

Praxislabor Digitale Geisteswissenschaften

Einführung in Schnittstellen (APIs) - Übung

Wintersemester 2022/23

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- 1) Gehen Sie auf <https://www.deutsche-digitale-bibliothek.de/> und registrieren Sie sich
- 2) Beantragen Sie einen API-Key
- 3) Gehen Sie auf <https://labs.deutsche-digitale-bibliothek.de/app/ddbapi/>
- 4) Loggen Sie sich mit ihrem API-Key ein

Deutsche Digitale Bibliothek REST API develop OAS3

<https://api.deutsche-digitale-bibliothek.de/OpenAPI>

Authors: Patrick Dinger and [Michael Büchner](#)

Description

The API is an [application programming interface](#) that allows users to access data via methods provided by the [Deutsche Digitale Bibliothek \(DDB\)](#). It allows the development of a range of applications that can be used in a variety of contexts. The API is available to all users who have registered with the DDB portal, as soon as they have set up an access area of the portal.

Users must verify their identity using an API key in order to use the API of the Deutsche Digitale Bibliothek. The key is a unique series of characters that has to be transmitted each time the user makes a request. Registered users of the Deutsche Digitale Bibliothek can obtain their personal authentication key for using the API. Keys can be issued once users are logged into their [DDB account](#) ("My Profile" > "API keys" > "Request an API key"). For more information, see the [interactive API documentation](#) ("Authorize") as well.

Licenses

In general all metadata provided via the API is licensed [CC0](#). For binary data like images, videos etc. DDB has introduced a licensing model that allows participating institutions to select from a range of licenses. If a reuse of this data is allowed must be checked in every case according to the information provided by the metadata.

[Terms of service](#)

[Service Point of the German Digital Library - Website](#)

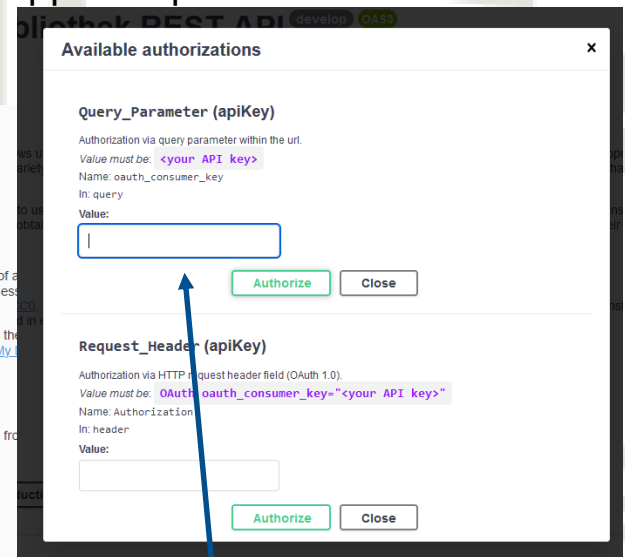
[Apache 2.0](#)

Servers

<https://api.deutsche-digitale-bibliothek.de/> - Production

binary

GET `/binary/{uuid}` Returns the binary file of an item for a given item ID



Available authorizations

Query_Parameter (apiKey)
Authorization via query parameter within the url.
Value must be: `<your API key>`
Name: `oauth_consumer_key`
In: query
Value:

[Authorize](#) [Close](#)

Request_Header (apiKey)
Authorization via HTTP request header field (OAuth 1.0).
Value must be: `OAuth oauth_consumer_key="<your API key>"`
Name: Authorization
In: header
Value:

[Authorize](#) [Close](#)

[Authorize](#) 

5.1) Suchen Sie nach allen registrierten Museen in der DDB

https://api.deutsche-digitale-bibliothek.de/institutions?§or=sec_06&oauth_consumer_key=

institutions ^

GET /institutions Returns a list of institutions, which are registered at DDB ^ 🔒

The JSON-Response contains an array of institution items. Each object contains it's display name, the internal ID, its geolocation in latitude and longitude and the sector it belongs to. The values for the sector are the same as the values which are returned by the sector facet. Each institution object may contain child institutions. These are nested into a property named children. This is an array containing institution JSON objects as described above. The institutions can again contain child institutions. If there are no child institutions the JSON array is empty.

