

# Europeana Data Model (EDM) Template for use with University of Chicago Library Digital Collections

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## 1 Triple Types

All triples should be typed. Choose from among these types.

a ore:ResourceMap  
a ore:Aggregation  
a edm:ProvidedCHO  
a ore:Proxy # optional  
a edm:WebResource  
a rdfs:Resource # This is the default type. Use it when  
none of the preceding apply.

Of the above, a ore:Proxy is optional, but included if we are basing the descriptive metadata in a edm:ProvidedCHO on pre-existing descriptive metadata (e.g., a cataloging record).

## 2 Required Elements

In this section, mandatory Europeana elements are indicated by **boldface**. Mandatory Europeana elements governed by either/or or if/then statements are indicated by *italics*. Mandatory elements required by local usage are underlined.

The following is with reference to Definition of the Europeana Data Model v5.2.8 06/10/2017.<sup>1</sup>

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<sup>1</sup>[https://pro.europeana.eu/files/Europeana\\_Professional/Share\\_your\\_data/Technical\\_requirements/EDM\\_Documentation//EDM\\_Definition\\_v5.2.8\\_102017.pdf](https://pro.europeana.eu/files/Europeana_Professional/Share_your_data/Technical_requirements/EDM_Documentation//EDM_Definition_v5.2.8_102017.pdf)

## 2.1 ore:ResourceMap

The following are required for an edm:ResourceMap. The requirements are indicated by example.

```
<z9m865s34c01/rem>
dcterms:creator <https://dldc.lib.uchicago.edu/> ;
dcterms:created "2022-02-09T11:21:52-06:00"^^xsd:dateTime ;
dcterms:modified "2022-02-09T11:21:52-06:00"^^xsd:dateTime ;
ore:describes <z9m865s34c01/aggregation> ;
a ore:ResourceMap .
```

Note that when an ore:ResourceMap is being created, the values of dcterms:created and dcterms:modified are the same.

## 2.2 ore:Aggregation

The following are mandatory Europeana elements for the *ore:Aggregation*.

- **edm:aggregatedCHO**
- **edm:dataProvider**
- Either *edm:isShownAt* or *edm:isShownBy* (... “using both is recommended!”).<sup>2</sup> If *edm:isShownBy* is used, then *edm:object* must be supplied. (See 3.2.27.)
- **edm:provider**
- **edm:rights**

The differences between edm:isShownAt and edm:isShownBy is explained as follows.

edm:isShownAt: “An unambiguous URL reference to the digital object on the provider’s web site in its full information context. ... This property will contain a URL that will be active in the Europeana interface. It will lead users to the digital object displayed on the provider’s web site in its full information context. Use edm:isShownAt if you display the digital object with extra information (such as header, banner etc). Also use it for

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<sup>2</sup>[https://pro.europeana.eu/files/Europeana\\_Professional/Share\\_your\\_data/Technical\\_requirements/EDM\\_Documentation/EDM\\_Mapping\\_Guidelines\\_v2.4\\_102017.pdf](https://pro.europeana.eu/files/Europeana_Professional/Share_your_data/Technical_requirements/EDM_Documentation/EDM_Mapping_Guidelines_v2.4_102017.pdf), section 4.3, p. 29.

digital objects embedded in HTML pages (even where the page is extremely simple).” *Definition of the Europeana Data Model*, Section 3.2.21.Is Shown At.

edm:isShownBy: “An unambiguous URL reference to the digital object on the provider’s web site in the best available resolution/quality. ... This property will contain a URL that will be active in the Europeana interface. It will lead users to the digital object on the provider’s website where they can view or play it. The digital object needs to be directly accessible by the URL and reasonably independent at that location. If the URL includes short copyright information or minimal navigation tools it can be entered in edm:isShownBy.” *Definition of the Europeana Data Model*, Section 3.2.22.Is Shown By.

The above suggests that a digital object displayed on web pages with full information context should be indicated by edm:isShownAt, while a digital object in the best resolution should be indicated by edm:isShownBy. By convention, we indicate the former by appending “/website” to the URL containing the ARK identifier, and the latter by appending “/file.tif”, “/file.wav”, etc. If edm:isShownBy is used then edm:object must also be used. “This will often be the same URL as given in edm:isShownBy.” *Definition of the Europeana Data Model*, Section 3.2.27.Object.

