

LINKED DATA FEATURES IN EX LIBRIS'S ALMA AND PRIMO

- CARLI CONSORTIUM LINKED DATA IN LIBRARIES WEBINAR
FEBRUARY 19, 2019
- LAURA AKERMAN, CO-COORDINATOR,
IGELU-ELUNA LINKED OPEN DATA
WORKING GROUP
DISCOVERY SYSTEMS AND METADATA
LIBRARIAN, EMORY UNIVERSITY

IGELU - ELUNA LINKED OPEN DATA WORKING GROUP

- [HTTPS://IGELU.ORG/PRODUCTS/LOA](https://igelu.org/products/loa)
- FOUNDED IN IGELU 2011
- ELUNA JOINED 2013
- INTERNATIONAL MEMBERSHIP
- MAILING LIST
- USE CASES
- SURVEY
- CONSULTS WITH EX LIBRIS MANAGERS
- PRESENTATIONS ("SHOW AND TELL")
- NEWSLETTERS
- BASECAMP
- TESTING FEATURES
- LIASIONS WITH OTHER WORKING GROUPS AND OTHER LINKED DATA RELATED GROUPS
- "COLLABORATION" PROJECT
- DASHBOARD

DASHBOARD: [HTTP://TINY.CC/HOI72Y](http://tiny.cc/hoi72y)

Dashboard - Linked Data Development in Ex Libris Products

Brought to you by

IGELU-ELUNA Linked Open Data Working Group

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Last updated: Jan. 15, 2019

Feature list

Product	Feature	Status	Release and/or update date	Documentation	Description/Issues	Last updated by WG
Alma	RDA/RDF API	Released feature	API released 2016	DevNet: https://developers.exlibrisgroup.com/alma/integrations/linked_data/rda-rdf	<p>2 APIs are available: GET Manifestation, GET Work</p> <p>An API key is not needed to retrieve an individual record in this format; retrieval pattern is, e.g.:</p> <pre>https://open-na.hosted.exlibrisgroup.com/alma/<institution code>/rda/entity/manifestation/<mms id>.rdf</pre> <p>The /rda/ directory in the path was added in early December 2017.</p> <p>LOD Working Body investigating - it appears not all parts of the MARC record are mapped.</p> <p>Issue: Problem with XML validation from rendering of predefined entities (" & ' < and >) in XML. Fix planned for Alma June release (per Basecamp posting).</p>	March 19, 2018

ALMA - BIBFRAME CONVERSION

- **USES LIBRARY OF CONGRESS TOOLS**
- **MUST "TURN ON" LINKED DATA FOR APIS**
- **BIBFRAME TAB IN CATALOGING MODULE**
- **PUBLISH IN BIBFRAME**
- **API - RETRIEVE INDIVIDUAL RECORD IN BIBFRAME**
- **SUPPLIES SYSTEM-GENERATED URIS FOR WORK AND INSTANCE**

TURN IT ON FOR API USAGE

CHECK "ACTIVE" BOX.

< Integration Profile 1 2 Cancel Back Save

LINKED

Code	LINKED
Integration Type	Linked Data

PARAMETERS

Active

Alternative Context URL

CATALOGING INTERFACE

Come on feel the Illinoise [sound recording] / Sufjan Stevens. i

MMS ID	990007288920302486	Suppress from publishing	No	Export to WorldCat	Publish Bibliographic re...
Brief level	Full	Record format	marc21		
Originating system	ILS	Originating system ID	000728892-EMU01	Originating system version	-

