

Capturing Cataloger Expectations in an RDF Editor

SHACL, Lookups, and VitroLib

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Linked Data for Production

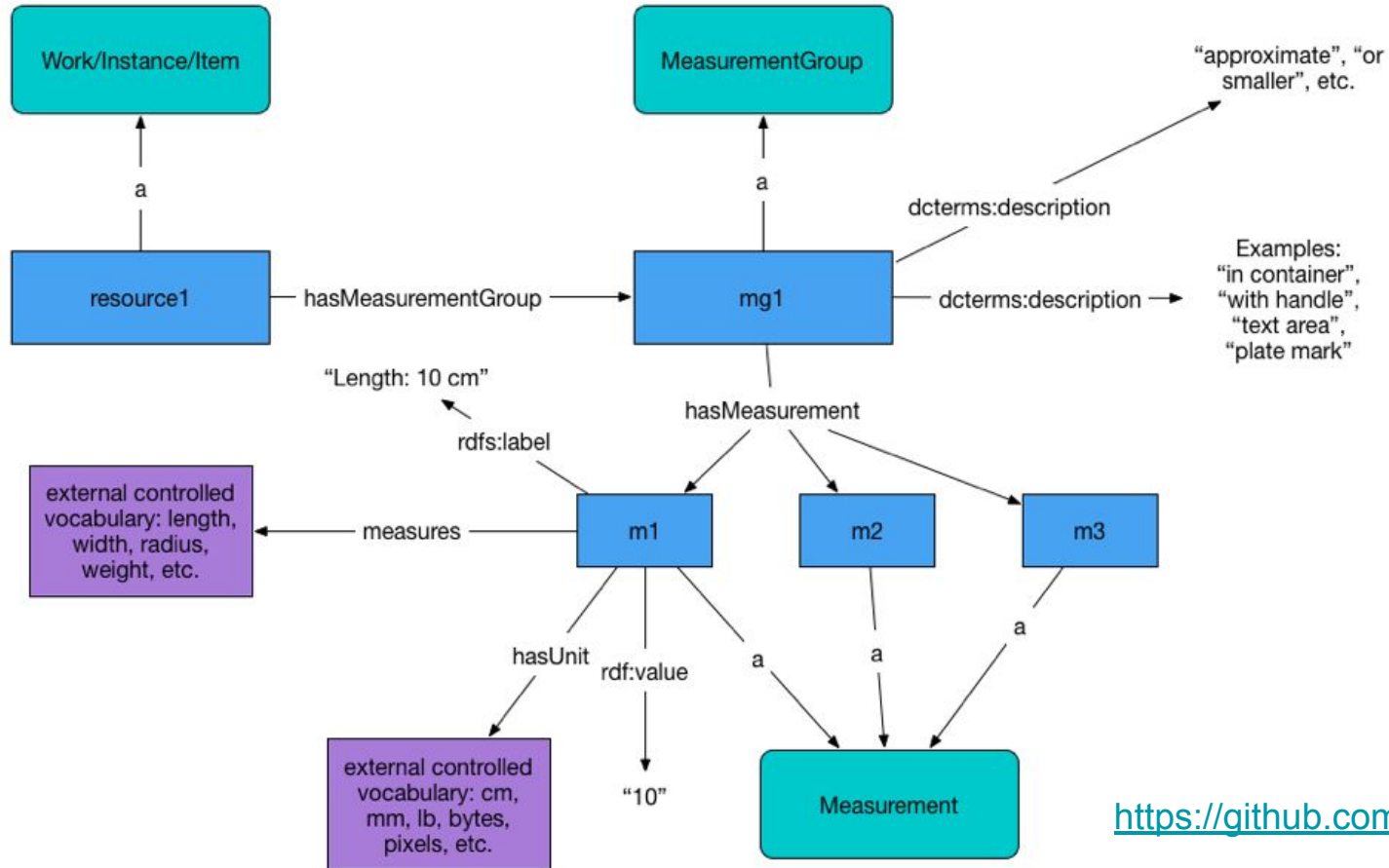


Linked Data for Libraries

Building an RDF editor for catalogers, with catalogers

- How should the ontology behave in the interface?
 - Form definition and implementation
- How can we support lookups to enable linking to authorities and data?
 - Lookup integration and usability

Model + SHACL -> VitroLib Behavior: Measurements



Why Shapes Constraint Language (SHACL)?

w3c Recommendation

Existing tooling for the creation of SHACL

Shape types:

- Validating
- UI Non-Validating useful for form generation

Art Object: https://github.com/LD4P/arm/tree/master/application_profiles/art/shacl

Rare Monograph: https://github.com/LD4P/arm/tree/master/application_profiles/raremat_monograph/shacl

Hip Hop LPs: <https://github.com/LD4P/HipHop/tree/master/application-profiles>

Model + SHACL -> VitroLib Behavior: Measurements

```
raremat_monograph_form:MeasurementGroupForm_measure_hasMeasurement
```

```
a sh:PropertyShape ;
```

```
sh:path measure:hasMeasurement ;
```

```
sh:class measure:Measurement ;
```

```
sh:description "The measurement of a single aspect of a resource, including value, units, and the dimension measured. I
```

```
sh:name "Single measurement" ;
```

```
sh:nodeKind sh:IRI ;
```

```
sh:order "0"^^xsd:int ;
```

```
tosh:editWidget swa:NestedObjectEditor .
```

```
raremat_monograph_form:MeasurementGroupForm_dcterms_description
```

```
a sh:PropertyShape ;
```

```
sh:path dcterms:description ;
```

```
sh:description "Record any qualifying information about the measurement, e.g. 'approximate', 'or smaller', 'in contain
```

```
sh:name "Qualifying information about the measurement" ;
```

```
sh:nodeKind sh:Literal ;
```

```
sh:order "1"^^xsd:int .
```

Model + SHACL -> VitroLib Behavior

```
raremat_monograph_form:MeasurementForm_rdf_value
```

```
  a sh:PropertyShape ;  
  sh:path rdf:value ;  
  sh:description "Numeric value for the measurement" ;  
  sh:name "Numeric value" ;  
  sh:nodeKind sh:Literal ;  
  sh:order "0"^^xsd:int .
```

```
raremat_monograph_form:MeasurementForm_measure_hasUnit
```

```
  a sh:PropertyShape ;  
  sh:path measure:hasUnit ;  
  sh:description "Unit used to express the measurement" ;  
  sh:name "Unit" ;  
  sh:nodeKind sh:IRI ;  
  sh:order "1"^^xsd:int ;  
  sh:in ( <http://qudt.org/vocab/unit#Centimeter> <http://qudt.org/vocab/unit#Foot> <http://qudt.org/vocab/unit#Meter> <http://qudt.org/vocab/unit#Millimeter> <http://qudt.org/vocab/unit#Nanometer> <http://qudt.org/vocab/unit#Pound> <http://qudt.org/vocab/unit#Second> <http://qudt.org/vocab/unit#SquareFoot> <http://qudt.org/vocab/unit#SquareMeter> <http://qudt.org/vocab/unit#SquareYard> <http://qudt.org/vocab/unit#Tonne> <http://qudt.org/vocab/unit#Yard> ) .
```

```
raremat_monograph_form:MeasurementForm_measure_measures
```

```
  a sh:PropertyShape ;  
  sh:path measure:measures ;  
  sh:description "Dimension or other aspect of a resource that is measured by this Measurement." ;  
  sh:name "Dimension or other aspect" ;  
  sh:nodeKind sh:IRI ;  
  sh:order "2"^^xsd:int ;  
  sh:in ( aat:300055621 aat:300055623 aat:300055624 aat:300055644 aat:300055645> aat:300055646 ) .
```

