The SPARQL2XQuery framework

Bridging the gap between the XML and the Semantic Web

Schema Transformation

XML Schemas are transformed to OWL using the XS2OWL module.

Mapping Generation

The mappings between the XML Schemas and their OWL represent-ations can be automatically detected and stored.

Mapping Specification

Mappings between OWL-RDF/S ontologies and XML Schemas can be manually specified and used in the SPARQL to XQuery translation.

Query Translation

SPARQL to XQuery Translation: Every SPARQL query that is posed over ontologies (RDF/S - OWL), is translated into an XQuery query that can be answered from the XML data.

Query Results Transformation

The query results are transformed either in SPARQL Query Result XML Format or in RDF format.

XML – RDF Transformation

Transformation of XML data in RDF and vice versa.

#xml #sparql2xquery #interoperability #semanticWeb #xs2owl   #integration #webOfData #linkedData

The SPARQL2XQuery framework bridges the heterogeneity gap and creates an interoperable environment between the Web of Data (OWL/RDF/SPARQL) and the XML (XML Schema/XML/XQuery) worlds. Using the SPARQL2XQuery framework, XML sources can be turned into SPARQL endpoints.

In our working scenario, mappings between RDF/S–OWL and XML sources may be both automatically derived and/or manually specified. Using these mappings, the SPARQL queries are translated -on the fly- into XQuery expressions, which access the XML data.

The SPARQL2XQuery framework supports the following operations: (a) **Query translation** (SPARQL to XQuery), (b) **Mapping specification & generation** (Ontologies to XML Schemas), and (c) **Schema transformation** (XML Schema to OWL).

info
- The SPARQL2XQuery Interoperability Framework | WWWJ 2014
- Supporting SPARQL Update Queries in RDF-XML Integration | ISWC 2014
- The XML & Semantic Web Worlds: Technologies, Interoperability & Integration. A Survey of the State of the Art | Springer 2013

seeAlso

The SPARQL-RW framework
Ontology mapping and SPARQL query rewriting

The SPARQL-RW (SPARQL-ReWriting) framework provides transparent query access over mapped RDF datasets in the Web of Data.

The SPARQL-RW framework offers a method for SPARQL query rewriting, with respect to a set of predefined mappings between ontology schemas. To this end, a set of rich and flexible mapping types are supported by the SPARQL-RW framework.