RDF & SPARQL WG

Ora Lassila (Accenture, invited expert), co-chair

Adrian Gschwend (Zazuko & Qlevia), co-chair

Pierre-Antoine Champin (W3C), staff liaison

+ the greatest group of RDF & SPARQL expertise in the world (= the WG members)

Joint W3C TPAC / ISWC 2026 workshop, 2026-10-26

Game plan

Overview

Documents we are working on

Implementations

Questions

Timeline of RDF & SPARQL

May 1997	First version of the PICS-NG proposal
October 1997	First public “working draft” of something called RDF
February 1999	RDF “Model and Syntax”
February 2004	RDF “Model and Syntax” revised (“RDF 1.0”)
January 2008	SPARQL 1.0
March 2013	SPARQL 1.1
February 2014	RDF 1.1
December 2021	RDF-star CG final report published
August 2022	RDF-star WG formed (later renamed RDF & SPARQL WG)
April 2026	First RDF 1.2 Candidate Recommendations

What is RDF 1.2…?

The RDF & SPARQL WG is a continuation of the work of the RDF-Star CG

Primary mission: **Make reification more usable**

Secondary mission: Make other changes and corrections

There are 23 documents we are working on…

What is new?

A new term type called “triple term”

- Behaves a bit like literals
- Allows easy “statements about statements” (no more cumbersome reification)
- Updates on all the RDF serialization syntaxes (JSON-LD is in another WG)

Bidirectional text in literals (rdf:dirLangString)

Corrections and clarifications

RDF & SPARQL “threat model”

Reification syntax

<< :Elizabeth :married :Richard ~ :Marriage1 >> :date “1964-03-15”^^xsd:date .

Fully expanded, this is

:Marriage1 rdf:reifies <<(:Elizabeth :married :Richard)>> .

:Marriage1 :date “1964-03-15”^^xsd:date .

Note that the reified triple is not asserted

- (“not asserted” == “not part of the graph”)

Annotation syntax

:Elizabeth :married :Richard ~ :Marriage1 {| :date “1964-03-15”^^xsd:date |}

This is syntactic sugar: the reified triple is also asserted, so this is the same as

:Elizabeth :married :Richard .

<< :Elizabeth :married :Richard ~ :Marriage1 >> :date “1964-03-15”^^xsd:date

which is the same as

:Elizabeth :married :Richard .

:Marriage1 rdf:reifies <<(:Elizabeth :married :Richard)>> .

:Marriage1 :date “1964-03-15”^^xsd:date .

What about multiple triple occurrences?

One triple, two marriages

:Elizabeth :married :Richard .

<< :Elizabeth :married :Richard ~ :Marriage1 >> :date “1964-03-15”^^xsd:date .

<< :Elizabeth :married :Richard ~ :Marriage2 >> :date “1975-10-10”^^xsd:date .

Documents (RDF)

Document	Updated		CR snapshot	CR draft	Working draft	Draft note
RDF 1.2 Concepts and Abstract Data Model	2026-04-07		X			
RDF 1.2 Semantics	2026-09-24			X		
RDF 1.2 XML Syntax	2026-10-25	next up			X	
RDF 1.2 N-Quads	2026-10-23	horizontal review			X	
RDF 1.2 N-Triples	2026-10-23	horizontal review			X	
RDF 1.2 Turtle	2026-10-23	horizontal review			X	
RDF 1.2 TriG	2026-10-23	horizontal review			X	
RDF 1.2 Schema	2026-10-23	next up			X	
RDF 1.2 Primer	2026-09-17					X
RDF 1.2 Interoperability	2026-07-23					X
What's New in RDF 1.2	2026-07-14					X
RDF 1.2 Threat Model	2026-07-09					X

Documents (SPARQL)

Document	Updated	CR snapshot	CR draft	Working draft	Draft note
SPARQL 1.2 Query Language	2026-10-25			X	
SPARQL 1.2 Update	2026-10-25			X	
SPARQL 1.2 Query Results CSV and TSV Formats	2026-10-22			X	
SPARQL 1.2 Query Results JSON Format	2026-08-13			X	
SPARQL 1.2 Query Results XML Format	2024-12-27			X	
SPARQL 1.2 Protocol	2026-07-23			X	
SPARQL 1.2 Graph Store Protocol	2026-09-24			X	
SPARQL 1.2 Federated Query	2026-04-23			X	
SPARQL 1.2 Service Description	2026-04-23			X	
SPARQL 1.2 Entailment Regimes	2026-04-09			X	
What’s New in SPARQL 1.2	2026-07-14				X

Implementations (incomplete list)

Implementation	Function	Notes
Attean	Parsing, storage, query	Perl toolkit, in beta
TRLD	Linked data algorithms	Python (+ support for Java & Javascript)
Gnarly	Pretty-printer	Python
Owlery	OWL 2 reasoner	Python
Apache Jena	Parsing, storage, query, etc.	
OXIGraph	Triple store`	
Graphwise GraphDB	Triple store	
OpenLink Virtuoso	Triple store	
RDFox	OWL reasoner, etc.	”RDF-star” (older version support)
Dydra	Triple store	Not yet released
sparq	In-browser triple store and SPARQL engine	

Please help us by providing updates on implementations!

Questions?