Measurement Group

Measurement Groups

Add Measurements

Measurement 1

Numeric Value *

Unit *

---Select option---

Dimension *

---Select option---

Measurement 2

Numeric Value

Unit

---Select option---

Dimension

---Select option---

Measurement 3

Numeric Value

Unit

---Select option---

Dimension

---Select option---

Translation process: Mapping

SHACL

Form :
Types, Options, Vocabs

Property label, grouping,
domain/range



Vitro/VitroLib

Form: Add/edit property

Configuration for
property display and
grouping



Translation process: Querying and Defining

```
ibibliotek-o_shapes_audio:AudioWorkForm
rdf:type rdfs:Class ;
rdf:type sh:NodeShape ;
rdfs:label "Audio form" ;
rdfs:subClassOf rdfs:Resource ;
sh:targetClass bf:Audio ;

sh:property [
  sh:path bf:genreForm ;
  sh:class <http://www.w3.org/2004/02/skos/core#Concept> ;
  sh:group bibliotek-o_shapes_audio:TypeGenreFormPropertyGroup ;
  sh:name "Form Genre" ;
  sh:nodeKind sh:IRI ;
  sh:order "0"^^xsd:decimal ;
  bibliotek-o_shapes_audio:lookup bibliotek-o_shapes_audio:LD4LookupService ;
] ;
```



```
//Get all properties and info for an audio work form
//Need to ensure the ordering stays consistent with the same properties
private static Model queryShape(String shapeURI, Model queryModel) {
  String PREFIXES = "PREFIX sh: <http://www.w3.org/ns/shacl#> " +
    "";
  String query = PREFIXES +
    "SELECT ?property ?path ?class ?group ?name ?propDescription ?nodeKind
    { <" + shapeURI + "> sh:property ?property . " +
    "?property sh:path ?path . " +
    "OPTIONAL {?property sh:class ?class .} " +
    "OPTIONAL {?property sh:group ?group .} " +
    "OPTIONAL {?property sh:name ?name .} " +
    "OPTIONAL {?property sh:description ?propDescription .} " +
    "OPTIONAL {?property sh:nodeKind ?nodeKind .} " +
    "OPTIONAL {?property sh:order ?order .} " +
    "OPTIONAL {?property sh:target ?target .} " +
    "OPTIONAL {?property sh:or ?orList .} " +
    "OPTIONAL {?property sh:in ?inList .} " +
    "OPTIONAL { <" + shapeURI + "> sh:targetClass ?shapeTarget .} " +
    + " } ORDER BY ?path ?order ?class ?target";
  /*query = PREFIXES +
  "SELECT ?property WHERE " +
  "{ <" + shapeURI + "> sh:property ?property . " +
  + " }";
  query = PREFIXES + "SELECT ?s ?p ?o WHERE {?s ?p ?o .}";*/
  System.out.println("Query is " + query);
  ResultSet rs = executeQuery(queryModel, query);
  Model returnModel = mapToFauxProperties(rs);
}
```



```
fpgenconfig212 <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#displayName> "Form Genre" .
fpgenconfig212 <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#propertyGroup> <http://bibliotek-o.org/shapes/audio/TypeGenreFormPropertyGroup> .

fpgn212 <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#configContextFor> <http://id.loc.gov/ontologies/bibframe/genreForm> .
fpgn212 <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#hasConfiguration> <http://vitro.mannlib.cornell.edu/ns/vitro/siteConfig/fpgenconfig212> .
fpgn212 <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#qualifiedBy> <http://www.w3.org/2004/02/skos/core#Concept> .
fpgn212 <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#qualifiedByDomain> <http://id.loc.gov/ontologies/bibframe/Audio> .
fpgn212 <http://www.w3.org/1999/02/22-rdf-syntax-ns#type> <http://vitro.mannlib.cornell.edu/ns/vitro/ApplicationConfiguration#ConfigContext> .
```


SHACL to Vitro Configuration

	SHACL	Vitro
Predicate URI	path	configContextFor
Label for display	name	displayName
Acting Domain	target	qualifiedByDomain
Acting Range	class	qualifiedBy
Ordering	order	displayRankAnnot
In Property group	group	propertyGroup

- Vitro display: Faux properties and custom forms

```
:InstanceTitlePropertyGroup
  rdf:type sh:PropertyGroup ;
  rdfs:label "Titles" ;
  sh:description "To group title information for the resource." ;
  sh:order "0"^^xsd:int .

:InstanceTypePropertyGroup
  rdf:type sh:PropertyGroup ;
  rdfs:label "Instance Carrier Type" ;
  sh:order "1"^^xsd:int .

:InstanceGenreFormPropertyGroup
  rdf:type sh:PropertyGroup ;
  rdfs:label "Instance Genre" ;
  sh:description "To group Instance Genres." ;
  sh:order "2"^^xsd:int .

:InstanceActivityPropertyGroup
  rdf:type sh:PropertyGroup ;
  rdfs:label "Instance Agents and Roles" ;
  sh:description "To group Agent role information for the resource." ;
  sh:order "3"^^xsd:int .

:InstanceAccompanimentsPropertyGroup
  rdf:type sh:PropertyGroup ;
  rdfs:label "Instance Parts and Accompaniments" ;
  sh:order "4"^^xsd:int .

:InstancePhysicalDescriptionPropertyGroup
  rdf:type sh:PropertyGroup ;
  rdfs:label "Instance physical description" ;
  sh:order "5"^^xsd:int .
```

“Titles”
Order = 0

“Instance Physical Description”
Order = 5

Portrait of Myself

Instance

(instance) [🔗](#)

Titles

Instance Carrier Type

Instance Genre

Instance Agents And Roles

Instance Parts And Accompaniments

Instance Physical Description

Instance Of Work

Has Item

Bibliographic Citations For The Instance

Related Works

Awards Received

Instance Notes

Instance Identifiers

Other

View All

Titles



Preferred title

[Portrait of Myself](#)



Other title [+](#)

Instance Carrier Type



Carrier type [+](#)

```
# ////////// INSTANCE FORM BEGINS HERE //////////////////////
```

```
raremat_monograph_form:InstanceForm  
  rdf:type sh:NodeShape ;  
  rdfs:label "Instance of Monographic Text" ;  
  sh:targetClass bf:Instance ;
```

Properties defined as applicable to instance

```
sh:property raremat_monograph_form:InstanceForm_bf_extent ;  
sh:property raremat_monograph_form:InstanceForm_measure_hasMeasurementGroup ;  
sh:property raremat_monograph_form:InstanceForm_bf_bookFormat ;
```

```
raremat_monograph_form:InstanceForm_measure_hasMeasurementGroup
```

```
  a sh:PropertyShape ;  
  sh:path measure:hasMeasurementGroup ;  
  sh:class measure:MeasurementGroup ;  
sh:group raremat_monograph_property_groups:InstancePhysicalDescriptionPropertyGroup ;  
sh:name "Instance measurement information" ;  
sh:nodeKind sh:IRI ;  
sh:order "1"^^xsd:int ;  
tosh:editWidget swa:NestedObjectEditor .
```

