



# Mapping Relational Data to RDF

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- RDB2RDF WG started October 2009
  - Home: <http://www.w3.org/2001/sw/rdb2rdf/>
  - Charter <http://www.w3.org/2009/08/rdb2rdf-charter>
  - 24 participants from 12 organizations; 5 invited experts
- Goal is to standardize mapping Relational data to RDF
- Data may be materialized as RDF or queried in place
- Query using SPARQL



# > Why Map Relational Data to RDF?



- Relational databases underpin most business, government and scientific enterprises
- Data and transactions double every two years
- 15 Billion dollar business
  
- So, there is a lot of Relational data out there and it is not integrated with the Web
- We need to fix this



# > Why Map Relational Data to RDF?



- Integrate disparate Relational databases
  - RDBs are often insular, limited
  - Integration is an important requirement
- Add semantics
  - Map to OWL ontologies
  - Add rules
- Combine with data from other sources
- Publish Relational data on the Web
  - Allow integration with other Web resources



- Workshop on RDF Access to Relational Databases
  - Oct 2007
  - Report: <http://www.w3.org/2007/03/RdfRDB/report>
- RDB2RDF XG Started Feb 2009
  - Report: <http://www.w3.org//2005/Incubator/rdb2rdf/XGR-rdb2rdf>
  - Home: <http://www.w3.org/2005/Incubator/rdb2rdf/>
- RDB2RDF WG Started October 2009



- Working drafts
  - Requirements and Usecases
    - <http://www.w3.org/TR/rdb2rdf-ucr/>
    - 8 June 2010
  - Custom mapping
    - <http://www.w3.org/TR/r2rml/>
    - 28 October 2010
  - Default mapping
  - Formal semantics?



# > Custom Mapping Details



- Expressed in RDF “Turtle” syntax
- RDFS class `Table2TriplesMap` maps the rows in a logical table, represented by a SQL query into RDF triples.
- RDF class `RDFTermMap` class represents the mapping to any RDF term: IRIs, blank nodes, or literals.
  - Has subclasses `RDFSubjectTermMap`, `IRIMap`, `bNodeMap`, `LiteralMap`
- RDF class `ForeignKey` specifies a foreign key relationship



# > Problems



- How to create URI identifiers for Relational data?
- What version of SQL do we support?
- What to do about vendor extensions?