

Resource Description Framework (RDF)

Within the Tool Output Integration Framework

RDF is typically a framework for representing information on the web. The syntax is in the form of triples. Subject, predicate, and Object.

- Subject denotes the resource.
- Predicate denotes traits or aspects of that resource. It also describes the relationship between the subject and the object.
- Object denotes the entity the Subject has a relationship with.

EG: The sky has the colour blue.

- Subject = Sky
- Predicate = has the colour
- Object = blue

The elements within RDF are often in the form of URIs or Literals.

EG:

```
<http://www.example.org/sky> <http://www.example.org/hasColour> "blue"
```

More complex TOIF example:

```
<http://toif/4812> <http://toif/type> "toif:Finding"
<http://toif/4825> <http://toif/description> "shadow_local: Local variable 'logMath' shadows
component of class 'edu/cmu/sphinx/result/SimpleWordResult'."
<http://toif/4825> <http://toif/type> "toif:WeaknessDescription"
<http://toif/4812> <http://toif/toif:FindingIsDescribedByWeaknessDescription> <http://toif/4825>
<http://toif/27> <http://toif/name> "SFP-1"
<http://toif/27> <http://toif/type> "toif:SFPIdentifier"
<http://toif/4812> <http://toif/toif:FindingHasSFPIdentifier> <http://toif/27>
<http://toif/28> <http://toif/name> "CWE-456"
<http://toif/28> <http://toif/type> "toif:CWEIdentifier"
<http://toif/4812> <http://toif/toif:FindingHasCWEIdentifier> <http://toif/28>
<http://toif/29> <http://toif/name> "Risky Values"
<http://toif/29> <http://toif/type> "toif:ClusterIdentifier"
<http://toif/4812> <http://toif/toif:FindingHasClusterIdentifier> <http://toif/29>
<http://toif/4829> <http://toif/lineNumber> "80"
<http://toif/4829> <http://toif/type> "toif:CodeLocation"
<http://toif/4829> <http://toif/path> "/home/adam/Downloads/sphinx4-1.0beta6-src/sphinx4-
1.0beta6/bld/edu/cmu/sphinx/result/SimpleWordResult.class"
<http://toif/4829> <http://toif/toif:CodeLocationReferencesFile> <http://toif/4813>
<http://toif/4812> <http://toif/toif:FindingHasCodeLocation> <http://toif/4829>
<http://toif/4830> <http://toif/type> "toif:Statement"
<http://toif/4830> <http://toif/toif:StatementIsInvolvedInFinding> <http://toif/4812>
<http://toif/4830> <http://toif/toif:StatementIsSinkInFinding> <http://toif/4812>
<http://toif/4830> <http://toif/toif:StatementHasCodeLocation> <http://toif/4829>
<http://toif/3451> <http://toif/name> "logMath"
<http://toif/3451> <http://toif/type> "toif:DataElement"
<http://toif/3451> <http://toif/toif:DataElementIsInvolvedInFinding> <http://toif/4812>
```

To get a feel of how relationships join the TOIF elements, see the document: "Specification of the TOIF XML schema_v2.pdf"