Unlocking Your Library with the Alma Open Platform

IGELU 2018 | Prague, Czech Republic

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Agenda

1. State of the Alma Open Platform
2. Open Platform Highlights
3. Wrap Up
State of the Alma Open Platform
Alma Open Platform

Integrations
• Widely adopted standards
• Configure integrations with other systems

REST APIs
• Sound REST practices
• Data
• Workflows

Community
• Blog
• Forum
Growth of REST APIs
Recently Released

- Webhooks
  - Logs
  - Loans & Requests
  - BIBs & Item Updates
- Cataloging APIs
  - Normalize / Validate BIB record
  - Cataloger level, stale version check
  - Warnings and override
  - Link / unlink to network zone record
- Reminders
  - Full CRUD
  - Full CRUD for BIB reminders
- Portfolio APIs
  - Full CRUD
  - Stand-alone from BIB
- License APIs
  - Full CRUD
- Discovery APIs
  - Request options for BIBs/items
  - Loan Policy
  - Get/filter ALL items
  - Calculated summary holding
  - General electronic services
- Linked Data
  - Publishing for RDA/RDF
  - API/Publishing for BIBFRAME
- Other
  - Analytics Paths API
  - Combine Sets API
  - Create lending resource sharing request
  - Delete holding record
  - Get individual fund
  - Manage users in fulfillment network
Coming Soon

- Fund APIs
- Invoice APIs
- Open ID Connect for authentication
- Webhooks for collections, portfolios, holdings updates
Standards Dashboard

- Lays out the Ex Libris approach to standards
- Highlights standards compliance by our products
- Lists standards bodies in which Ex Libris takes an active role

https://developers.exlibrisgroup.com/standards
Standards Dashboard

https://developers.exlibrisgroup.com/blog/Standards-Support-at-Ex-Libris

Tech Blog

Standards Support at Ex Libris

Josh Weisman on October 23rd, 2017

As a part of our open collaboration with customers, Ex Libris engages with the IGeLU/ELUNA Interoperability Special Interest Working Group (ISWG) to encourage use of our platform, support a community of developers, and receive input on the APIs and integrations roadmap.

The working group published a position paper in 2017 in which it recommended that Ex Libris adopt open standards. The adoption of open standards allows for systems to work together while minimizing the amount of custom integration work needed for each implementation. We at Ex Libris agree with this position, and as a result of the discussion with the working group we embarked on an effort to better surface support for standards across our products.

IGeLU/ELUNA Interoperability ISWG - Open Standards

Position paper 2017

One of the five current (2016) Key Goals of the IGeLU/ELUNA Interoperability ISWG (http://eluna.org/special-interests/interoperability) is about open standards:

Establish 'open platform using open standards,' including open data standards, as an integral design principle.

In this position paper, the Interoperability ISWG clarifies what is meant with the concepts 'open platform,' 'open standards,' and 'open data standards' and how they relate to interoperability in the Ex Libris products and tools landscape.

Interoperability

On the interoperability ISWG start page (http://eluna.org/special-interests/interoperability), interoperability is described as follows:

Standards versus REST APIs

Standards allow for turnkey integration between systems without custom development. The adoption of
Active Community

Active Blog

• Highest frequency of blog posts: at least weekly
• ~50% contribution from the community

Active Forum

• 275+ forum discussions
• 900+ messages
QUICK TOUR:
Developer Network
OPEN PLATFORM HIGHLIGHTS

1. Cataloging APIs
   - Support normalization and validation
   - Build custom simple cataloging interface

2. Discovery APIs
   - Support efficient retrieval of availability and request information
   - Enables choice in discovery

3. Linked Data
   - RDA/RDF, BIBFRAME, and JSONLD APIs
   - Exposes Alma BIBs in Linked Data formats

4. Analytics Path API
   - Further leverage Alma Analytics
   - Compliments the popular Analytics Report API

5. Incremental Improvements
   - Digital Delivery: Build custom viewer experiences
   - Ex Libris Identity Service- Security Best Practice
CATALOGING APIS

• Support normalization and validation

• Build custom simple cataloging interface
Cataloging APIs

- Enhancements to cataloging APIs allow for the building of supplemental cataloging forms

- **Normalization, validation:** validate and run normalizations on added/updated records
- **Linking/unlinking a local BIB** to a network zone record
- **Cataloger level, stale version check:** ensure records are not correctly overwritten
- **Warnings and override** when deleting a BIB record
## Cataloging APIs