MARC BIBFRAME

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?><rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:bf="http://id.loc.gov/ontologies/bibframe/" xmlns:bflc="http://id.loc.gov/ontologies/bflc/" xmlns:madsrdf="http://www.loc.gov
/mads/rdf/v1#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#">
<bf:Work rdf:about="https://open-na.hosted.exlibrisgroup.com/alma/01GALI_EMORY/bf/entity/work/990007288920302486">
  <bf:adminMetadata>
    <bf:AdminMetadata>
      <bf:generationProcess>
        <bf:GenerationProcess>
          <rdfs:label>DLC marc2bibframe2 v1.4.0-SNAPSHOT: 2019-02-18T14:08:54+00:00</rdfs:label>
        </bf:GenerationProcess>
      </bf:generationProcess>
    </bf:AdminMetadata>
  </bf:adminMetadata>
  <bf:status>
    <bf:Status>
      <bf:code>c</bf:code>
    </bf:Status>
  </bf:status>
</bf:Work>
</rdf:RDF>
```

BIBFRAME PUBLISHING OPTION

Profile Details **Data Enrichment**

Profile Details

Content Type **Bibliographic**

Profile Name *

Profile Description

Publishing Parameters

Status Active Inactive

Scheduling

Publishing Mode Incremental Full Date Range Republish Set

Content

Set name *

API - OPEN, VERY SIMPLE!

- ACTIVATE THE LINKED DATA PROFILE
- EXAMPLE REQUEST FOR A SINGLE RECORD:
[HTTPS://OPEN-
NA.HOSTED.EXLIBRISGROUP.COM/ALMA/01GALI_EMORY/BF/ENTITY/INSTANCE/990
00602222030248](https://open-na.hosted.exlibrisgroup.com/alma/01GALI_EMORY/BF/ENTITY/INSTANCE/99000602222030248)
- [DOCUMENTED ON DEVELOPER NETWORK](#)

LINKED DATA ENRICHMENT IN MARC PUBLISHING TOO

Submission Format ▼

FTP configuration **Primo Publish to Production** ▼

Sub-directory

Content Options ▼

Select options:

- Electronic
- Physical
- Digital
- Collection
- Course information enrichment
- Related records information enrichment
- Linked Data enrichment**
- Headings enrichment

Physical Inventory Enrichment ▼

OUTPUT OF LINKED DATA ENRICHMENT: \$0 ADDED

```
<DATAFIELD TAG="100" IND1="1" IND2=" ">
```

```
<SUBFIELD CODE="A">STEVENS, SUFJAN.</SUBFIELD>
```

```
<SUBFIELD CODE="0">(URI) HTTP://ID.LOC.GOV/AUTHORITIES/NAMES/NO2005018275</SUBFIELD>
```

```
<SUBFIELD CODE="0">(URI) HTTP://VIAF.ORG/VIAF/SOURCEID/LC | NO2005018275</SUBFIELD>
```

```
<SUBFIELD CODE="2">LCNAMES</SUBFIELD>
```

```
<SUBFIELD CODE="0">41-LIBRARY_OF_CONGRESS-NO2005018275</SUBFIELD>
```

```
<SUBFIELD CODE="9">Y</SUBFIELD>
```

```
</DATAFIELD>
```

OTHER ALMA LINKED DATA "FLAVORS"

RDA IN RDF

PARTIAL RECORD MAPPING; SMALL SUBSET OF RDA VOCABULARIES

URIS FOR WORK AND MANIFESTATION ARE GENERATED

JSON-LD

PARTIAL RECORD MAPPING; SMALL NUMBER OF VARIOUS VOCABULARIES INCLUDING DUBLIN CORE TERMS AND BIBO

RDA IN RDF