The following is an example of an ore:Aggregation.

```
<z9m865s34c01/aggregation>
edm:aggregatedCHO <z9m865s34c01> ;
edm:datasetName "CAILLA" ;
edm:dataProvider "University of Chicago Library" ;
edm:isShownAt <z9m865s34c01/website> ;
edm:isShownBy <z9m865s34c01/file.wav> ;
edm:object <z9m865s34c01/file.wav> ;
edm:provider "University of Chicago Library" ;
edm:rights <https://rightsstatements.org/vocab/NoC-US/1.0/> ;
ore:isDescribedBy <z9m865s34c01/rem> ;
a ore:Aggregation .
```

The ore:Aggregation may contain edm:hasView [link to edm:WebResource]. The example above contains an optional edm:datasetName predicate.

## 2.3 edm:ProvidedCHO

The following are mandatory Europeana elements for the *edm:ProvidedCHO*.

- Either *dc:description* or *dc:title* or both. Local usage requires *dc:title*.
- One or more the following: *dc:coverage*, *dcterms:spatial*, *dc:subject*, *dcterms:temporal*, or *dc:type*. Local usage requires *dc:type*. Values should be drawn from the “DCMI Type Vocabulary”.<sup>3</sup> “Note that digital representations of, or surrogates for, [physical] objects should use Image, Text or one of the other types.” Local usage requires *dcterms:spatial*. Values from Getty’s Thesaurus of Geographical Names (TGN) are used.
- *dc:language* for TEXT objects. It is strongly recommended for other object types if there is a language aspect. Language codes conforming to ISO 639 are used as values.
- **edm:type** must occur and must use one of the following values (in upper case): TEXT, IMAGE, SOUND, VIDEO or 3D. Map DCMI types to EDM types as follows: “Text” -> “TEXT”; “Image” -> “IMAGE”; “Sound” -> ”SOUND”; “MovingImage” -> “VIDEO”.

In addition to what is specified above, the following are also required by local usage for the *edm:ProvidedCHO*.

- *dcterms:identifier*. String-literal values for locally-created ARK identifiers are used, e.g., "https://n2t.net/ark:61001/z9m865s34c01/website" (*dc:identifier* may be used for any original identifiers occurring in provided metadata).
- *dc:date*. String-literal values conforming to ISO 8601 or the Extended Date/Time Format Specification (EDTF)<sup>4</sup> are used in that order.

For the following, see “DCMI Kernel Metadata Community: Kernel Metadata and Electronic Resource Citations (ERCs)”, Section 3, Kernel Stories.<sup>5</sup> They will support responses to queries about the metadata when the appropriate syntax is provided to an ARK resolver: “ARK resolvers must support the ‘?info’ inflection for requesting metadata.”<sup>6</sup> See further in that document for the ?info inflection and the use of Electronic Resource Citations [ERCs].)

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<sup>3</sup><https://www.dublincore.org/specifications/dublin-core/dcmi-terms/#section-7>

<sup>4</sup><https://www.loc.gov/standards/datetime/>

<sup>5</sup><https://www.dublincore.org/groups/kernel/spec/#anchor3>

<sup>6</sup><https://datatracker.ietf.org/doc/html/draft-kunze-ark-28#section-1.2>

- erc:who The value is drawn from dc[terms]:creator, dc[terms]:contributor, or dc[terms]:publisher, in that order. If none of those have values, then use erc:who “(:unkn) unknown”.
- erc:what The value is drawn from dc:title or dc:description, in that order. If dc:title is “(:unkn) unknown” and dc:description is not supplied, then use erc:what “(:unkn) unknown”.
- erc:when The value is drawn from dc:date.
- erc:where The value is drawn from dcterms:identifier.

Any values which cannot be assigned should be drawn from “DCMI Kernel Metadata Community: Kernel Metadata and Electronic Resource Citations (ERCs)”, Section 9.3, Special Kernel Standardized Value Codes.<sup>7</sup> For a local copy see “Null Values”, <https://dldc.lib.uchicago.edu/dl/nullValues.html>.

