

## Linked Open Data FAQ

- CURRENT STATUS: DRAFT (version 0.3).
- This is an attempt to develop a Frequently Asked Questions (FAQ) resource to help people not steeped in the technicalities of Web data standards to appreciate Linked Open Data (LOD)
  - The resource was originally developed with librarian users in mind
- This is not an authoritative document and has been open to community development.
- The document was developed with GoogleDocs via the following URL where a later version of the document may be available:
  - [https://docs.google.com/document/d/1PsHtLo0v7OZGOSrkrR5FFUHGnbPqKmLrrqlpjTOtA5o/edit?hl=en\\_US](https://docs.google.com/document/d/1PsHtLo0v7OZGOSrkrR5FFUHGnbPqKmLrrqlpjTOtA5o/edit?hl=en_US)

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## 1. Linked Data Resources

- [Library Linked Data Incubator Group deliverables may have information useful for the FAQ](#)
    - [Benefits of Library Linked Data](#)
    - Deliverables are still being worked on, feedback welcome
  - [Brief Introduction to Linked Data - by Lukas Koster](#)
  - [Linked Data for Libraries](#)
  - [Missing Links](#)
  - [Linking libraries to the real \[theatre\] world](#) - slides of ELAG 2011 talk
  - Linked Data for Universities
    - Developing and using [data.leeds.ac.uk](http://data.leeds.ac.uk) as (open) (geospatial) linked data: A briefing document for the University of Leeds for a Web Team meeting on 2011-06-23
      - [https://docs.google.com/document/d/1EgzYQKK1iq5SMS1Hn1hOfVO7yvJrGYESpxZCBPIOmwc/edit?hl=en\\_UK&pli=1](https://docs.google.com/document/d/1EgzYQKK1iq5SMS1Hn1hOfVO7yvJrGYESpxZCBPIOmwc/edit?hl=en_UK&pli=1)
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## 2. Questions and Answers

Q: What is Linked Data?

A: Linked Data is a way of publishing structured data on the Web in a web-native way. It expresses data as a set of “triples,” i.e., two objects with a relationship between them. The objects are expressed as URLs. Linked Data makes it easier for data to be found, understood, and combined with other data, by computers.

Q: What does it look like?

A: At the basic level, Linked Data is made up of subject-predicate-object assertions: “Hamlet -> has as its author -> William Shakespeare”. What makes it “data” is the expression of these assertions using vocabularies that computers can understand and work with: “work:Hamlet -> dcterms:creator -> [http://dbpedia.org/resource/William\\_Shakespeare](http://dbpedia.org/resource/William_Shakespeare)”. As this example shows, the elements of the assertion are themselves links, pointing to the objects and to a framework that defines the relationship.

Q: “dcterms:creator”?

A: Rather than everyone who wants to publish data about who authored what having to define basic relationships like “creator of,” it is far simpler and more useful to point to a standard set of terms defined by some well-known framework. In this case, “dcterms:creator” means that the relationship of creator is that which is defined by the [Dublin Core](#) (“dc”).

Q: What is RDF?

A: RDF ([Resource Description Framework](#)) is the standard way of expressing the subject-predicate-object assertions that are the “atoms” (or basic molecules?) of linked data.

Q: What is the difference between Linked Data and Linked Open Data?

A: Linked Open Data is Linked Data with an open licence (i.e., adhering to the [Open Definition](#)).

Q: Why do LOD folks talk about URI's instead of URLs?

A: It's a difference of emphasis. A URL is a locator: it's useful to fetch a copy of a page from the specified server with your browser. A URI is an identifier: it's a name for a thing or resource or relationship, which is useful as part of an assertion even if you never actually try to fetch it. Of course, there should be something you can fetch at that address, with information about the thing that the URI names. (Don't worry. No LOD person will make fun of you if you call 'em URLs :)

Q: What are the benefits to a library that adopts LOD?

A: You can aggregate information created by others to enhance your own offerings. You amplify the value of your holdings by making it easy for other institutions to use the information you've created, and to point to your holdings.

Q: If we publish data as Linked Data, do we still have to maintain our existing databases, etc.?

A: In theory, if you're using Linked Data as a primary way to maintain your data, then you can drop your legacy databases. In practice, you are going to maintain your legacy databases. [is this really a practical option in any real-world library context today? We don't want to overpromise.]

Q: Are there ontologies with Linked Data?

A: Yes. Ontologies express the relationships among ideas within a particular domain. But to use LOD, you don't first have to create an ontology (a notoriously difficult task). Rather, you are likely to find ontologies that have been published and are widely accepted. Rather than defining the relationships among terms, you instead can point (via a URI) to the relationships a standard ontology has already defined. For example, rather than building your own ontology that captures the idea that books have authors, you can link to the “author” relationship defined by the [Dublin Core](#) ontology/vocabulary.

Q: If we supply LOD, what can we as librarians and archivists stop doing?

A: For instance, pushing your data to your partners (e.g. library consortia).

Q: How much work does it take?

A:

Q: Are there good tools available?

A:

Q: How do other applications locate the linked data we publish?

A:

Q: What license should I use?

A: You and the world gets maximum value from your data when it is maximally open. A [draft under development](#) has a four-star ranking of openness. Assume four stars unless you have good reason to introduce restrictions.

Q: What are some examples of libraries publishing LOD?

A: Library of Congress, [Swedish National Library](#), the datasets listed in the [Library Linked Data group on CKAN](#)

Q: Are there any good online explanations of LOD?

A: Lukas Koster has written a [brief introduction to linked data](#).

Q: What does a MARC record look like as Linked Data?

A: Instead of fields and subfields, it is structured in RDF triples. The notion of a “record” disappears, the borders of this information container dissolve. For example, instead of thinking about each object in the collection having a record, the “real” objects would have a set of triples that connect it to the information formerly confined to the record: An author would have triples that express the set of books she’s created, her birth year, the main language she writes in, etc. This data is linked to the rest of the information in the MARC record, and, more importantly, links well beyond that. [Wow. I did not do a good job explaining that!] See an [example from HBZ](#).

Q: What is the relation of LOD and the Semantic Web?

A: Linked Open Data is a pragmatic implementation of the Semantic Web. It is an open infrastructure on which Semantic Web can start to work. It enables institutions to contribute to (and benefit from) the Semantic Web quickly, and without first having to create their own ontology.

Q: Can we control the use people make of data we make available as LOD? Suppose someone puts a Hitler moustache on it, so to speak?

A: We use the provenance information to distinguish trusted/accepted data sources. [Explain this more, please?]

Q: Can we update our LOD once we've published it?

A: Yes. You just change the data you publish same as with a webpage. Others referencing your linked data (instead of creating copies) means they will get the updated version as soon as they look for your data. [there can be a question, though, how can one know if some linked data has changed]

Q: What is SPARQL?

A: SPARQL is way for computer applications to extract linked data information (in the RDF format) from a site. It is to Linked Data what SQL is to relational databases. Technically, it queries RDF by using graph patterns: you specify an example (a pattern) of how the data you want to retrieve should look.

Q: Is this going to save us money or make us money?

A: There are some [business models for linked data](#).

Q: What's the next step if I'm interested in providing LOD?

A: Move [one step at a time](#). Start small, have a big vision. You do not have to move all your data into LOD. In fact, you should begin with a small pilot.