```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:madsrdf="http://www.loc.gov/mads/rdf/v1#"
xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:rdac="http://rdaregistry.info/Elements/c/"
xmlns:rdaw="http://rdaregistry.info/Elements/w/"
xmlns:rdae="http://rdaregistry.info/Elements/e/"
xmlns:rdam="http://rdaregistry.info/Elements/m/"
xmlns:rdai="http://rdaregistry.info/Elements/i/"
xmlns:rdaa="http://rdaregistry.info/Elements/a/">
  <rdac:Work rdf:about="https://open-na.hosted.exlibrisgroup.com/alma/01GALI_EMORY/rda/entity/work/990007288920302486">
    <rdaw:titleOfWork>Come on feel the Illinois</rdaw:titleOfWork>
    <rdaw:SubjectRelationshipOf>Illinois Songs and music.</rdaw:SubjectRelationshipOf>
    <rdaw:SubjectRelationshipOf rdf:resource="http://id.loc.gov/authorities/subjects/sh87004213"/>
    <rdaw:creator rdf:resource="http://id.loc.gov/authorities/names/no2005018275"/>
    <rdaw:SubjectRelationshipOf rdf:resource="http://id.loc.gov/authorities/subjects/sh2001004786"/>
    <rdaw:manifestationOfWork rdf:resource="https://open-na.hosted.exlibrisgroup.com/alma/01GALI_EMORY/rda/entity/manifestation/990007288920302486">
  </rdac:Work>
</rdf:RDF>
```

JSON-LD

Come on feel the Illinois [sound recording] / Sufjan Stevens.

[Edit Record](#)[Holdings](#)

Music (Audio musical - Physical) performed music; audio; audio disc By Stevens, Sufjan. (Lander, WY : Asthmatic Kitty Records, ©2005)

Subject: Folk-rock music. Rock music--2001-2010. Illinois--Songs and music.

Medium Type: [sound recording] /

Language: English

Record number:
(Aleph)000728892EMU01

Update Date: 04/18/2016

Physical (1) Electronic Digital Other details

Linked Data

Context	https://open-na.hosted.exlibrisgroup.com/alma/contexts/bib	
bibo:oclcnum	http://www.worldcat.org/oclc/60878793	(OCoLC)60878793
bibo:oclcnum	http://www.worldcat.org/oclc/60878793	ocm60878793
dct:creator	http://id.loc.gov/authorities/names/no2005018275	Stevens, Sufjan.
dct:creator	http://viaf.org/viaf/sourceID/LC no2005018275	Stevens, Sufjan.
dct:subject	http://id.loc.gov/authorities/subjects/sh87004213	Folk-rock music.
dct:subject	http://id.loc.gov/authorities/subjects/sh2001004786	Rock music 2001-2010.
dct:language	http://id.loc.gov/vocabulary/iso639-2/eng	—
JSONLD version	https://open-na.hosted.exlibrisgroup.com/alma/01GALL_EMORY/bibs/990007288920302486	—

PRIMO - IMPORTING URIS IN PNX USING NORM RULES

- IN 2017 A "LINKS/URI" FIELD WAS ADDED TO THE PNX NORMALIZATION RULES. IT APPLIED TO A VERY LIMITED SET OF TYPES OF DATA: "ISBN, OCLC_NR, SUBJECT, CREATORCONTRIB"
- EXAMPLE OUTPUT:
<URI>\$\$AOCCLC_NR\$\$V(OCOLC)288467656\$\$U(URI)
[HTTP://WWW.WORLDCAT.ORG/OCLC/288467656](http://www.worldcat.org/oclc/288467656)</URI>
<URI>\$\$ACREATORCONTRIB\$\$VBANKS, MICHAEL