The following is an example of an edm:ProvidedCHO. This example does not include any elements specific to a particular digital collection which may also be included in the edm:ProvidedCHO. It includes only those elements discussed in this section.

```
<z9m865s34c01>
dc:contributor "Hanks, William F." ;
dc:contributor "Unnamed contributor (male)" ;
dc:description "Contents: \"History of Cooperativa\"" ;
dc:language "spa" ;
dc:language "yua" ;
dc:title "Yucatec Maya field recordings (Hanks, 1979-1987) Yucatán Maya" ;
dcterms:identifier "https://n2t.net/ark:61001/z9m865s34c01" ;
dcterms:spatial "7005600" ;
dcterms:temporal "1979" ;
edm:type "SOUND" ;
erc:who "Hanks, William F., interviewer; Unnamed contributor (male), consultant" ;
erc:what "Yucatec Maya field recordings (Hanks, 1979-1987) Yucatán Maya" ;
erc:when "1979" ;
erc:where "https://n2t.net/ark:61001/z9m865s34c01" ;
a edm:ProvidedCHO.
```

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<sup>7</sup><https://www.dublincore.org/groups/kernel/spec/#anchor16>

## 2.4 ore:Proxy

The following are required for an ore:Proxy, which is optional; it is used only if one is associating a file of original descriptive metadata, e.g., MARCXML or Dublin Core, with the aggregation. The requirements are indicated by example.

```
<z9m865s34c01/file.dc.xml>
dc:format "application/xml" ;
ore:proxyFor <b2nw3wm8552h> ;
ore:proxyIn <b2nw3wm8552h/aggregation> ;
a ore:Proxy .
```

Note that when an ore:ResourceMap is being created, the values of dc:terms:created and dcterms:modified are the same.

## 2.5 edm:WebResource

The following are required for an edm:WebResource. The requirements are indicated by example. For `dcterms:format`, string-literal values conforming to Internet Media Types (MIME) are used (<http://www.iana.org/assignments/media-types/>).

```
<z9m865s34c01/file.wav>
dcterms:format "audio/x-wav" ;
dcterms:identifier "https://n2t.net/ark:61001/z9m865s34c01/file.wav" ;
premis:fixity [
  rdf:type <https://id.loc.gov/vocabulary/preservation/cryptographicHashFunctions/sha512>;
  rdf:value "10b1a2959f2229ab52e3873651c1d99036caa1e5d641e0bf257"] ;
premis:originalName "FieldRecording1996-2.wav" ;
premis:size 44694436 ;
a edm:WebResource .
```

## 2.6 rdfs:Resource

If rdfs:Resource is used, the following indicates its format. The example is for OCR data for a page object in Campus Publications.

```
<b2nw3wm8552h/00000001/file.xml>
dc:format "application/xml" ;
a rdfs:Resource . # This is the default type.
```