Property associated with
property group

- Titles
- Instance Carrier Type
- Instance Genre
- Instance Agents And Roles
- Instance Parts And Accompaniments
- Instance Physical Description
- Instance Of Work
- Has Item
- Bibliographic Citations For The Instance
- Related Works
- Awards Received
- Instance Notes
- Instance Identifiers
- Other
- View All

Instance pagination and foliation +

Instance measurement information +

Book format +

Has base material +

Has applied material +

```
raremat_monograph_form:MeasurementForm
  rdf:type sh:NodeShape ;
  rdfs:label "Measurement form" ;
  sh:targetClass measure:Measurement ;
  sh:property raremat_monograph_form:MeasurementForm_rdf_value .
```

```
raremat_monograph_form:MeasurementForm_rdf_value
  a sh:PropertyShape ;
  sh:path rdf:value ;
  sh:description "Numeric value for the measurement" ;
  sh:name "Numeric value" ;
  sh:nodeKind sh:Literal ;
  sh:order "0"^^xsd:int .
```

```
raremat_monograph_form:MeasurementForm_measure_hasUnit
  a sh:PropertyShape ;
  sh:path measure:hasUnit ;
  sh:description "Unit used to express the measurement" ;
  sh:name "Unit" ;
  sh:nodeKind sh:IRI ;
  sh:order "1"^^xsd:int ;
  sh:in ( <http://qudt.org/vocab/unit#Centimeter> <http://qudt.org/vocab/unit#Foot> <http://qudt.org/vocab/unit#Gram> <http://qudt.org/
```

```
raremat_monograph_form:MeasurementForm_measure_measures
  a sh:PropertyShape ;
  sh:path measure:measures ;
  sh:description "Dimension or other aspect of a resource that is measured by this Measurement. For example, a Measurement may specify
  sh:name "Dimension or other aspect" ;
  sh:nodeKind sh:IRI ;
  sh:order "2"^^xsd:int ;
  sh:in ( aat:300055621 aat:300055623 aat:300055624 aat:300055644 aat:300055645> aat:300055646 aat:300055647 aat:300055649 aat:30005624
```

Add Measurements

Measurement 1

Numeric Value *

Unit *

Centimeter

--Select option--

Centimeter

Foot

Gram

Inch

Kilogram

Kilometer

Meter

Mile US Statute

Millimeter

Metric Ton

Ounce Mass

Pound Mass

Dimension *

--Select option--

--Select option--

area (measurement)

circumference

diameter

height

length

thickness

width

volume (quantity or mass)

weight (heaviness attribute)

depth (size/dimension)

footprint (area)

sizes (numbered magnitude)

breadth

footage

capacity (size measurement)

base (relationship indicator)

target (relationship indicator)

count (sum total)

interval (measurement indicator)

Lookups and linking

```
raremat_monograph_form:WorkForm_bf_genreForm
  a sh:PropertyShape ;
  sh:path bf_genreForm ;
  sh:class skos:Concept ;
  sh:group raremat_monograph_property_groups:WorkSubjectGenreFormPropertyGroup ;
  sh:name "Form Genre" ;
  sh:nodeKind sh:IRI ;
  sh:order "1"^^xsd:int ;
  raremat_monograph_form:lookup raremat_monograph_form:LD4LookupService .
```


Closing comments on SHACL

- Questions around style and consumability
 - One file with self-contained sh:NodeShapes vs. Multiple files tying decisions from different sh:Nodes together using sh:node*
- Maintenance and reuse**
- More generally
 - Validation? (open vs. closed shapes, etc.)
 - Easing SHACL creation
 - Best practices for recording expected app behavior

* Layers of Profile Development <https://goo.gl/bXD9mN>

** https://github.com/LD4P/arm/blob/master/doc/shacl_maintenance.md

Lookups and context

EntityType	PropertyPath	Search	Display
http://www.w3.org/2004/02/skos/core#Concept	http://www.w3.org/2004/02/skos/core#prefLabel	X	X - Preferred label
http://www.w3.org/2004/02/skos/core#Concept	http://www.w3.org/2004/02/skos/core#altLabel	X	X - Alternative label
http://www.w3.org/2004/02/skos/core#Concept	http://www.w3.org/2004/02/skos/core#note		X - Scope note
http://www.w3.org/2004/02/skos/core#Concept	http://www.loc.gov/mads/rdf/v1#hasSource / http://www.loc.gov/mads/rdf/v1#citation-note		X - Citation note
http://www.w3.org/2004/02/skos/core#Concept	http://www.loc.gov/mads/rdf/v1#hasSource / http://www.loc.gov/mads/rdf/v1#citation-source		X - Citation source
http://www.w3.org/2004/02/skos/core#Concept	http://www.w3.org/2004/02/skos/core#broader / http://www.w3.org/2004/02/skos/core#prefLabel	?	X - Broader
http://www.w3.org/2004/02/skos/core#Concept	http://www.w3.org/2004/02/skos/core#narrower / http://www.w3.org/2004/02/skos/core#prefLabel	?	X - Narrower
http://www.w3.org/2004/02/skos/core#Concept	<code>rdf:type <http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority></code>		X - Deprecated
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.loc.gov/mads/rdf/v1#useInstead / http://www.w3.org/2004/02/skos/core#prefLabel		X - Use instead
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.w3.org/2004/02/skos/core#prefLabel	X	X - Preferred label
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.w3.org/2004/02/skos/core#altLabel	X	X - Alternative label
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.w3.org/2004/02/skos/core#note		X - Scope note
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.loc.gov/mads/rdf/v1#hasSource / http://www.loc.gov/mads/rdf/v1#citation-note		X - Citation note
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.loc.gov/mads/rdf/v1#hasSource / http://www.loc.gov/mads/rdf/v1#citation-source		X - Citation source
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.w3.org/2004/02/skos/core#broader / http://www.w3.org/2004/02/skos/core#prefLabel	?	X - Broader
http://www.loc.gov/mads/rdf/v1#DeprecatedAuthority	http://www.w3.org/2004/02/skos/core#narrower / http://www.w3.org/2004/02/skos/core#prefLabel	?	X - Narrower

More on the LD4P2 process for requesting a dataset for QA:

<https://wiki.duraspace.org/display/LD4P2/Request+a+New+Dataset+For+QA>

[Home](#) | [Works](#) | [Instances](#) | [Items](#) | [People](#) | [Organizations](#) |

Add activity/role

Activity Type

Composer

Lookup agent Create new agent

LOC Person LOC Organization ISNI

Person or Organization *

twain, mark 1835

Twain, Mark, 1835-1910 (Spirit)

Twain, Mark, 1835-1910

Location

Select an existing Entity or create a new one.