<table>
<thead>
<tr>
<th>API</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST /almaws/v1/bibs</td>
<td>Create BIB record</td>
<td>Normalization, validation, Linking to a network zone record</td>
</tr>
<tr>
<td>PUT /almaws/v1/bibs/{mms_id}</td>
<td>Update Bib Record</td>
<td>Normalization, validation, cataloger level, stale version check</td>
</tr>
<tr>
<td>DELETE /almaws/v1/bibs/{mms_id}</td>
<td>Delete Bib Record</td>
<td>Warnings and override, cataloger level</td>
</tr>
<tr>
<td>POST /almaws/v1/bibs/{mms_id}</td>
<td>Operate on a BIB record</td>
<td>Unlinking from a network zone record</td>
</tr>
</tbody>
</table>
DEMO: Cataloging APIs
Cataloging APIs - Resources

- Blog: https://developers.exlibrisgroup.com/blog/cataloging-APIs-enhancements

- Documentation: https://developers.exlibrisgroup.com/alma/apis/bibs

DISCOVERY APIS

• Support efficient retrieval of availability and request information

• Enables choice in discovery
Discovery APIs - Background

• Alma works great with the Ex Libris discovery systems - Primo and Summon. This is the natural choice for most institutions.

• Ex Libris recognizes that some institutions want to develop their own discovery systems, applications, or repositories

• Reasons might include:
  • A desire to have a completely tailored discovery experience
  • A response to the need to expose collections and content other than that cataloged in the library system.
Discovery APIs - Background

- Open Source discovery systems have been supported with Alma for several years.

- In the past 2 years, Ex Libris has worked with members of the community to ensure Alma is **optimized** to work with open source discovery systems.

- Even if you’re not interested in building your own discovery, there are plenty of use cases where these APIs can be helpful - request forms, request forms, etc.
Discovery-Optimized APIs: Highlights

- Additional fields in print, electronic, and digital availability
- **NEW** Request Options API
- **NEW** Retrieve items for **ALL** holdings records
GET /almaws/v1/bibs/{MMS_ID}?expand=p_avail,e_avail,d_avail

<datafield ind1=" " ind2=" " tag="AVA">
  <subfield code="a">TR_INTEGRATION_INST</subfield>
  <subfield code="b">MAIN</subfield>
  <subfield code="c">Reference Dept.</subfield>
  <subfield code="d">TEMP1234</subfield>
  <subfield code="e">available</subfield>
  <subfield code="f">1</subfield>
  <subfield code="g">0</subfield>
  <subfield code="j">reference</subfield>
  <subfield code="p">1</subfield>
  <subfield code="q">Main Library</subfield>
  <subfield code="r">215473880000541</subfield>
</datafield>
Request Options API

GET /almaws/v1/bibs/{MMS_ID}/request-options?user_id={USER_ID}

```json
{"request_option": [
    {
        "type": {
            "value": "HOLD",
            "desc": "Hold"
        },
        "request_url": "/almaws/v1/users/..."
    }
]}
```
Retrieve ALL Items

GET /almaws/v1/bibs/{MMS_ID}/holdings/ALL/items

<items total_record_count="6">
  <item link="/almaws/v1/bibs/991371230000541/holdings/22138269780000561/items/23138269760000561"/>
  <item link="/almaws/v1/bibs/991371230000541/holdings/22136295390000561/items/23878898500000561"/>
</items>
DEMO: Discovery APIs
Discovery APIs - Resources

- Blogs:  
  https://developers.exlibrisgroup.com/blog/tag/Discovery

- Documentation:  
  https://developers.exlibrisgroup.com/alma/apis/bibs

- Reference application:  
  https://blacklight-apis.exldevnetwork.net
LINKED DATA

- RDA/RDF, BIBFRAME, and JSONLD APIs
- Exposes Alma BIBs in Linked Data formats
Linked Data

- Automatic enrichment of authorized subject and author headings with URIs

- 800 M + bibliographic records in Alma worldwide now available in linked data formats
  - JSON-LD
  - RDA/RDF
  - BIBFRAME
Bibliographic records in Alma are enriched before the following processes:

<table>
<thead>
<tr>
<th></th>
<th>API</th>
<th>Publishing</th>
<th>View in Alma</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSON/LD</td>
<td>✅</td>
<td>N/A</td>
<td>✅</td>
</tr>
<tr>
<td>RDA/RDF</td>
<td>✅</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>BIBFRAME</td>
<td>✅</td>
<td>✅</td>
<td></td>
</tr>
</tbody>
</table>
Sample URIs

- RDA/RDF Work
- RDA/RDF Manifestation
- BIBFRAME Work
- BIBFRAME Instance
- JSON-LD
“Classic” Linked Data Scenario

1. **LC Names Authority**
   - URI for author name in LC Names, e.g.
     http://id.loc.gov/authorities/names/n97108433

2. **VIAF**
   - URI for entity in VIAF, e.g.
     https://viaf.org/viaf/116796842

3. **Wikidata or DBPedia**
   - Retrieve additional fields from other sources
**UW Madison BibCard**

Library Linked Data for building knowledge cards.

