

# Making MODS to Linked Open Data: A Collaborative Effort for Developing MODS/RDF

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# Metadata Object Description Schema (MODS)

- Descriptive metadata standard
- Designed for descriptions of digital objects
- Derivative of MARC
- Expressed in XML, draft RDF ontology available
- Maintained by the Network Development and MARC Standards Office of the Library of Congress
- Community input
- Popular exchange format

# Based on MARC, but ...

- Subset of MARC elements
- Language based tags
- Extensible with other schemas
- Hierarchical
- Allows for inclusion of URIs

# MODS Top-level Elements

(listed in order, read down each column)

<a href="#">titleInfo</a>	<a href="#">language</a>	<a href="#">note</a>	<a href="#">location</a>
<a href="#">name</a>	<a href="#">physicalDescription</a>	<a href="#">subject</a>	<a href="#">accessCondition</a>
<a href="#">typeOfResource</a>	<a href="#">abstract</a>	<a href="#">classification</a>	<a href="#">part</a>
<a href="#">genre</a>	<a href="#">tableOfContents</a>	<a href="#">relatedItem</a>	<a href="#">extension</a>
<a href="#">originInfo</a>	<a href="#">targetAudience</a>	<a href="#">identifier</a>	<a href="#">recordInfo</a>

<<http://www.loc.gov/standards/mods/userguide/generalapp.html>>

## MODS RDF Ontology

*This initiative is a work in progress.*

MODS RDF is an RDF ontology for MODS. As MODS is an XML schema for a bibliographic element set, MODS RDF is an expression of that element set in RDF.

MODS/RDF is modeled as an OWL ontology. It is available at:

<http://www.loc.gov/mods/modsrdf/v1/modsrdf.owl>

A MODS/RDF namespace document, which provides a human-accessible list of MODS/RDF classes and properties, is accessible at:

<http://www.loc.gov/mods/modsrdf/v1>

For more detailed information see [The MODS RDF Ontology Primer](#).

### MODS XML to RDF

MODS RDF may be used to create born-RDF MODS, or it may be used to create an RDF description corresponding to an existing MODS XML record. The latter is discussed in [MODS RDF Primer - Part 2: MODS XML to RDF](#).

See [Examples](#) of MODS XML records and their corresponding RDF descriptions.

A [stylesheet](#) is available which converts existing MODS XML to MOD RDF (/XML).

# MODSRDF Example 1:

## <mods:name>

```
<mods:name type="corporate">  
  <!--Name-->  
  <name xmlns="http://www.loc.gov/mods/rdf/v1#">  
    <CorporateName xmlns="http://www.loc.gov/mads/rdf/v1#" rdf:about="d1e12">  
      <label xmlns="http://www.w3.org/2000/01/rdf-schema#">MODS/RDF Working  
Group</label>  
      <elementList rdf:parseType="Collection">  
        <FullNameElement>  
          <elementValue>MODS/RDF Working Group</elementValue>  
        </FullNameElement>  
      </elementList>  
    </CorporateName>  
  </name>  
  <!--Roles for this name-->  
  <modsrdf:roleRelationship>  
    <modsrdf:RoleRelationship>  
      <modsrdf:roleRelationshipRole>issuing body</modsrdf:roleRelationshipRole>  
      <modsrdf:roleRelationshipName rdf:resource="d1e12"/>  
    </modsrdf:RoleRelationship>  
  </modsrdf:roleRelationship>  
</mods:name>
```

# MODSRDF Example 2:

## <mods:physicalDescription>

```
<mods:physicalDescription>
  <mods:extent>1 online resource (1 envelope)</mods:extent>
  <mods:form authority="rdamedia"
  <!--physicalExtent-->
  <physicalExtent xmlns="http://www.loc.gov/mods/rdf/v1#">
    1 online resource (1 envelope)</physicalExtent>

  <!--physicalForm-->
  <physicalForm xmlns="http://www.loc.gov/mods/rdf/v1#">computer</physicalForm>

  <!--physicalForm-->
  <physicalForm xmlns="http://www.loc.gov/mods/rdf/v1#">online resource</physicalForm>

  <!--mediaType-->
  <mediaType xmlns="http://www.loc.gov/mods/rdf/v1#">JPEG</mediaType>

  <!--digitalOrigin-->
  <digitalOrigin xmlns="http://www.loc.gov/mods/rdf/v1#">
    reformatted digital</digitalOrigin>
</mods:
```

branch: master MODS-RDF / README.md

Brian Luna Lucero on Jan 6 README commit

0 contributors

3 lines (3 sloc) 0.599 kb

Raw Blame History

## MODS/RDF Working Group

The motivation behind this group is the development of a MODS/RDF ontology that will allow MODS/XML users to express their existing MODS records in RDF - interoperably - that is, according to an agreed-upon ontology. So the mission of this group is to develop a MODS ontology as well as a conversion tool (e.g. stylesheet) to convert existing MODS XML. We are not developing a bibliographic ontology from the ground up. The work is based on MODS XML. The basis for this work will be the LC MODS RDF ontology, and stylesheet; see <http://www.loc.gov/standards/mods/modsrdf/>.