Save

OR [Cancel](#)

* required fields

Lookup and Add Genre Form

Genre Form	Notes	Additional Info
<input type="radio"/> Soul music	No definition provided.	Narrower: <ul style="list-style-type: none">• Philadelphia soul (Music)• Soca (Music)
<input type="radio"/> Beguines (Music) Alternate Labels: <ul style="list-style-type: none">• Bigins (Music)• Biguines (Music)	No definition provided.	Broader: <ul style="list-style-type: none">• Dance music
<input type="radio"/> Bluegrass music	No definition provided.	Broader: <ul style="list-style-type: none">• Country music
<input type="radio"/> Bop (Music) Alternate Labels: <ul style="list-style-type: none">• Bebop (Music)• Rebop (Music)• Be-bop (Music)	No definition provided.	Broader: <ul style="list-style-type: none">• Jazz
<input type="radio"/> Boogaloes (Music) Alternate Labels: <ul style="list-style-type: none">• Boogalus (Music)• Boo-ga-loos (Music)• Bugaloes (Music)• Popcorn music• Shing-a-lings (Music)	No definition provided.	Broader: <ul style="list-style-type: none">• Dance music• Popular music
<input type="radio"/> Bourrées (Music) Alternate Labels:	No definition provided.	Broader: <ul style="list-style-type: none">• Dance music

UI-QA-Authority

Hyrax/Vitrolib – UI for selecting an entry from an authority

Application

http://localhost:3000/qa/search/linked_data/oclc_fast/personal_name?q=twain&maximumRecords=2

```
[{"uri": "http://id.worldcat.org/fast/31622", "id": "31622",  
  "label": "Twain, Mark, 1835-1910"},  
 {"uri": "http://id.worldcat.org/fast/365563", "id": "365563",  
  "label": "Twain, Shania"}]
```

QA – normalize RDF returned from an authority

R.A.Y.L.E

<http://experimental.worldcat.org/fast/search?query=oclc.personalName+%22twain%22&sortKeys=usage&maximumRecords=2>

RDF of search results

Direct Access of External Authority

Jena-Fuseki-Lucene Cache*

LDF Cache

Active-Triples' LDF Cache (Marmotta or Blazegraph)

D.A.V.E.

* search of cache performed via Lucene index

Front-end application
Query and Display



R.A.Y.L.E
Linked Data QA API

Rails Allows Your
Linked Data
Extraction



D.A.V.E.
Cache, Index, and Access

Data, Authorities,
Vocabularies,
Entities



Authority

Data

Authority

Use Cases: Authority oriented

Use an external authority to find and retrieve a single value to use as an authority term or a controlled value.

Basic Workflow

1. **QA-SEARCH**: Pass a query to an authority and get back multiple potential terms + additional context about each term
2. **Select** a term based on its label + additional context
3. **Save** the URI of the selected term, optionally caching its label as well

Keywords *

Select 4-6 keywords that will help users locate this publication when searching.

- chorion
- dried eggs
- egg shell
- egg shell quality
- egg shell thickness
- eggs
- fish roe
- raw eggs
- shell gland

https://lookup.ld4l.org/authorities/search/linked_data/nalt_ld4l_cache?q=eggs&maxRecords=4

```
[
  {
    "uri": "http://lod.nal.usda.gov/nalt/24837",
    "id": "http://lod.nal.usda.gov/nalt/24837",
    "label": "eggs"
  }, {
    "uri": "http://lod.nal.usda.gov/nalt/60968",
    "id": "http://lod.nal.usda.gov/nalt/60968",
    "label": "raw eggs"
  }, {
    "uri": "http://lod.nal.usda.gov/nalt/75629",
    "id": "http://lod.nal.usda.gov/nalt/75629",
    "label": "chicken eggs"
  }, {
    "uri": "http://lod.nal.usda.gov/nalt/34829",
    "id": "http://lod.nal.usda.gov/nalt/34829",
    "label": "duck eggs"
  }
]
```


Use Cases: Expanded Context oriented

Get additional information about a URI you already have.

Basic Workflow

1. **Read** saved URI from your app
2. **QA-FETCH**: Use the URI get all available data and get back normalized json or json-ld (defaults to json)
3. **Display** the returned data along with the saved data to show additional information in the UI

Agrovoc Keyword

hive products http://aims.fao.org/aos/agrovoc/c_3655

narrower: propolis http://aims.fao.org/aos/agrovoc/c_15919

narrower: royal jelly http://aims.fao.org/aos/agrovoc/c_26817

narrower: honey http://aims.fao.org/aos/agrovoc/c_3652

narrower: beeswax http://aims.fao.org/aos/agrovoc/c_866

narrower: honeycomb extracts http://aims.fao.org/aos/agrovoc/c_29026

broader: animal products http://aims.fao.org/aos/agrovoc/c_438

sameas: <http://d-nb.info/gnd/4006529-7>

sameas: http://cat.aii.caas.cn/concept/c_12939

Oclc person

Cornell, Ezra, 1807-1874

(source: http://dbpedia.org/resource/Ezra_Cornell)

Birth: 1807-01-11

Death: 1874-12-09

Ezra Cornell (January 11, 1807 – December 9, 1874) was an American businessman, politician, philanthropist and educational administrator. He was the founder of Western Union and a co-founder of Cornell University. He also served as President of the New York Agriculture Society and as a New York state Senator.

https://lookup.ld4l.org/authorities/search/linked_data/locgenres_ld4l_cache?q=animation&maxRecords=4

```
[{
  "uri":"http://id.loc.gov/authorities/genreForms/gf2011026181",
  "id":"http://id.loc.gov/authorities/genreForms/gf2011026181",
  "label":"Cutout animation films",
  "context":{
    "Alternate Label":[
      "Paper cut-out animation films",
      "Cut-out animation films",
      "Collage animation films"],
    "Broader":[{
      "uri":"http://id.loc.gov/authorities/genreForms/gf2011026049",
      "id":"http://id.loc.gov/authorities/genreForms/gf2011026049",
      "label":"Animated films"}]
  }
},
...
]
```

Use Cases: Entity oriented

Use an external source to find a single entity and retrieve available data associated with the entity for use in your app.

Basic Workflow

1. **QA-SEARCH**: Pass a query to an external source and get back multiple potential matching entities + additional context
2. **Select** a term based on its label + additional context
3. **QA-FETCH**: Use the URI of the selected term to get all available data about that URI and get back normalized json or json-ld (defaults to json)
4. **Use** the statements in the graph to populate multiple fields of the new entity

The screenshot displays a BIBFRAME Instance record for a 'BIBFRAME Work'. The record is organized into several sections, each with a label and a list of values. Each value has edit and delete icons. A 'Clone Instance' button is located in the top right corner.

- BIBFRAME Instance** (Info icon): Clone Instance
- Instance of**: BIBFRAME Work; Technological entanglement
- Title Information**: Instance Title, Variant Title, Parallel Title, Transliterated Title; Technological entanglement : cooperation, competition and ...
- Statement of Responsibility Relating to Title Proper (RDA 2.4.2)**: Statement of Responsibility Relating to Title Proper (RDA 2.4.2); Elsa B. Kania
- Edition Statement (RDA 2.5)**: Edition Statement (RDA 2.5)
- Publication, Distribution, Manufacture Statements**: Publication Activity, Distribution Activity, Manufacture Activity; Australian Strategic Policy Institute, International Cyber...
- Copyright Date (RDA 2.11)**: Copyright Date (RDA 2.11)
- Series Statement**: Series Statement; Policy brief report
- Mode of Issuance (RDA 2.13)**: Mode of Issuance (RDA 2.13); single unit
- Identifiers**: ISBN, Other Identifier, Local system number
- Notes about the Instance**: Note
- Media type (RDA 3.2)**: Media type (RDA 3.2); unmediated
- Extent**: Extent; 16 pages
- Dimensions (RDA 3.5)**: Dimensions (RDA 3.5); 30 cm.

QA 2.2 Linked Data API ^{2.2} ^{OAS3}

<https://lookup.ld4l.org/qa/apidoc/apidoc.json>

Apache 2.0

Server

<https://lookup.ld4l.org/authorities>

Authority Management Services managing all authorities.

GET `/list/linked_data/authorities` List currently loaded linked data authorities

GET `/reload/linked_data/authorities` Reload linked data authorities. Using this command avoids having to restart the rails server.

Search Query Services sending a search query to an authority to retrieve multiple results.