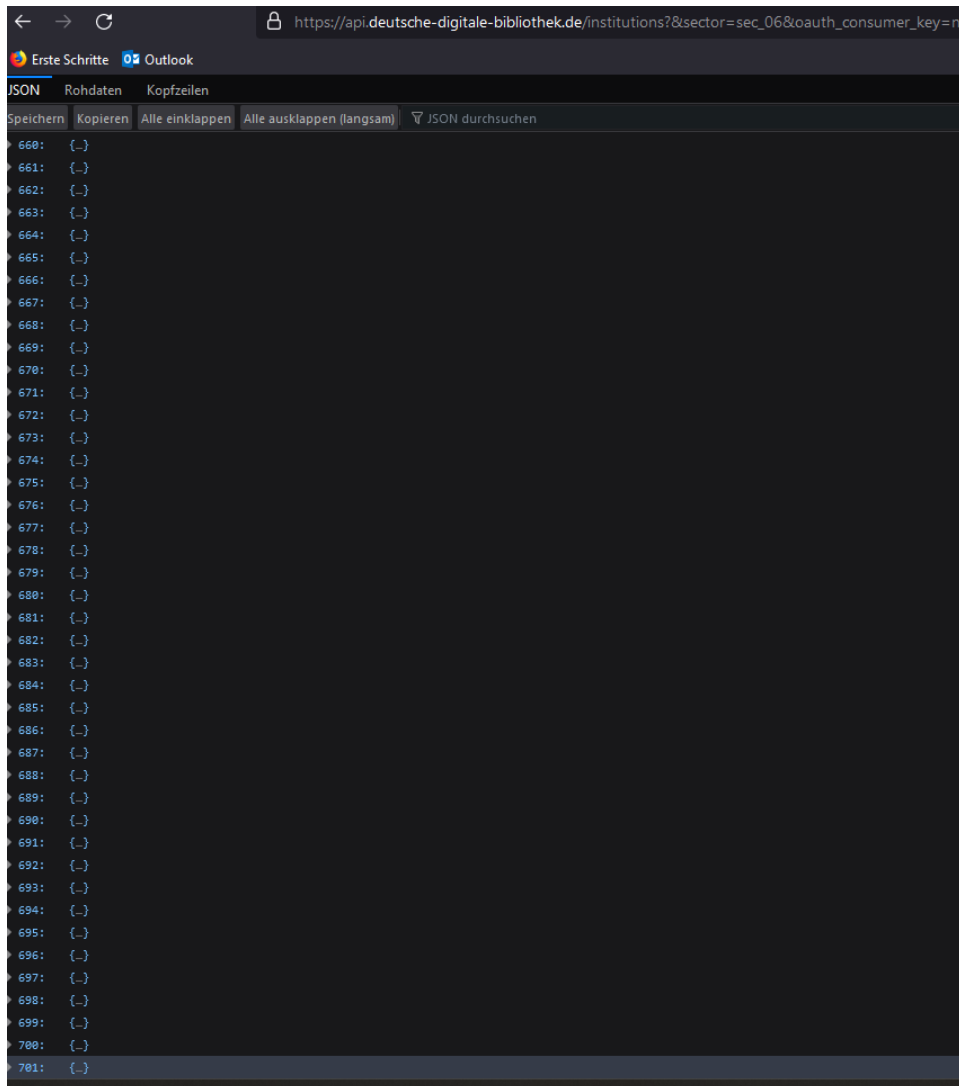
Parameters Cancel

Name	Description																								
hasItems boolean <i>(query)</i>	Show only institutions which have items <input type="text" value="--"/>																								
sector string <i>(query)</i>	Show institutions of an specify cultural sector.																								
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Value</th> <th style="text-align: left;">Description</th> <th style="text-align: left;">URI</th> </tr> </thead> <tbody> <tr> <td>sec_01</td> <td>Archive</td> <td>http://ddb.vocnet.org/sparte/sparte001</td> </tr> <tr> <td>sec_02</td> <td>Library</td> <td>http://ddb.vocnet.org/sparte/sparte002</td> </tr> <tr> <td>sec_03</td> <td>Monument protection</td> <td>http://ddb.vocnet.org/sparte/sparte003</td> </tr> <tr> <td>sec_04</td> <td>Research</td> <td>http://ddb.vocnet.org/sparte/sparte004</td> </tr> <tr> <td>sec_05</td> <td>Media</td> <td>http://ddb.vocnet.org/sparte/sparte005</td> </tr> <tr> <td>sec_06</td> <td>Museum</td> <td>http://ddb.vocnet.org/sparte/sparte006</td> </tr> <tr> <td>sec_07</td> <td>Other</td> <td>http://ddb.vocnet.org/sparte/sparte007</td> </tr> </tbody> </table> <input type="text" value="sec_06"/>	Value	Description	URI	sec_01	Archive	http://ddb.vocnet.org/sparte/sparte001	sec_02	Library	http://ddb.vocnet.org/sparte/sparte002	sec_03	Monument protection	http://ddb.vocnet.org/sparte/sparte003	sec_04	Research	http://ddb.vocnet.org/sparte/sparte004	sec_05	Media	http://ddb.vocnet.org/sparte/sparte005	sec_06	Museum	http://ddb.vocnet.org/sparte/sparte006	sec_07	Other	http://ddb.vocnet.org/sparte/sparte007
Value	Description	URI																							
sec_01	Archive	http://ddb.vocnet.org/sparte/sparte001																							
