Editing R2RML Mappings Made Easy

Kunal Sengupta¹,², Peter Haase¹, Michael Schmidt¹, and Pascal Hitzler²

¹ fluid Operation AG, Walldorf, Germany
² Wright State University, Dayton OH, USA.

Overview
The new W3C standard R2RML defines a language for expressing mappings from relational databases to RDF, allowing applications built on top of the W3C Semantic Technology stack to seamlessly integrate relational data. A major obstacle in using R2RML, though, is the creation and maintenance of mappings. In this demo, we present a novel R2RML mapping editor which provides a user interface to create and edit mappings interactively even for non-experts.

R2RML
- Task: Integrate data from relational DBMS with Linked Data
- Approach: Map from relational schema to semantic vocabulary with R2RML
- Publishing: Two alternatives
  1. Translate SPARQL into SQL on the fly
  2. Batch transform data into RDF, index and provide SPARQL access in a triple store
- R2RML defines a language for expressing mappings from relational databases to RDF, allowing applications built on top of the W3C Semantic Technology stack to seamlessly integrate relational data.

Use Case Example

MusicBrainz DB

R2RML

Ontology concept mo:recording

Steps of the R2RML mapping rule management using the editor

- **Datasource, Base URI Selection:** In the first step the user can select from all the available datasources or configure a new one. The user also has the option to configure the base URI for template generation.
- **R2RML Rules:** At this step all the rules are displayed. The editor provides many options to browse the existing rules. E.g. filter the rules by table names.

Features:
- Easy to use user interface to create mappings.
- Import/Export mappings from the editor directly.
- Preview generated triples at various steps of mapping creation.
- Mappings can be created without learning the R2RML vocabulary.
- Integrated with the Information Workbench platform.