GET `/search/linked_data/{vocab}` Send a query string to an authority and return search results. Parameters are typical examples. Actual parameters are driven by the authority's config file.

OPTIONS `/search/linked_data/{vocab}` CORS preflight request

GET `/search/linked_data/{vocab}/{subauthority}` Send a query string to a subauthority in an authority and return search results.

OPTIONS `/search/linked_data/{vocab}/{subauthority}` CORS preflight request

Fetch Term Services to fetch a single term from an authority.

Future Directions

The future is now, an update from LD4P2

Latest News

- We are looking for a Wikipedian in residence to join our team and help identify how libraries can contribute and relate their information with that of the open Web. [Learn more](#)
- We achieved our first milestone on November 1. The Profile Editor has been released into production, and we are actively testing it.

USERNAME

PASSWORD

Login

[Forgot Password](#)
[Request Account](#)

The underdrawing for the new world of linked data in libraries

Sinopia (BFE) Profiles are the new SHACL*

- Choosing to create BFE profiles for practical reasons
- Near term, working from existing LoC profiles created during their recent pilots with adjustments as needed
- A version of the BIBFRAME Profile Editor will be supported in Sinopia for LD4P2 cohort members to create their own forms.
- Long term, likely want to use SHACL or something similar, that is better equipped for modularity and reuse

* Not really. There has been no formal comparison of SHACL and the BIBFRAME Profile Editor (BFE) json specification.

Sinopia Lookup work

- Building on VitroLib lookup results
 - Context generally useful and navigation to authoritative sources important
- LD4P2 usability session (jointly facilitated)
 - 6 participants across different cohort institutions
 - Prototype based on BFE
 - Contextual information for genre forms and names
 - Links to Wikipedia, ISNI, VIAF where available
 - Additional mockups

Person



Person

Search LCNAF

- Taylor, Sam** > VIAF
Variant Labels: Taylor, Samuel L., 1916-1990
Dates: (edtf) 1916-07-12 - (edtf) 1990-10-05
Occupation: Saxophonists, Clarinetists, Jazz musicians
- Taylor, Sam, 1970-** > VIAF Wikidata > ISNI >
Dates: (edtf) 1970 -
Occupation: Translators
- Taylor, Sam, 1979-** > VIAF
- Taylor, Sam, 1968-** > VIAF
Dates: 19680319 -
Occupation: College teachers
- Taylor, Sam S.** > VIAF
- Taylor, Sam (Singer)** > VIAF
- Taylor, Sam, 1934-2009** > VIAF Wikidata >
- Taylor, Sam** > VIAF


Taylor-Wood, Sam, 1967- 

[VIAF](#) [Wikidata](#) [ISNI](#)

Variant Labels: Wood, Sam Taylor-, 1967- ,Johnson, Sam Taylor-, 1967-

Dates: (edtf) 1967-03-04 -

Occupation: Artists, Artists, Photographers, Photographers, Motion picture producers and directors

ASK A LIBRARIAN DIGITAL COLLECTIONS LIBRARY CATALOGS

The Library of Congress > [Linked Data Service](#)

Taylor-Johnson, Sam, 1967-

From [Library of Congress Name Authority File](#)

Details Visualization

Taylor-Johnson, Sam, 1967-

URI(s)
> <http://id.loc.gov/authorities/names/nr98013146>

Instance Of
> [MADS/RDF PersonalName](#)

Taylor, Sam, 1975- 

[VIAF](#) [ISNI](#)

Variant Labels: Taylor, Samuel Beckett, 1975-

Brewitt-Taylor, Sam, 1984- 

[VIAF](#) [ISNI](#)

Variant Labels: Taylor, Sam Brewitt-, 1984-

Dates: 19841030 -

Moraes, Sam, 1991- 

[VIAF](#)

Variant Labels: Moraes, Samantha Taylor, 1991-

○ **Taylor-Wood, Sam, 1967- >**

VIAF Wikidata ISNI

Variant Labels: Wood, Sam Taylor-, 1967- ,Johnson, Sam Taylor-, 1967-

Dates: (edtf) 1967-03-04 -

Occupation: Artists, Artists, Photographers, Photographers, Motion picture producers and directors

English Not logged in Talk Contributions Create account Log in

Item Discussion Read View history Search Wikidata

Sam Taylor-Johnson (Q1273122)

English film director

Sam Taylor-Wood | Samantha "Sam" Taylor-Johnson | Sam Taylor- Wood | Samantha Taylor-Johnson | Sam Taylor | Taylor Johnson

In more languages Configure

Language	Label	Description	Also known as
English	Sam Taylor-Johnson	English film director	Sam Taylor-Wood Samantha "Sam" Tayl Sam Taylor- Wood Samantha Taylor-John Sam Taylor

○ **Taylor, Sam, 1975- >**

VIAF ISNI

Variant Labels: Taylor, Samuel Beckett, 1975-

○ **Brewitt-Taylor, Sam, 1984- >**

VIAF ISNI

Variant Labels: Taylor, Sam Brewitt-, 1984-

Dates: 19841030 -

○ **Moraes, Sam, 1991- >**

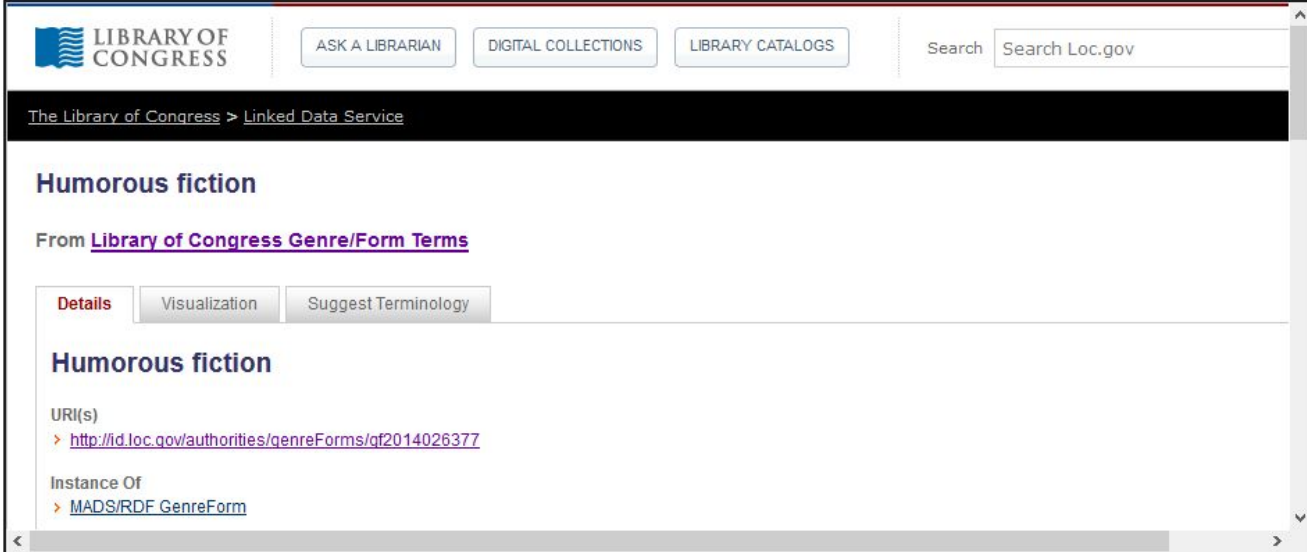
VIAF

Variant Labels: Moraes, Samantha Taylor, 1991-

Search LCGFT (RDA 6.3)