<https://github.com/blunalucero/MODS-RDF>



# Challenges

- Goals
- Logistics
  - Closed listserv
  - GitHub page
  - Working group calls

# Some agreements reached

- `<typeOfResource>`
- `<type>` attributes
- Superfluous wrappers [top level elements]
- Single vs. Dual properties

## <typeOfResource>

- Has an enumerated list of values, e.g., text, cartographic, notated music, and etc. in MODSXML
- Will be represented in MODS/RDF as  
`<modsrdf:type rdf:resource="type value in URL">`

For example:

```
<modsrdf:type  
  rdf:resource="http://id.loc.gov/vocabulary/resourceTypes/Txt">
```

## <type> attributes

- <note>: Suggested not enumerated list, but certain <note> types will be retained as properties (e.g. ownership, funding, thesis, exhibitions)
- <abstract> Suggested values: scope, subject, content advice, review not retained
- <accessCondition>: restriction on access, use and reproduction retained

# Superfluous wrappers [top level elements]

## 1. Top level element <physicalDescription>

- Not used as a wrapper and will be eliminated in MODSRDF
- Associated subelements will be treated as direct properties:

<form> <reformattingQuality> <internetMediaType>

<extent> <digitalOrigin> <note>

# Superfluous wrappers [top level elements]

## 2. Top level element <originInfo>

- Not used as a wrapper
- Decisions on how to treat subelements:
  - “superclass” event with subclasses for typical events such as publication, manufacture, etc.
  - <edition>, <issuance>, < frequency> as separate properties

# Vocabulary Term as Object of a Triple: Single vs. Dual Property

## Single property

### URI Used

@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .  
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix modsrdf:  
<http://www.loc.gov/standards/mods/modsrdf/v1/#> .  
@prefix pto: <http://www.productontology.org/id/> .

<http:example.org/book/1>  
a pto:Book;  
modsrdf:language <http://id.loc.gov/vocabulary/iso639-2/fre>;  
.  
.

## Single property

### Literal Used

<http:example.org/book/1>  
a pto:Book;  
modsrdf:language "french";  
.

# Vocabulary Term as Object of a Triple: Single vs. Dual Property

## Dual Properties

### URI Used

```
<http://example.org/book/1>  
a pto:Book;  
modsrdf:language <http://id.loc.gov/vocabulary/iso639-2/fre/>;  
.
```

### Literal Used

```
<http://example.org/book/1>  
a pto:Book;  
modsrdf:languageLiteral "french";  
.
```



# Under Discussion

- Linking to other entities
- Titles
- Defining properties for roles
- Classification
- relatedItem

## Linking to People, Places, Organizations, Events etc.

- LC MODS RDF approach: MADS RDF inline
- Direct approach
- BIBFRAME approach
- New Framework

# Direct vs. Indirect

## Direct Approach

@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .

@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .

@prefix modsrdf: <http://www.loc.gov/standards/mods/modsrdf/v1/#> .

@prefix pto: <http://www.productontology.org/id/> .

<http://example.org/book/1>

a pto:Book;

modsrdf:creator <http://viaf.org/viaf/71392434>;

# Direct vs. Indirect

## Indirect Approach

```
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .  
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix modsrdf: <http://www.loc.gov/standards/mods/modsrdf/v1/#> .  
@prefix pto: <http://www.productontology.org/id/> .
```

```
<http://example.org/book/1>  
a pto:Book;  
modsrdf:creator <http://example.org/authority/1>;  
.  
<http://example.org/authority/1>  
a modsrdf:Person;  
modsrdf:label "Huxley, Aldous, 1894-1963";  
modsrdf:variantLabel "Huxley, Aldous (Aldous Leonard), 1894-1963";  
modsrdf:variantLabel "Huxley, Aldous";  
modsrdf:hasAuthoritativeDescription <http://id.loc.gov/authorities/names/n79053995>;
```

# Titles

- title types: <abbreviated>, <translated>, <alternative>, <uniform>
- name/title
- parse out <subTitle>, <partName>, <partNumber>, <nonSort> or as a single string?

# Working with Other Library Linked Data Developments

- Create mapping between MODS (MODSRDF) and selected other library linked data development, e.g., BIBFRAME, schema.org, Europeana...
- Gather use cases with other library linked data works
- Develop best practice document for MODS user community

## Questions for Discussion

- Are you working on similar Linked Data projects?
- If so, are you having the same discussions/questions?
- What are your goals/expectations for using Linked Data?
- Do you have use cases for MODS records as Linked Data?