

Interaction with Alma and Leganto

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Overview

- The scripts collect reading list citations from Leganto, and enhance these with data from bibliographic records in Alma.
- This uses two Ex Libris APIs:
 - **Courses** <https://developers.exlibrisgroup.com/alma/apis/courses/>
For retrieving information on modules and reading lists, and individual list citations
 - **Bibs** <https://developers.exlibrisgroup.com/alma/apis/bibs/>
For retrieving Marc data from Alma records linked to Leganto citations
- Authentication uses an **API key** for each API - these are saved in config.ini See [1_2_API_keys.pdf](#)
- The class files that handle the API integration are in the directory **AlmaAPI/**
 - These were copied with minor modifications from the previously-developed API-integration code in the separate project https://dev.azure.com/uol-support/Library%20API/_git/AlmaAPI

Courses API

This is queried from the first of the individual scripts, **getCitationsByModule.php**:

Find Alma courses matching the module code supplied

```
require 'AlmaAPI/AlmaCourses.php';
$course_endpoint = new AlmaCourses();
$course_records = $course_endpoint->searchCourses($modcode, "searchable_ids", 100, 0, "false");
```

Using the code in **AlmaAPI/AlmaCourses.php** this attempts to find any course(s) with a non-exact match by **searchable_id** to the requested module code **\$modcode**.

If none are found, a place-holder "citation" is created in the output but no further processing is done for this module.

If courses are found, then for each:

Find Leganto lists belonging to this course

```
require 'AlmaAPI/AlmaReadingLists.php';
$list_endpoint = new AlmaReadingLists();
$list_records = $list_endpoint->retrieveReadingLists($course_id);
```

Using the code in **AlmaAPI/AlmaReadingLists.php** this attempts to retrieve all reading lists belonging to the course with ID **\$course_id**

If none are found, a place-holder "citation" is created in the output but no further processing is done for this course.

If lists are found, then for each:

Fetch citations for a reading list

```
$list_full_record = $list_endpoint->retrieveReadingList($course_id, $list_record["id"], "full");
```

Using the code in **AlmaAPI/AlmaReadingLists.php** this attempts to retrieve the full reading list belonging to the course with ID **\$course_id** and with reading list ID **\$list_record["id"]**

Individual citations are in the returned array **\$list_full_record["citations"]["citation"]**

Bibs API

This is queried from the second of the individual scripts, **enhanceCitationsFromAlma.php**:

Fetch bib record given MMS ID

Many Leganto citations will link to an Alma Bib record by MS ID, and so we can obtain additional metadata for the citation from Alma

```
require 'AlmaAPI/AlmaBibs.php';
$bib_endpoint = new AlmaBibs('bibs');
$bib_record = $bib_endpoint->retrieveBib($citation["Leganto"]["metadata"]["mms_id"]);
```

Using the code in **AlmaAPI/AlmaBibs.php** this attempts to retrieve the full bib record with **MMS ID \$citation["Leganto"]["metadata"]["mms_id"]** (which has been retrieved above, using the Courses API)

- Marc records are in the array **\$bib_record["anies"]**
 - They are in XML and so the first step is to load then into a SimpleXMLElement
 - *The XML specifies encoding UTF-16 but the actual data appears to be UTF-8, which causes errors, so this is changed using `str_replace()` before creating the SimpleXmlElement*
 - Marc fields and subfields are present in this XML object, and the desired field contents are retrieved
 - The Marc fields and subfields to treat as "title-like" and "author-like" were specified by the Library and can be changed in **enhanceCitationsFromAlma.php**
 - The code also fetches alternate representations (e.g. Chinese script) of title and author data in linked 880 fields (see <https://www.loc.gov/marc/bibliographic/bd880.html>)
- In this case, the linked field (e.g. **245**) is saved in "tag" and **880** is saved in "originalTag" to allow subsequent code to distinguish these

Institutions outside Europe

- The default config.ini is set for Ex Libris's European region
- For institutions outside Europe, you will need to change the values of **apiHost** and **apiURL** in the **Alma** section of config.ini - see the table in **Calling Alma APIs** in <https://developers.exlibrisgroup.com/alma/apis/>