humorous fiction

Lookup

Labels	Notes/Sources	Broader/Narrower
<input type="radio"/> Humorous fiction ▾ Alternate Labels: <ul style="list-style-type: none"> • Comedy fiction • Comic fiction 	Source: GSAFD, 2000 Note: (Humorous fiction. Use for novels and stories written in a comical and amusing manner. UF Comic novels, Humorous stories... Show more	Broader: <ul style="list-style-type: none"> • Humor ↗ • Fiction ↗ Narrower: <ul style="list-style-type: none"> • Tall tales ↗
<div data-bbox="390 426 1704 983">  <p>The screenshot shows the Library of Congress website interface. At the top, there is the Library of Congress logo and navigation buttons: 'ASK A LIBRARIAN', 'DIGITAL COLLECTIONS', and 'LIBRARY CATALOGS'. A search bar contains 'Search Loc.gov'. Below the navigation is a breadcrumb trail: 'The Library of Congress > Linked Data Service'. The main heading is 'Humorous fiction', followed by 'From Library of Congress Genre/Form Terms'. There are three tabs: 'Details' (selected), 'Visualization', and 'Suggest Terminology'. Under the 'Details' tab, the title 'Humorous fiction' is repeated. Below the title, there are two sections: 'URI(s)' with a link to 'http://id.loc.gov/authorities/genreForms/gf2014026377' and 'Instance Of' with a link to 'MADS/RDF GenreForm'.</p> </div>		
<input type="radio"/> Humorous comics ▸	Source: Serchay, D.S. The librarian's guide to graphic novels for children and tweens, c2008: Note: p. 33 (the humor genre)	Broader: <ul style="list-style-type: none"> • Comics (Graphic works) ↗ • Humor ↗

Genre lookup as graph

[< Return to checkbox view](#)

BROADER ← → NARROWER

- Fiction
 - Action and adventure fiction
 - Alternative histories (Fiction)
 - Animal fiction
 - Bible fiction
 - Bildungsromans
 - Biographical fiction
- Humor
 - Anecdotes
 - Black humor
 - Caricatures
 - Cartoons (Humor)
 - Comedy plays
 - Humorous comics
- Tall Tales

Original search: Humorous Fiction

Submit

Thanks to Astrid Usong, Stanford

Sinopia Lookups: Preliminary results

- Contextual information useful
 - Also include related works, more identifying info
 - Identify source of information
- External sources such as university profiles, genre or type-specific sites (e.g. Discogs),
- Vocabularies such as MESH, AAT, Getty (depending on content)
- Wikidata, ISNI, VIAF: Useful to have
- Need consistent interface experience
- Improve hierarchical navigation for subject areas/genre forms
- Clearer icons

Watch these spaces

- MVP for Sinopia Expected in April 2019
- Documentation
 - Tooling: <https://github.com/LD4P>
 - Grant Website: <https://wiki.duraspace.org/pages/viewpage.action?pageId=104568167>
- Save the Date: 2019 LD4 Conference: May 10-11; Boston, MA (US)

Questions

References

- References to LD4P and LD4L-Labs work
 - LD4P Documentation: <https://wiki.duraspace.org/pages/viewpage.action?pageId=74515029>
 - Github: <https://github.com/LD4P>
 - LD4L-Labs Outputs: <https://wiki.duraspace.org/display/ld4lLABS/LD4L+Labs+Outputs>
- QA
 - Use Case Video: <https://www.youtube.com/watch?v=8yHTbaQHDgI&feature=youtu.be>
 - Play around with our QaServer: <https://lookup.ld4l.org/>
 - Create your own QaServer: https://github.com/LD4P/qa_server
 - Explore Authority configs: https://github.com/LD4P/linked_data_authorities
 - QA ruby engine: https://github.com/samvera/questioning_authority
- References to current Sinopia work
 - Github: https://github.com/LD4P/sinopia_editor
 - Documentation: <https://wiki.duraspace.org/pages/viewpage.action?pageId=101783875>

Use Cases: Authority oriented

Use an external authority to find and retrieve a single value to use as an authority term or a controlled value.

Basic Workflow

1. **QA-SEARCH**: Pass a query to an authority and get back multiple potential terms + additional context about each term
2. **Select** a term based on its label + additional context
3. **Save** the URI of the selected term, optionally caching its label as well

Keywords *

Select 4-6 keywords that will help users locate this publication when searching.

- chorion
- dried eggs
- egg shell
- egg shell quality
- egg shell thickness
- eggs
- fish roe
- raw eggs
- shell gland

https://lookup.ld4l.org/authorities/search/linked_data/nalt_ld4l_cache?q=eggs&maxRecords=4

```
[
  {
    "uri": "http://lod.nal.usda.gov/nalt/24837",
    "id": "http://lod.nal.usda.gov/nalt/24837",
    "label": "eggs"
  }, {
    "uri": "http://lod.nal.usda.gov/nalt/60968",
    "id": "http://lod.nal.usda.gov/nalt/60968",
    "label": "raw eggs"
  }, {
    "uri": "http://lod.nal.usda.gov/nalt/75629",
    "id": "http://lod.nal.usda.gov/nalt/75629",
    "label": "chicken eggs"
  }, {
    "uri": "http://lod.nal.usda.gov/nalt/34829",
    "id": "http://lod.nal.usda.gov/nalt/34829",
    "label": "duck eggs"
  }
]
```

https://lookup.ld4l.org/authorities/search/linked_data/locgenres_ld4l_cache?q=animation&maxRecords=4

```
[{
  "uri":"http://id.loc.gov/authorities/genreForms/gf2011026181",
  "id":"http://id.loc.gov/authorities/genreForms/gf2011026181",
  "label":"Cutout animation films",
  "context":{
    "Alternate Label":[
      "Paper cut-out animation films",
      "Cut-out animation films",
      "Collage animation films"],
    "Broader":[{
      "uri":"http://id.loc.gov/authorities/genreForms/gf2011026049",
      "id":"http://id.loc.gov/authorities/genreForms/gf2011026049",
      "label":"Animated films"}]
  }
},
...
]
```

Use Cases: Expanded Context oriented

Get additional information about a URI you already have.

Basic Workflow

1. **Read** saved URI from your app
2. **QA-FETCH**: Use the URI get all available data and get back normalized json or json-ld (defaults to json)
3. **Display** the returned data along with the saved data to show additional information in the UI

Agrovoc Keyword

hive products http://aims.fao.org/aos/agrovoc/c_3655

narrower: propolis http://aims.fao.org/aos/agrovoc/c_15919

narrower: royal jelly http://aims.fao.org/aos/agrovoc/c_26817

narrower: honey http://aims.fao.org/aos/agrovoc/c_3652

narrower: beeswax http://aims.fao.org/aos/agrovoc/c_866

narrower: honeycomb extracts http://aims.fao.org/aos/agrovoc/c_29026

broader: animal products http://aims.fao.org/aos/agrovoc/c_438

sameas: <http://d-nb.info/gnd/4006529-7>

sameas: http://cat.aii.caas.cn/concept/c_12939

Oclc person

Cornell, Ezra, 1807-1874

(source: http://dbpedia.org/resource/Ezra_Cornell)

Birth: 1807-01-11

Death: 1874-12-09

Ezra Cornell (January 11, 1807 – December 9, 1874) was an American businessman, politician, philanthropist and educational administrator. He was the founder of Western Union and a co-founder of Cornell University. He also served as President of the New York Agriculture Society and as a New York state Senator.

