Using APIs to Access Holdings from Galleries, Libraries, Archives and Museums
Introductions

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What are APIs?
Query, Curate, Create
What are APIs?

- Application Program Interface
- Analogy: Searching for flights on Kayak
Who are APIs for?

◉ Developers
◉ Web & Mobile Applications
What can APIs **do for you?**

- Access cultural artifacts and their metadata
- Build applications using cultural heritage items
DAM, GLAM, thank you ma’am

Artsy
Provides access to images of artwork and their metadata
API Limitation: only images in Public Domain

Brooklyn Museum
Brooklyn Museum Collection API
More information on the museum’s API development

HathiTrust
HathiTrust Data API
Retrieve page images, OCR, and in some cases whole volume packages

Metropolitan Museum of Art
Recently launched API
Open Access to data and 406,000 images from Met collection
Case Study: Art & the *Aeneid*

- Dataset filled gap in study of artistic depictions related to the *Aeneid*
- Initially scraped 1,922 records using Europeana API
- Analyzed metadata related to cultural associations and period
Europeana

58,112,930 artworks, artefacts, books, films and music from European museums, galleries, libraries and archives
What can the API do for you?
No Metadata, No Future

Dublin Core
Proxy metadata (the metadata provided by the actual institution) uses Dublin Core standards

EDM
The Europeana Data Model is aimed at being an integration medium for collecting, connecting and enriching the descriptions provided by Europeana’s content providers.*

What do you need?

**API Key**
Register [here](#) to receive a unique key code that you will need to include in your queries.

**API Console, Browser, Command Line**
Disorienting at first and all APIs are used **differently**, but the Europeana API Console is a visual aid to getting the different parts right. Browser is intermediate level and command line is expert.
Searching: Build Your Call using the API Console

Search by keywords, collection

Same as regular search but with more options. Search for an object, a theme, a type of object or even a concept that brings together many objects.

API console

Great option to test out tool and get started.

Documentation

Look at the developed documentation on Europeana’s API query syntax.
Gathering Data

1. Searching: Build Your Call
2. Download & Convert Data
3. Import & Visualize Data
## Searching: Build Your Call

<table>
<thead>
<tr>
<th>Who are you calling?</th>
<th>How you want to contact them</th>
<th>Who are you?</th>
<th>What do you want?</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.europeana.eu/">www.europeana.eu/</a></td>
<td>api/v2/search.json?</td>
<td>wskey=XXXXX</td>
<td>&amp;query=music</td>
</tr>
</tbody>
</table>
Searching: Build Your Call

Response Content Type: application/json

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
<th>Parameter Type</th>
<th>Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>wkey</td>
<td>T7rsHKgYs</td>
<td></td>
<td>wkey</td>
<td>string</td>
</tr>
<tr>
<td>query</td>
<td>aeneas</td>
<td></td>
<td>query</td>
<td>string</td>
</tr>
<tr>
<td>qf</td>
<td></td>
<td>Provide multiple values in new lines.</td>
<td>query</td>
<td>Array(string)</td>
</tr>
<tr>
<td>reusability</td>
<td></td>
<td>Provide multiple values in new lines.</td>
<td>query</td>
<td>Array(string)</td>
</tr>
<tr>
<td>profile</td>
<td>minimal</td>
<td></td>
<td>profile</td>
<td>string</td>
</tr>
</tbody>
</table>

Curl

```
curl -X GET --header 'Accept: application/json' 'https://www.europeana.eu/api/v2/search.json?wkey=T7rsHKgYs&query=aeneas&profile=minimal&media=true'
```

Response Body

```
{
  "apiKey": "T7rsHKgYs",
  "success": true,
  "requestNumber": 999,
  "itemCount": 12,
  "totalResults": 52,
  "items": [
    {
      "id": "72064137/Museu_ProvidedCHG_Bildarchiv_Foto_Marburg_obj00022939_T_003_T_042",
      "title": "Heinrich von Veldeke, Eneide – Camilla und Turnus kämpfen gegen Montalban, Folio 46Recto"
    }
  ]
}
```
Downloading JSON Data
**JSON to Legible (CSV)**