### 3 Example

This example consists of the required elements plus those specific to a particular digital collection. If anything in this example contradicts anything in the above, the above remains authoritative.

```
@base <https://ark.lib.uchicago.edu/ark:61001/> .
@prefix ac: <http://www.audiocommons.org/ac-ontology/
aco> .
@prefix aes60-2011: <https://www.aes.org/publications/
standards/> .
@prefix ark: <https://datatracker.ietf.org/doc/html/
draft-kunze-ark-29/> .
@prefix audioMD: <https://www.loc.gov/standards/amdvmd/
htmldoc/audioMD.html#> .
@prefix bf: <http://id.loc.gov/ontologies/bibframe/> .
@prefix cts: <http://marklogic.com/cts#> .
@prefix dc: <http://purl.org/dc/elements/1.1/> .
@prefix dcterms: <http://purl.org/dc/terms/> .
@prefix dma: <http://lib.uchicago.edu/dma/> .
@prefix ebucore: <https://www.ebu.ch/metadata/
ontologies/ebucore/> .
@prefix edm: <http://www.europeana.eu/schemas/edm/> .
@prefix erc: <http://purl.org/kernel/elements/1.1/> .
@prefix foaf: <http://xmlns.com/foaf/spec/> .
@prefix http: <https://tools.ietf.org/html/rfc7230> .
@prefix lexvo: <https://www.iso.org/standard/39534.html
> .
@prefix madsrdf: <http://www.loc.gov/mads/rdf/v1#...
http://www.w3.org/XML/1998/namespace> .
@prefix mix: <http://www.loc.gov/mix/v20/> .
@prefix olac: <http://www.language-archives.org/REC/
role.html#> .
@prefix ore: <http://www.openarchives.org/ore/terms/> .
@prefix premis: <https://id.loc.gov/ontologies/premis
-3-0-0.html> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-
ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
```

```

@prefix role: <http://id.loc.gov/vocabulary/relators/>
.
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix tgn: <http://vocab.getty.edu/tgn/> .
@prefix tgn: <http://vocab.getty.edu/ontology#> .
@prefix ucla: <http://lib.uchicago.edu/ucla/> .
@prefix vra: <http://purl.org/vra/> .
@prefix xml: <http://www.w3.org/XML/1998/namespace> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

<z9m865s34c01/rem>
dcterms:creator <https://dldc.lib.uchicago.edu/> ;
dcterms:created "2022-02-09T11:21:52-06:00"^^xsd:
    dateTime ;
dcterms:modified "2022-02-09T11:21:52-06:00"^^xsd:
    dateTime ;
ore:describes <z9m865s34c01/aggregation> ;
a ore:ResourceMap .

<z9m865s34c01/aggregation>
edm:aggregatedCHO <z9m865s34c01> ;
edm:datasetName "CAILLA" ;
edm:dataProvider "University of Chicago Library" ;
edm:hasView <z9m865s34c01/file.wav> ;
edm:isShownAt <z9m865s34c01/website> ;
edm:isShownBy <z9m865s34c01/file.wav> ;
edm:object <z9m865s34c01/file.wav> ;
edm:provider "University of Chicago Library" ;
edm:rights <https://rightsstatements.org/vocab/NoC-US
    /1.0/> ;
ore:isDescribedBy <z9m865s34c01/rem> ;
a ore:Aggregation .

<z9m865s34c01>
dc:contributor "Hanks, William F." ;
dc:contributor "Unnamed contributor (male)" ;
dma:contributor [
    foaf:name "Hanks, William F." ;
    olac:role "interviewer"
] ;

```



```

dma:contributor [
    foaf:name "Unnamed contributor (male)" ;
    olac:role "consultant"
] ;
dc:description "Contents: \"History of Cooperativa\"" ;
dc:identifier "5548" ;
dc:language "spa" ;
dc:language "yua" ;
dma:language [
    lexvo:iso639P3PCode "spa" ;
    dma:languageRole "primary"
] ;
dma:language [
    lexvo:iso639P3PCode "yua" ;
    dma:languageRole "subject"
] ;
dc:title "Yucatec Maya field recordings (Hanks,
    1979–1987) Yucatán Maya" ;
dc:type "Sound" ;
dcterms:rights "Restricted" ;
dcterms:spatial "7005600" ;
dcterms:temporal "1979" ;
dcterms:identifier "https://n2t.net/ark:61001/
    z9m865s34c01/website" ;
edm:type "SOUND" ;
erc:who "Hanks, William F., interviewer; Unnamed
    contributor (male), consultant" ;
erc:what "Yucatec Maya field recordings (Hanks,
    1979–1987) Yucatán Maya" ;
erc:when "1979" ;
erc:where "https://n2t.net/ark:61001/z9m865s34c01/
    website" ;
a edm:ProvidedCHO .

```

```

<z9m865s34c01/file.dc.xml>
dc:format "application/xml" ;
ore:proxyFor <b2nw3wm8552h> ;
ore:proxyIn <b2nw3wm8552h/aggregation> ;
a ore:Proxy .

```

```
<z9m865s34c01/file.wav>
dcterms:format "audio/x-wav" ;
premis:fixity [
  rdf:type <https://id.loc.gov/vocabulary/preservation/
    cryptographicHashFunctions/sha512> ;
  rdf:value "10
    b1a2959f2229ab52e3873651c1d99036caa1e5d641e0bf257
    " ] ;
premis:originalName "FieldRecording1996-2.wav" ;
premis:size 44694436 ;
a edm:WebResource .
```