sec_02	Library	http://ddb.vocnet.org/sparte/sparte002																							
sec_03	Monument protection	http://ddb.vocnet.org/sparte/sparte003																							
sec_04	Research	http://ddb.vocnet.org/sparte/sparte004																							
sec_05	Media	http://ddb.vocnet.org/sparte/sparte005																							
sec_06	Museum	http://ddb.vocnet.org/sparte/sparte006																							
sec_07	Other	http://ddb.vocnet.org/sparte/sparte007																							

Execute
Clear



Anzahl: 701



```
https://api.deutsche-digitale-bibliothek.de/institutions?&sector=sec_06&oauth_consumer_key=nf

JSON Rohdaten Kopfzeilen
Speichern Kopieren Alle einklappen Alle ausklappen (langsam) JSON durchsuchen
660: (-)
661: (-)
662: (-)
663: (-)
664: (-)
665: (-)
666: (-)
667: (-)
668: (-)
669: (-)
670: (-)
671: (-)
672: (-)
673: (-)
674: (-)
675: (-)
676: (-)
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686: (-)
687: (-)
688: (-)
689: (-)
690: (-)
691: (-)
692: (-)
693: (-)
694: (-)
695: (-)
696: (-)
697: (-)
698: (-)
699: (-)
700: (-)
701: (-)
```

5.2) Suchen Sie nach allen registrierten Museen in der DDB, die Items haben. Wie viele sind es?

institutions

GET /institutions Returns a list of institutions, which are registered at DDB

The JSON-Response contains an array of institution items. Each object contains its display name, the internal ID, its geolocation in latitude and longitude same as the values which are returned by the sector facet. Each institution object may contain child institutions. These are nested into a property named childInstitutions. The institutions can again contain child institutions. If there are no child institutions the JSON array is empty.