A\$\$U(URI)[HTTP://ID.LOC.GOV/AUTHORITIES/NAMES/N82072192](http://id.loc.gov/authorities/names/n82072192)\$\$U(URI)[HTTP://VIAF.ORG/VIAF/SOURCEID/LC|N82072192](http://viaf.org/viaf/sourceid/LC|N82072192)</URI>
- THE DEFAULT ALMA MARC TEMPLATE NO LONGER HAS THE RULES FROM 2017. "PROOF OF CONCEPT" ONLY. COULD THIS HAVE BECOME USEFUL?

EXAMPLE RULE

Rule group

Source **Type** **Field** **Ind1** **Ind2** **Subfield** Enabled

Conditions logic

Conditions

Condition 1 - Logic

Condition 1 - Source **Type** **Field** **Ind1** **Ind2** **Subfield** **Success If**

Condition1 - Routines **General Parameter**

Routine **Parameter**

Transformations

Transformation **Parameter**

Transformation **Parameter**

Behavior

Action

1

Test

PRIMO - CUSTOMER DEVELOPMENT USING EXTERNAL LINKED DATA

BIBCARD

SIMPLE LINKED DATA-POWERED AUTHOR CARD.

UTILIZES:


ALMA API

LC AUTHORITY RECORD ID

POTENTIAL OTHER SOURCES

(VIAF, WIKIDATA)

Author



Joanne Rowling
Born: 31-Jul-1965
British novelist, author of the Harry Potter series

[More info](#)

PRIMO - SEO USING JSON-LD

UTILIZES THE SITEMAP FEATURE IN PRIMO

CURRENTLY IN A "BETA" RELEASE, WITH IMPROVEMENTS PLANNED FOR FIRST HALF OF 2019.

INCORPORATES SCHEMA.ORG VOCABULARY

PLANS TO MAKE VOCABULARY CHOICE AVAILABLE TO CUSTOMERS

EX LIBRIS'S FUTURE PLANS:

PRIMO ROADMAP

- 2019: APPLYING SEARCH ENGINE OPTIMIZATION BEST PRACTICES TO ENABLE CRAWLERS TO BETTER UNDERSTAND PRIMO FULL DISPLAY'S CONTENT
- 2019: IMPROVING STRUCTURED DATA WITH THE SCHEMA.ORG VOCABULARY AND LINKED DATA

ALMA ROADMAP:

- 2020: BIBFRAME - BASIC RECORD EDITING AND SEARCHING
- 2020: BIBFRAME - IT WILL BE POSSIBLE TO PUBLISH RECORDS IN BIBFRAME FORMAT AS ONE WORK.

EX LIBRIS'S FUTURE PLANS:

NOT ON ROADMAP, BUT PLANNED:

- METADATA CREATORS CAN USE ALMA LOOKUP OF EXTERNAL VOCABULARIES FOR MARC SUBFIELDS 0 AND 1.

A FEW OF THE ISSUES ON THE HORIZON:

- **WILL BIBFRAME BE ENOUGH? DESIRE FOR MULTIPLE VOCABULARIES AND FLEXIBILITY TO ADD OR CHANGE THEM.**
- **RDA AND BIBFRAME -- HOW TO FULLY UTILIZE RDA CONCEPTS WHICH DON'T CURRENTLY HAVE FULL SUPPORT IN BIBFRAME (LARGER ECOSYSTEM PROBLEM)**
- **USE CASES - WHAT ARE THEY? HARVARD FOUND SOME, WE'RE ASKING FOR MORE.**
- **URIS, E.G. 856'S WITH APPROPRIATE RELATIONSHIPS (MARC GRANULARITY PROBLEM)**
- **"BOUND-WITHS" AND EX LIBRIS'S NON-STANDARD USE OF 773 AND 774**
- **"WORK" ALGORITHMS, ETC. - HOW WELL WILL THEY WORK?**
- **URIS - DO WE WANT TO HAVE ALMA URIS IN OUR BIBFRAME?**
- **ADJUSTING RECIPE WHILE TRYING TO MAKE THE PIE... WITH MANY COOKS!**

LINKS AND CONTACT:

LINKED DATA DOCUMENTATION ON EX LIBRIS'S DEVELOPER NETWORK:

[HTTPS://DEVELOPERS.EXLIBRISGROUP.COM/?S=LINKED+DATA](https://developers.exlibrisgroup.com/?s=linked+data)

IGELU-ELUNA LINKED OPEN DATA WORKING GROUP: [HTTPS://IGELU.ORG/PRODUCTS/LOA](https://igelu.org/products/loa)

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