https://lookup.ld4l.org/authorities/fetch/linked_data/agrovoc_ld4l_cache?uri=http%3A%2F%2Faims.fao.org%2Faos%2Fagrovoc%2Fc_3655&lang=en

```
{
  "uri": "http://aims.fao.org/aos/agrovoc/c_3655",
  "id": "http://aims.fao.org/aos/agrovoc/c_3655",
  "label": ["hive products"],
  "altlabel": [],
  "narrower": [
    "http://aims.fao.org/aos/agrovoc/c_15919",
    "http://aims.fao.org/aos/agrovoc/c_866",
    "http://aims.fao.org/aos/agrovoc/c_3652",
    "http://aims.fao.org/aos/agrovoc/c_29026",
    "http://aims.fao.org/aos/agrovoc/c_26817"],
  "broader": [
    "http://aims.fao.org/aos/agrovoc/c_438"],
  "sameas": [
    "http://cat.aii.caas.cn/concept/12939",
    "http://d-nb.info/gnd/4006529-7"],
  "predicates": {...}
}
```

https://lookup.ld4l.org/authorities/fetch/linked_data/dbpedia_ld4l_cache?uri=http%3A%2F%2Fdbpedia.org%2Fresource%2FEzra_Cornell

```
{
  "uri": "http://dbpedia.org/resource/Ezra_Cornell",
  "id": "http://dbpedia.org/resource/Ezra_Cornell",
  "label": ["Ezra Cornell"],
  "sameas": [...],
  "predicates": {
    "http://www.w3.org/2000/01/rdf-schema#label": ["Ezra Cornell"],
    "http://dbpedia.org/property/birthDate": ["1807-01-11"],
    "http://dbpedia.org/ontology/deathDate": ["1874-12-09"],
    "http://dbpedia.org/ontology/abstract": ["Ezra Cornell (January 11, 1807 – December 9, 1874) was an American businessman, politician, philanthropist and educational administrator. He was the founder of Western Union and a co-founder of Cornell University. He also served as President of the New York Agriculture Society and as a New York state Senator."],
    "http://dbpedia.org/property/deathPlace":
      ["http://dbpedia.org/resource/Ithaca,_New_York"],
    "http://dbpedia.org/ontology/thumbnail":
      ["http://commons.wikimedia.org/wiki/Special:FilePath/Ezra_Cornell.jpg?width=300"],
    ...
  }
}
```

Use Cases: Entity oriented



Use an external source to find a single entity and retrieve available data associated with the entity for use in your app.



Basic Workflow



1. **QA-SEARCH**: Pass a query to an external source and get back multiple potential matching entities + additional context
2. **Select** a term based on its label + additional context
3. **QA-FETCH**: Use the URI of the selected term to get all available data about that URI and get back normalized json or json-ld (defaults to json)
4. **Use** the statements in the graph to populate multiple fields of the new entity

The screenshot displays a BIBFRAME Instance record for a 'BIBFRAME Work'. The record is organized into several sections, each with a label and a corresponding value or list of values. The 'Instance of' section shows 'BIBFRAME Work' and 'Technological entanglement'. The 'Title Information' section includes 'Instance Title' (Technological entanglement : cooperation, competition and ...), 'Variant Title', 'Parallel Title', and 'Transliterated Title'. The 'Statement of Responsibility Relating to Title Proper (RDA 2.4.2)' section lists 'Elsa B. Kania'. The 'Edition Statement (RDA 2.5)' section shows 'Edition Statement (RDA 2.5)'. The 'Publication, Distribution, Manufacture Statements' section includes 'Publication Activity', 'Distribution Activity', and 'Manufacture Activity' (Australian Strategic Policy Institute, International Cyber...). The 'Copyright Date (RDA 2.11)' section shows 'Copyright Date (RDA 2.11)'. The 'Series Statement' section includes 'Series Statement' and 'Policy brief report'. The 'Mode of Issuance (RDA 2.13)' section shows 'Mode of Issuance (RDA 2.13)' and 'single unit'. The 'Identifiers' section includes 'ISBN', 'Other Identifier', and 'Local system number'. The 'Notes about the Instance' section shows 'Note'. The 'Media type (RDA 3.2)' section shows 'Media type (RDA 3.2)' and 'unmediated'. The 'Extent' section shows 'Extent' and '16 pages'. The 'Dimensions (RDA 3.5)' section shows 'Dimensions (RDA 3.5)' and '30 cm'. A 'Clone Instance' button is located in the top right corner.



BIBFRAME Instance ? Clone Instance

Instance of: BIBFRAME Work
Technological entanglement  



Title Information: Instance Title: Technological entanglement : cooperation, competition and ...   Variant Title: Parallel Title: Transliterated Title:


Statement of Responsibility Relating to Title Proper (RDA 2.4.2): Statement of Responsibility Relating to Title Proper (RDA 2.4.2) +
Elsa B. Kania  

Edition Statement (RDA 2.5): Edition Statement (RDA 2.5) +

Publication, Distribution, Manufacture Statements: Publication Activity: Distribution Activity: Manufacture Activity: Australian Strategic Policy Institute, International Cyber...  


Copyright Date (RDA 2.11): Copyright Date (RDA 2.11) +



Series Statement: Series Statement: Policy brief report  



Mode of Issuance (RDA 2.13): Mode of Issuance (RDA 2.13): single unit 

Identifiers: ISBN: Other Identifier: Local system number

Notes about the Instance: Note

Media type (RDA 3.2): Media type (RDA 3.2): unmediated 

Extent: Extent: 16 pages  

Dimensions (RDA 3.5): Dimensions (RDA 3.5): 30 cm.  

Questioning Authority (QA) Server

- QA provides API for querying an authority and fetching a single term.
- QaServer provides...
 - UI for monitoring status of external authorities
 - Ability to check the current status of an authority
 - Documentation of the API for accessing authorities through the QaServer

Latest Monitored Status - Summary

Authorities	Authorities with Failures	Passing Tests	Failing Tests	TOTAL Tests
22	0	136	0	136

Status last updated 11/21/18 - 12:50 AM ET

History

Since 09/28/18 - 09:07 AM ET

Authority	Days Tested	Days Passing	Days Failing	Percent Failing
AGROVOC	6	4	2	33.33333333333333%
AGROVOC_DIRECT	6	4	2	33.33333333333333%
AGROVOC_LD4L_CACHE	7	7	0	0.0%
DBPEDIA_DIRECT	7	7	0	0.0%
DBPEDIA_LD4L_CACHE	7	7	0	0.0%
GEONAMES_DIRECT	7	7	0	0.0%
GEONAMES_LD4L_CACHE	7	6	1	14.285714285714285%
GETTY_AAT_LD4L_CACHE	7	7	0	0.0%
GETTY_TGN_LD4L_CACHE	7	7	0	0.0%
GETTY_ULAN_LD4L_CACHE	7	7	0	0.0%
LOC	7	7	0	0.0%
LOCGENRES_LD4L_CACHE	7	7	0	0.0%
LOCNAMES_LD4L_CACHE	7	7	0	0.0%

Latest Monitored Status - Summary

Authorities	Authorities with Failures	Passing Tests	Failing Tests	TOTAL Tests
22	2	123	13	136

Status last updated 11/20/18 - 12:31 PM ET

Failures During Latest Status Update

NOTE: Sample URLs with an encoded URI for term fetch do not work in Chrome for Mac or Windows and do not work in IE for Window. This is because Chrome and IE unencode the periods. Firefox on Windows and Mac and Safari on Mac are known to work.