Parameters

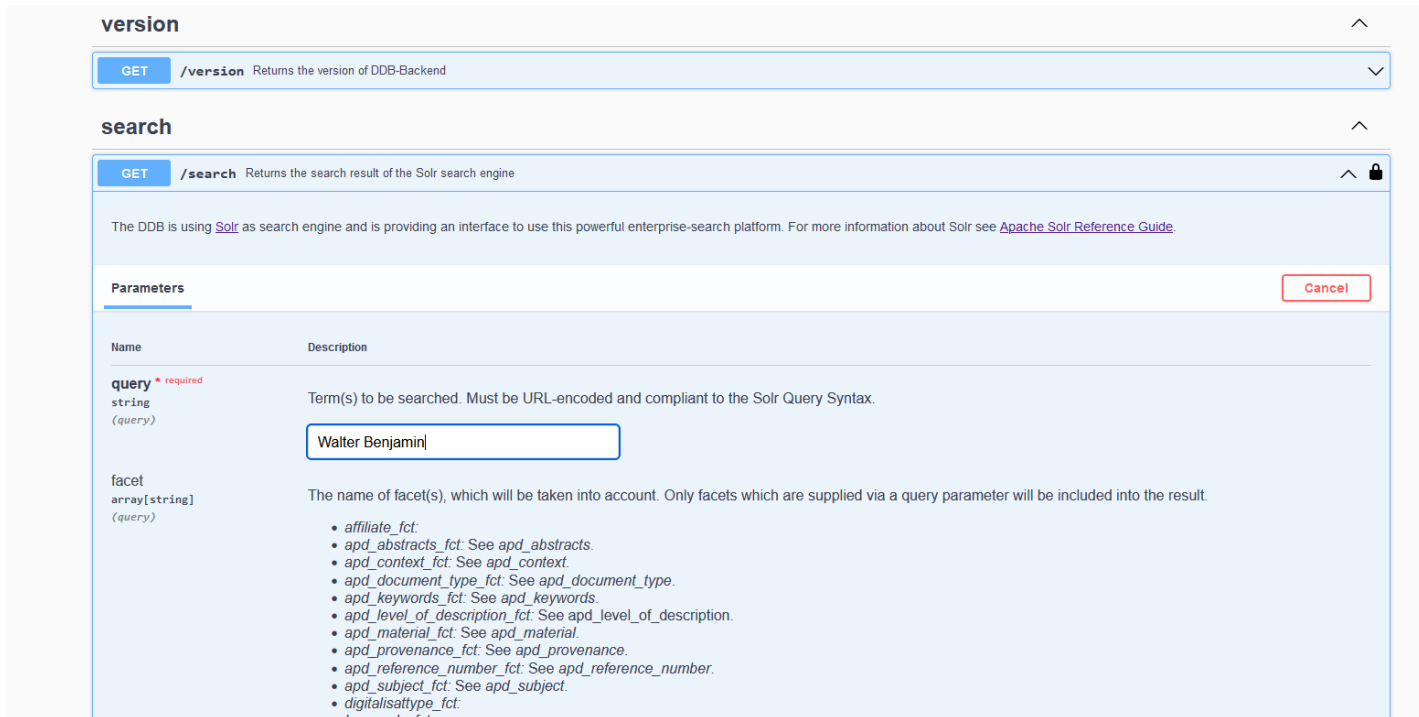
Name	Description
hasItems	Show only institutions which have items
boolean (query)	<input type="text" value="true"/>
sector	cultural sector.
string (query)	<input type="text" value="sec_06"/>
	<input type="text" value="Description"/>
	<input type="text" value="URI"/>
sec_01	Archive
sec_02	Library
sec_03	Monument protection
sec_04	Research
sec_05	Media
sec_06	Museum
sec_07	Other
	<input type="text" value="http://ddb.vocnet.org/sparte/spa"/>

Execute

https://api.deutsche-digitale-bibliothek.de/institutions?hasItems=true§or=sec_06&oauth_consumer_key=

Anzahl: 208

6) Suchen Sie nach "Walter Benjamin" in der Solr search engine



The screenshot shows the Solr search interface. The 'search' section is active, displaying the search result of the Solr search engine. The parameters section is expanded, showing the 'query' parameter set to 'Walter Benjamin'. The 'facet' parameter is also visible, listing various facets such as 'affiliate_fct', 'apd_abstracts_fct', etc.

Name	Description
query * required string (query)	Term(s) to be searched. Must be URL-encoded and compliant to the Solr Query Syntax. <input type="text" value="Walter Benjamin"/>
facet array[string] (query)	The name of facet(s), which will be taken into account. Only facets which are supplied via a query parameter will be included into the result. <ul style="list-style-type: none">• <i>affiliate_fct</i>:• <i>apd_abstracts_fct</i>: See <i>apd_abstracts</i>.• <i>apd_context_fct</i>: See <i>apd_context</i>.• <i>apd_document_type_fct</i>: See <i>apd_document_type</i>.• <i>apd_keywords_fct</i>: See <i>apd_keywords</i>.• <i>apd_level_of_description_fct</i>: See <i>apd_level_of_description</i>.• <i>apd_material_fct</i>: See <i>apd_material</i>.• <i>apd_provenance_fct</i>: See <i>apd_provenance</i>.• <i>apd_reference_number_fct</i>: See <i>apd_reference_number</i>.• <i>apd_subject_fct</i>: See <i>apd_subject</i>.• <i>digitalisattype_fct</i>:• <i>keywords_fct</i>:

https://api.deutsche-digitale-bibliothek.de/search?query=Walter+Benjamin&oauth_consumer_key=

