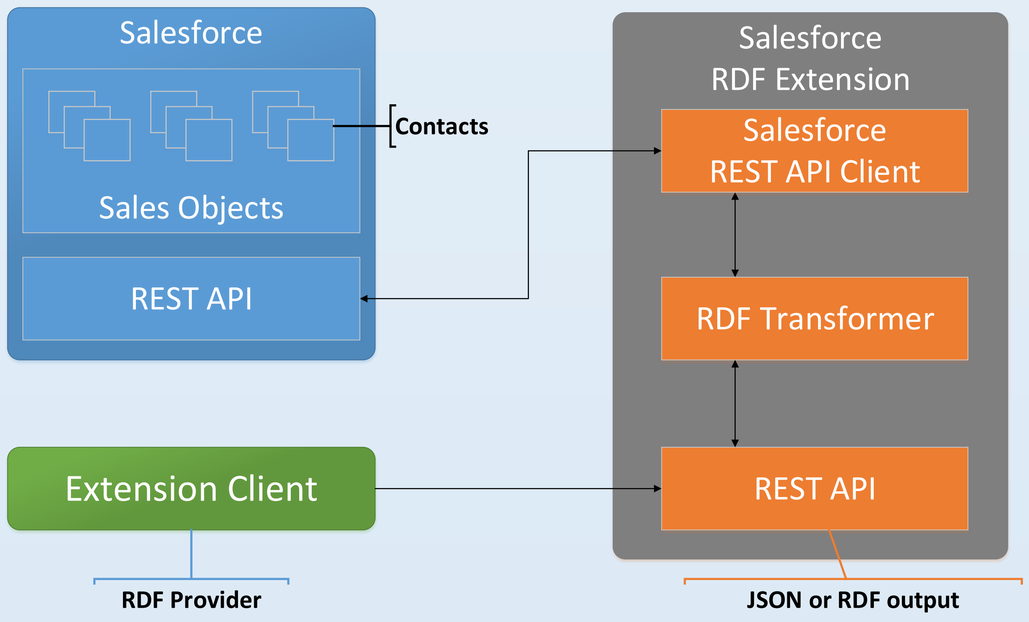
Salesforce Account
For core information access

Apache Jena
For processing RDF information

Spring
For rapid prototyping and robust development

Gradle
For flexible build and dependency management

Architecture



Results

REST API Client

LoginService
Basic OAuth2 authentication mechanism. Take user credentials as an input and output an access token. Must be configured in salesforce as external app.

ContactService
Access Contact objects of salesforce. Implemented simple CRUD operations.

Extension Webservice

The extension REST webservice provides authentication, CRUD and RDF transformation operations on the Contact object.

RDF Transformer

RDF → Contact
Given an input as .ttl file the ContactService extracts foaf:person types and transforms them to contact objects. We use Java reflections mechanism to extract the properties and create Contact objects.

Contact → RDF
The Contact class implements a method to convert the instance to an RDF representation. We use Apache Jena Framework for the conversion.

Future Work

Support more sales objects
The focus of this work was only on Contact objects. Salesforce has a lot more sales objects that need to be integrated into the RDF extension.

Generalize RDF Transformer
The implemented RDF Transformer knows only one vocabulary. In order to make the extension more versatile we need to support more vocabularies in different file formats.

Provide more feedback
The system can handle only small amount of exceptions and failures. To make the extension more robust and usable it is necessary to provide more feedback to the user from both the salesforce REST API calls and RDF transformation.

Workstation

Hostname: **vm-rdf2salesforce**
System: Ubuntu 14.04 LTS 64bit OS
Software installed:
✓**apache tomact 8**
✓**Jdk 1.8**

Local Access:
OS User: rdf2salesforce
Password: unicorn7000

Remote Access:
Partner ID: 662811121
Password: unicorn7000