Status	Authority	Subauthority	Service	Action	Sample URL
	GEONAMES_LD4L_CACHE		ld4l_cache	term	/authorities/fetch/linked_data/geonames_ld4l_cache?uri=http%3A%2F%2Fsws%2Egeonames%2Eorg%2F261707%2F
	GEONAMES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache?q=Ithaca&maxRecords=
	GEONAMES_LD4L_CACHE	area	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/area?q=France&maxRecords=4
	GEONAMES_LD4L_CACHE	place	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/place?q=Ithaca&maxRecords=4
	GEONAMES_LD4L_CACHE	area_and_place	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/area_and_place?q=Ithaca&maxRecords=4
	GEONAMES_LD4L_CACHE	water	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/water?q=Cayuga&maxRecords=4
	GEONAMES_LD4L_CACHE	park	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/park?q=Cayuga&maxRecords=4
	GEONAMES_LD4L_CACHE	road	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/road?q=Cayuga&

Check Status

Check Connection Status only
 Check Accuracy only
 Run all checks

Connection Checks

Status	Authority	Subauthority	Service	Action	Sample URL	Errors
✓	GEONAMES_LD4L_CACHE		ld4l_cache	term	/authorities/fetch/linked_data/geonames_ld4l_cache?uri=http%3A%2F%2Fsws%2Egeonames%2Eorg%2F261707%2F	
✓	GEONAMES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache?q=lthaca&maxRecords=4	
✓	GEONAMES_LD4L_CACHE	area	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/area?q=France&maxRecords=4	
✓	GEONAMES_LD4L_CACHE	place	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/place?q=lthaca&maxRecords=4	
✓	GEONAMES_LD4L_CACHE	area_and_place	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/area_and_place?q=lthaca&maxRecords=4	
✓	GEONAMES_LD4L_CACHE	water	ld4l_cache	search	/authorities/search/linked_data/geonames_ld4l_cache/water?q=Cayuga&maxRecords=4	

Check Status

 Check Connection Status only
 Check Accuracy only
 Run all checks

Accuracy Checks for Search Results

Expected by Position	Actual Position	Expected Subject	Authority	Subauthority	Service	Action	Sample URL	Errors
10	1	http://id.loc.gov/authorities/genref2011026703	LOCGENRES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/locgenres_ld4l_cache?q=Preliminary documents (Treaties)&maxRecords=20	
10	1	http://id.loc.gov/authorities/genref2011026373	LOCGENRES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/locgenres_ld4l_cache?q=Loose-leafs&maxRecords=20	
10	1	http://id.loc.gov/authorities/genref2011026115	LOCGENRES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/locgenres_ld4l_cache?q=Casebooks&maxRecords=20	
10	4	http://id.loc.gov/authorities/genref2014026068	LOCGENRES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/locgenres_ld4l_cache?q=Congresses, Conferences, Proceedings, Symposia&maxRecords=20	
10	1	http://id.loc.gov/authorities/genref2011026703	LOCGENRES_LD4L_CACHE		ld4l_cache	search	/authorities/search/linked_data/locgenres_ld4l_cache?q=Law journals&maxRecords=20	

QA 2.2 Linked Data API ^{2.2} ^{OAS3}

<https://lookup.ld4l.org/qa/apidoc/apidoc.json>

Apache 2.0

Server

<https://lookup.ld4l.org/authorities>

Authority Management Services managing all authorities.

GET `/list/linked_data/authorities` List currently loaded linked data authorities

GET `/reload/linked_data/authorities` Reload linked data authorities. Using this command avoids having to restart the rails server.

Search Query Services sending a search query to an authority to retrieve multiple results.

GET `/search/linked_data/{vocab}` Send a query string to an authority and return search results. Parameters are typical examples. Actual parameters are driven by the authority's config file.

OPTIONS `/search/linked_data/{vocab}` CORS preflight request

GET `/search/linked_data/{vocab}/{subauthority}` Send a query string to a subauthority in an authority and return search results.

OPTIONS `/search/linked_data/{vocab}/{subauthority}` CORS preflight request

Fetch Term Services to fetch a single term from an authority.

GET

/fetch/linked_data/{vocab}

Get a single term from an authority given the term's URI. Generally there are no additional parameters. See the authority's configuration file to be sure. Some authorities support `lang` which can be used to filter the language of returned strings.

Parameters

Cancel

Name	Description
vocab * required string (path)	Name of the authority's configuration file. <input type="text" value="locgenres_ld4l_cache"/>
uri * required string (query)	The URI for the term being retrieved. <input type="text" value="http://id.loc.gov/authorities/genreForms/gf201"/>
format string (query)	The format of the returned result. <input type="text" value="json"/>

Execute

Clear

Responses

Curl

```
curl -X GET "https://lookup.ld4l.org/authorities/fetch/linked_data/locgenres_ld4l_cache?uri=http%3A%2F%2Fid.loc.gov%2Fauthorities%2FgenreForms%2Fgf2011026141&format=json" -H "accept: application/json"
```

Request URL

```
https://lookup.ld4l.org/authorities/fetch/linked_data/locgenres_ld4l_cache?uri=http%3A%2F%2Fid.loc.gov%2Fauthorities%2FgenreForms%2Fgf2011026141&format=json
```

```
curl -X GET "https://lookup.ld41.org/authorities/fetch/linked_data/locgenres_ld41_cache?uri=http%3A%2F%2Fid.loc.gov%2Fauthorities%2FgenreForms%2Fgf2011026141&format=json" -H "accept: application/json"
```

Request URL

```
https://lookup.ld41.org/authorities/fetch/linked_data/locgenres_ld41_cache?uri=http%3A%2F%2Fid.loc.gov%2Fauthorities%2FgenreForms%2Fgf2011026141&format=json
```

Server response

Code

Details

200

Response body

```
{
  "uri": "http://id.loc.gov/authorities/genreForms/gf2011026141",
  "id": "gf2011026141",
  "label": [
    "Clay animation television programs"
  ],
  "altlabel": [
    "Sculptmation television programs",
    "Claymation television programs"
  ],
  "narrower": [
    ""
  ],
  "broader": [
    "http://id.loc.gov/authorities/genreForms/gf2011026050"
  ],
  "sameas": [
    ""
  ],
  "predicates": {
    "http://www.loc.gov/mads/rdf/v1#authoritativeLabel": [
      "Clay animation television programs"
    ],
    "http://www.w3.org/2004/02/skos/core#altLabel": [
      "Sculptmation television programs",
      "Claymation television programs"
    ],
    "http://www.loc.gov/mads/rdf/v1#elementList": [
      "_:b0"
    ],
    "http://www.loc.gov/mads/rdf/v1#adminMetadata": [

```

Download

Response headers

```
access-control-allow-origin: *
cache-control: max-age=0, private, must-revalidate
connection: keep-alive
content-length: 1929
content-type: application/json; charset=utf-8
date: Wed, 21 Nov 2018 15:24:57 GMT
etag: W/"424fb5ae43971fc029bb9ae040f1a101"
server: nginx/1.12.1
```


Links

- Play around with our QaServer: <https://lookup.ld4l.org/>
- Create your own QaServer: https://github.com/LD4P/qa_server
- Explore Authority configs: https://github.com/LD4P/linked_data_authorities
- QA ruby engine: https://github.com/samvera/questioning_authority