Anzahl: 1877

8. Suchen Sie sich einen Titel aus

```

9:           inhaltsverzeichnis
▼ 711:
  id:           "HYV3HQXBSVJISCVNWXITHENDCG2QE4"
  type:         "Kultur"
  category:     "Kultur"
  media:        "text"
  label:        "Cinema and experience : Siegfried Kracauer, Walter Benjamin, and Theodor W. Adorno"
  title:        "Cinema and experience : Siegfried Kracauer, <match>Walter</match> <match>Benjamin</match>, and Theodor W. Adorno"
  subtitle:     "Hagener, Malte"
  preview:      "<<cortex-item-preview><div data-media=\"text\" data-type=\"Kultur\" class=\"item\"><div class=\"title\">Cinema and experience : Siegfried Kracauer, <match>Walter</match> <match>Benjamin</match>, and Theodor W. Adorno</div><div class=\"subtitle\">Hagener, Malte</div><div class=\"thumbnail\"><img src=\"\" /></div></div></cortex-item-preview>"
  view:
    ▼ 0:         "Der Zugriff auf das Objekt ist unbeschränkt möglich."
      1:         "Hagener, Malte"
      2:         "Monografie"
      3:         "Englisch"
      4:         "http://d-nb.info/1224681037"
    ▼ 5:         "http://nbn-resolving.org/urn:nbn:de:hebis:30:3-565982"
      6:         "1224681037"
  latitude:     null
  longitude:    null
  last_update: "2022-04-12T15:59:56+0200"
  arbitraryFields: {}
  fulltext:    []
  mdFormat:    "marc21"
  match:
    ▼ 0:         "Der Zugriff auf das Objekt ist unbeschränkt möglich."
      1:         "Hagener, Malte"
      2:         "Monografie"
      3:         "Englisch"
      4:         "http://d-nb.info/1224681037"