- **JSON**, or JavaScript Object Notation, is a human readable format for structuring data
  - Alternative to **XML**
  - **Key/Value** pairs: "dcCreator": ["Publius, Virgilius Maro (70–19 a. C.)"]
JSON can look differently in the API console than in the browser.
**JSON to Legible (CSV)**

- **JSON Parsers that will turn the text clump into JSON's true structured data form**
- **JSON Parser Online:** JSON code clump to a legible format
Convert the JSON data into CSV format

Convert JSON to CSV

Click your JSON below to edit. Please report bugs and send feedback on GitHub. Made by @konklone.

```
{
  "apikey": "7TrdKgYMs",
  "success": true,
  "requestNumber": 999,
  "itemsCount": 12,
  "totalResults": 62,
  "items": [
    {
      "id": "/204813/item_0320851",
      "dcDescription": {
        "title": "Pair of shoes, Gucci, Italy, 1960s."
      }
    },
    ...
  ]
```

Extremely large files may cause trouble — the conversion is done inside your browser. Microsoft Edge has a smaller limit than other browsers.

Below are the first few rows (12 total). Download the entire CSV, or show the raw data.

<table>
<thead>
<tr>
<th>id</th>
<th>dcDescription/O</th>
<th>title/O</th>
<th>rights/O</th>
<th>edmsShow</th>
</tr>
</thead>
<tbody>
<tr>
<td>/204813/item_01172181</td>
<td>Leather bag with bamboo handle, str...</td>
<td>Leather bag with bamboo handle, str...</td>
<td><a href="http://creativecommons.org/licenses/">http://creativecommons.org/licenses/</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
<tr>
<td>/91613/GSM-event_028813</td>
<td>En dramatisering av Marianne Fredrik...</td>
<td>Simon och ekarna, 2002, Simon och ...</td>
<td><a href="http://creativecommons.org/licenses/">http://creativecommons.org/licenses/</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
<tr>
<td>/98502/Athena_Update_ProvidedCh...</td>
<td>Picabia’s Mona Lisa</td>
<td></td>
<td><a href="http://rightsstatements.org/vocab/in">http://rightsstatements.org/vocab/in</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
<tr>
<td>/98502/Athena_Update_ProvidedCh...</td>
<td>The original 1919 version of L.H.O.O.Q.</td>
<td>L.H.O.O.Q.</td>
<td><a href="http://rightsstatements.org/vocab/in">http://rightsstatements.org/vocab/in</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
<tr>
<td>/2024913/photography_ProvidedCh...</td>
<td>The Mona Lisa robbery: Lieutenant L...</td>
<td>Vol de la Joconde</td>
<td><a href="http://rightsstatements.org/vocab/in">http://rightsstatements.org/vocab/in</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
<tr>
<td>/2024913/photography_ProvidedCh...</td>
<td>Leonardo da Vinci (1452-1519), Mon...</td>
<td>La Joconde</td>
<td><a href="http://rightsstatements.org/vocab/in">http://rightsstatements.org/vocab/in</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
<tr>
<td>/202208/OMU_O9_Y7884</td>
<td>Lysebu, interiør, stua, maleri Mona Lisa</td>
<td>Lysebu, interiør</td>
<td><a href="http://creativecommons.org/licenses/">http://creativecommons.org/licenses/</a>...</td>
<td><a href="http://www/">http://www/</a></td>
</tr>
</tbody>
</table>
Doin’ the damn thing
“Most of us need to listen to the music to understand how beautiful it is. But often that’s how we present statistics: we just show the notes, we don’t play the music.” – Hans Rosling
- Drag and drop map creation.
- Works with Excel and CSV files.
- Customizable based on your data.
Visualize!
Before You Go, Keep in Mind

Preliminary Analysis
The data gathered can be used for preliminary analysis but it is imperative to CLEAN YOUR DATA!

Data Cleaning is Necessary
Consider OpenRefine, a data cleaning tool “Garbage In, Garbage Out”
Useful Links and Tutorials

Find out how you can get more out of the Europeana API:

- [Using the Europeana API](#) - a beginner’s guide with JQuery
- **JSON Parsers**
  - [JSON to CSV](#): JSON to CSV table
  - [JSON Parser Online](#): JSON code clump to a legible format
- [Explore applications](#) developed using the Europeana API
- Updated [List of GLAM APIs](#)
Thanks!

Any questions?

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