<table>
<thead>
<tr>
<th>Branch: master</th>
<th>New pull request</th>
</tr>
</thead>
</table>

- **63 commits**
- **1 branch**
- **0 releases**
- **3 contributors**
- **MIT**

- Steve Meyer: Update dependencies for rdf 3.0

<table>
<thead>
<tr>
<th>Directory</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>bin</td>
<td>Empty gem</td>
<td>2 years ago</td>
</tr>
<tr>
<td>lib</td>
<td>Updating wikidata alma maters queries</td>
<td>11 months ago</td>
</tr>
<tr>
<td>spec</td>
<td>Updating wikidata alma maters queries</td>
<td>11 months ago</td>
</tr>
<tr>
<td>.gitignore</td>
<td>Ignore a built gem</td>
<td>2 years ago</td>
</tr>
</tbody>
</table>

UW Madison BibCard

- Encapsulates following of the links
- Hides issues such as:
  - Lack of outbound links from LC records
  - Resolving LC ID to VIAF
So how hard would it be....

... to implement the “classic” LD scenario?

Toolbox:
- Alma JSON-LD API
- Madison BibCard
- Ruby script
Step 1: Alma JSON-LD API

- Activate the Linked Data integration profile
- Access the record URI (sample):
  https://open-na.hosted.exlibrisgroup.com/alma/{INST_CODE}/bib/{MMS_ID}.jsonld
Step 2: Get BibCard

- To install the gem, follow the instructions at:
  https://github.com/UW-Madison-Library/bibcard
Step 3 - Short Ruby Script

- Retrieve JSON LD
  ```ruby
  RestClient.get(JSONLD_URL + ARGV[0])
  ```
- Create BibCard object
  ```ruby
  person = BibCard.person(lcnaf_uri)
  ```
- Populate ViewModel
- Write file
DEMO: Linked Data
Linked Data - Resources

• Gist:

• Blog:
  https://developers.exlibrisgroup.com/blog/Journey-to-Linked-Open-Data-Support-Update
ANALYTICS PATH API

• Further leverage Alma Analytics

• Compliments the popular Analytics Report API
Analytics Path API

• Data from analytics reports is available using the Analytics report API

• Until now you needed to know the path of the report

• New path API allows discovery of reports and folders in the analytics catalog
  • Nice complement to the report API
DEMO: Analytics Path API
Analytics Path API - Resources

- Blog

- Docs
  https://developers.exlibrisgroup.com/alma/apis/analytics
DIGITAL DELIVERY

• Advanced delivery options enable the building of custom viewer experiences
Digital Delivery

- Expose your content stored in the Alma digital repository to other systems via delivery integrations.

- IIIF services make Alma content available in IIIF-compliant viewers:
  - E.g. Mirador from Oxford

- JSON delivery service makes it easy to consume Alma digital content in external viewers.
External Viewers

External viewers integrated with the JSON delivery service

<table>
<thead>
<tr>
<th>Viewer</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF Viewer</td>
<td>Blog</td>
</tr>
<tr>
<td>IA Book Reader</td>
<td>Blog</td>
</tr>
<tr>
<td>Photo Album Viewer</td>
<td>Blog</td>
</tr>
</tbody>
</table>
DEMO: Digital Delivery
Digital Delivery - Resources

- Blogs
  https://developers.exlibrisgroup.com/blog/tag/Digital

- Docs
  https://developers.exlibrisgroup.com/alma/integrations/digital
EX LIBRIS IDENTITY SERVICE

- Security best practices for internally authenticated users
Ex Libris Identity Service

• Security best practices call for a separate, industry standard identity service for all users with internal passwords

• Ex Libris identity service provides the same functionality as previously offered, internal passwords automatically migrated when service goes live in January 2019

• Existing APIs will continue to work (e.g. for resource sharing scenarios:
  • SIP2, NCIP, REST API
Identity Service - Resources

- FAQ
  
  https://developers.exlibrisgroup.com/alma/integrations/user-management/authentication/exl_identity_service
Wrap Up
Developer Network Tips & Tricks

• Blog RSS
• Google is your friend
• Configuring Apps - environment, APIs, and permissions
• The forum is the place to get help
Important Resources

• **Getting started**
• Demos/samples:
  • General
  • C#,
  • Java,
  • Angular,
  • Ruby
• **API Thresholds**
• **Working with the APIs in a network**
Summary

• APIs and integration protocols allow you to extend Alma beyond its built-in features

• Documentation, samples, and standards allow your developers to focus on your specific requirements and not on “plumbing”

• You’re a critical part of the community- share your efforts on the Developer Network!
THANK YOU

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