    ▼ 5:         "http://nbn-resolving.org/urn:nbn:de:hebis:30:3-565982"
      6:         "1224681037"
▼ 712:
  id:           "X62CES6E6H7LSNIDWT220E55HPOKPSHU"

```

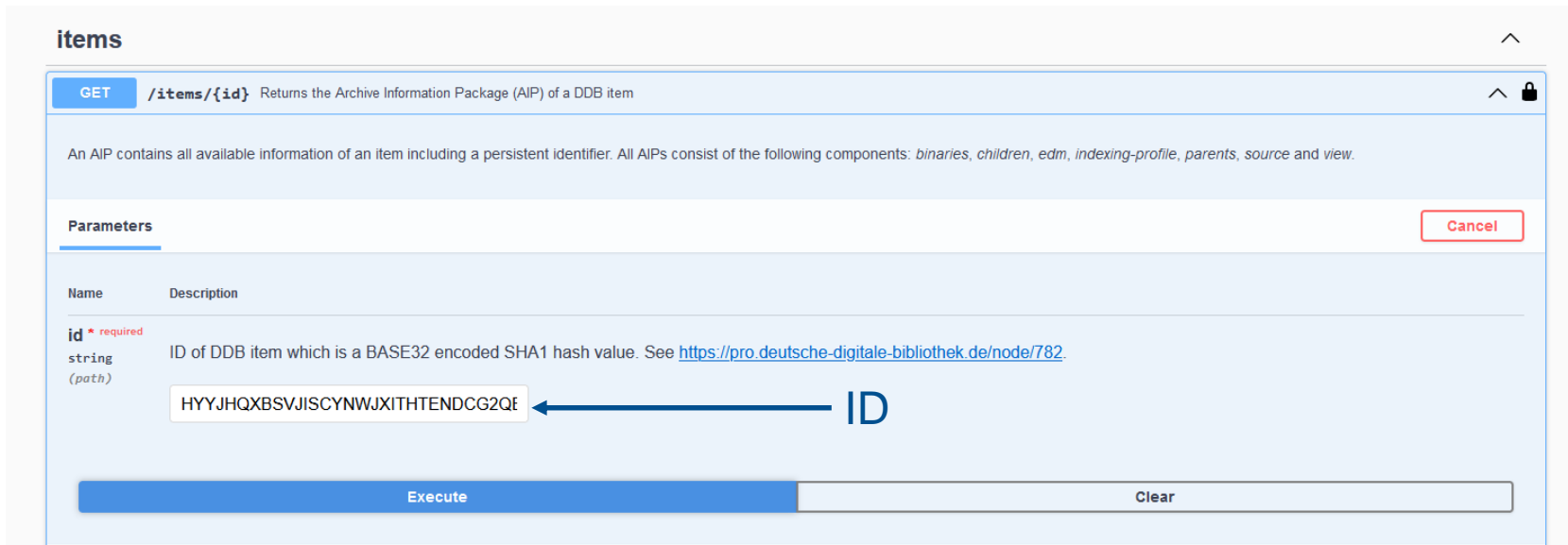
9) Finden Sie die zugehörige DDB ID

```

8:         "http://d-nb.info/112503/12/01"
9:         "Inhaltsverzeichnis"
▼ 711:
  id:      "HYYJHQXBSVJISCYNMJXITHTENDCG2QE"
  type:    "Kultur"
  category: "Kultur"
  media:   "text"
  label:   "Cinema and experience : Siegfried Kracauer, Walter Benjamin, and Theodor W. Adorno"
  title:   "Cinema and experience : Siegfried Kracauer, <match>Walter</match> <match>Benjamin</match>, and Theodor W. Adorno"
  subtitle: "Hagener, Malte"
  preview: "<cortex-item-preview><div data-media=\"text\" data-type=\"Kultur\" class=\"item\"><div class=\"title\">Cinema and experience : Siegfried Kracauer, <match>Walter</match> <match>Benjamin</match>, and Theodor W. Adorno</div><div class=\"subtitle\">Hagener, Malte</div><div class=\"thumbnail\"><img src=\"\" /></div></div></cortex-item-preview>"
  view:
    ▼ 0:    "Der Zugriff auf das Objekt ist unbeschränkt möglich."
      1:    "Hagener, Malte"
      2:    "Monografie"
      3:    "Englisch"
      4:    "http://d-nb.info/1224681037"
    ▼ 5:    "http://nbn-resolving.org/urn:nbn:de:hebis:30:3-565982"
      6:    "1224681037"
  latitude: null
  longitude: null
  last_update: "2022-04-12T15:59:56+0200"
  arbitraryFields: {}
  fulltext: []
  mdFormat: "marc21"
  match:
    ▼ 0:    "Der Zugriff auf das Objekt ist unbeschränkt möglich."
      1:    "Hagener, Malte"
      2:    "Monografie"

