Supporting SPARQL Update Queries in RDF–XML Integration

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The SPARQL2XQuery Framework

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.

Key Features

Schema Transformation
XML Schemas are transformed to OWL using the XS2OWL module.

Mapping Generation
The mappings between the XML Schemas and their OWL representations 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.

Architecture

Running Example

SPARQL Update Operations Translation

Translation Examples