```


10) Lassen Sie sich das Archive Information Package (AIP) ausgeben



items

GET /items/{id} Returns the Archive Information Package (AIP) of a DDB item

An AIP contains all available information of an item including a persistent identifier. All AIPs consist of the following components: *binaries*, *children*, *edm*, *indexing-profile*, *parents*, *source* and *view*.

Parameters Cancel

Name	Description
id * required string (path)	ID of DDB item which is a BASE32 encoded SHA1 hash value. See https://pro.deutsche-digitale-bibliothek.de/node/782 .


HYYJHQXBSVJISCYNWJXITHTENDCG2QE ← ID

Execute Clear

https://api.deutsche-digitale-bibliothek.de/items/HYYJHQXBSVJISCYNWJXITHTENDCG2QEH?oauth_consumer_key=

11) Laden Sie es herunter

Code	Details
200	<p>Response body</p> <pre><?xml version="1.0" encoding="UTF-8" standalone="yes"?> <cortex xmlns="http://www.deutsche-digitale-bibliothek.de/cortex" xmlns:ns2="http://www.deutsche-digitale-bibliothek.de/institution" xmlns:ns3="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:ns4="http://www.deutsche-digitale-bibliothek.de/item" xmlns:ns5="http://www.deutsche-digitale-bibliothek.de/ns/cortex-item-source-description"> <properties> <item-id>HYVJHQXBSVJISCVNWJXITHTENDCG2QEH</item-id> <dataset-id>8819899887887896TiCZ</dataset-id> <dataset-label>Gesamtlieferung (Reihe 0) - MARC</dataset-label> <revision-id>50</revision-id> <ingest-date>2022-04-12T15:59:56+0200</ingest-date> <cortex-type>Kultur</cortex-type> <mapping-version>2.67</mapping-version> </properties> <edm> <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:crm="http://www.cidoc-crm.org/rdfs/cidoc_crm_v5.0.2_english_label_rdfs#" xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:dcterms="http://purl.org/dc/terms/" xmlns:dcb="http://www.deutsche-digitale-bibliothek.de/edm/" xmlns:edm="http://www.europeana.eu/schemas/edm/" xmlns:institution="http://www.deutsche-digitale-bibliothek.de/institution" xmlns:item="http://www.deutsche-digitale-bibliothek.de/item" xmlns:marc="http://www.loc.gov/MARC21/slim" xmlns:mx="info:lc/xmlns/marcxchange-v1" xmlns:ns2="http://www.deutsche-digitale-bibliothek.de/item" xmlns:ns4="http://www.deutsche-digitale-bibliothek.de/ns/cortex-item-source-description" xmlns:ns5="http://www.deutsche-digitale-bibliothek.de/institution" xmlns:ns6="http://www.deutsche-digitale-bibliothek.de/ns/cortex-item-source" xmlns:ore="http://www.openarchives.org/ore/terms/" xmlns:skos="http://www.w3.org/2004/02/skos/core#" xmlns:source="http://www.deutsche-digitale-bibliothek.de/ns/cortex-item-source" xmlns:source-description="http://www.deutsche-digitale-bibliothek.de/ns/cortex-item-source-description" xmlns:wgs84_pos="http://www.w3.org/2003/01/geo/wgs84_pos#"> <ore:Aggregation xmlns:exslt="http://exslt.org/common" rdf:about="http://d-nb.info/DE-101/1224681037"> <edm:aggregatedCHO rdf:resource="http://www.deutsche-digitale-bibliothek.de/item/HYVJHQXBSVJISCVNWJXITHTENDCG2QEH"/> <edm:dataProvider>Deutsche Nationalbibliothek</edm:dataProvider> <edm:dataProvider rdf:resource="http://www.deutsche-digitale-bibliothek.de/organization/2Q37XY5KXJNJE5MV6SWP3UKKZ6RSBLK5"/> <edm:isShownAt rdf:resource="http://d-nb.info/1224681037"/> <edm:provider>Deutsche Digitale Bibliothek</edm:provider> <edm:rights rdf:resource="http://rightsstatements.org/vocab/InC/1.0/"> </ore:Aggregation> </rdf:RDF> </edm> </cortex></pre> <p>Response headers</p> <pre>content-length: 6318 content-type: application/xml; charset=utf-8</pre>

 Download



12) Gehen Sie zur OAI-Schnittstelle der DDB



DDBoai | OAI 2.0 Request Results

IDENTIFY | LISTRECORDS | LISTSETS | LISTMETADATIFORMATS | LISTIDENTIFIERS

You are viewing an HTML version of the XML OAI response. To see the underlying XML use your web browsers view source option.

Datestamp of response 2022-12-02T12:56:44Z

Request URL <http://oai.deutsche-digitale-bibliothek.de/oai/OAIHandler>

OAI Error(s)

The request could not be completed due to the following error or errors.

Error Code badVerb

Illegal verb

IDENTIFY | LISTRECORDS | LISTSETS | LISTMETADATIFORMATS | LISTIDENTIFIERS

<https://oai.deutsche-digitale-bibliothek.de/>

13) Suchen Sie nach dem eben ausgewählten Werk und lassen Sie sich die Metadaten dazu anzeigen



DDBoai | OAI 2.0 Request Results

IDENTIFY | LISTRECORDS | LISTSETS | LISTMETADATAFORMATS | LISTIDENTIFIERS

You are viewing an HTML version of the XML OAI response. To see the underlying XML use your web browsers view source option.

Datestamp of response 2022-12-02T12:58:45Z

Request URL <https://oai.deutsche-digitale-bibliothek.de>

Request was of type GetRecord.

OAI Record: HYYJHQXBSVJISCYNWJXITHTENDCG2QEH

OAI Record Header

OAI Identifier	HYYJHQXBSVJISCYNWJXITHTENDCG2QEH	edm	oai_dc	ddb
Datestamp	2022-04-12T15:14:20Z			
Set	8819899887887896TiCZ	Identifiers	Records	
Set	8819899887887896TiCZ:mediatype_003	Identifiers	Records	
Set	8819899887887896TiCZ:rights_003	Identifiers	Records	
Set	8819899887887896TiCZ:2Q37XY5KXINJE5MV6SWP3UKKZ6RSBLK5	Identifiers	Records	

Metadata

<https://oai.deutsche-digitale-bibliothek.de/?verb=GetRecord&metadataPrefix=edm&identifier=HYYJHQXBSVJISCYNWJXITHTENDCG2QEH>

Vielen Dank für Ihre Aufmerksamkeit!