

7. March 2022

# Metadata services: Changes in RDF format from 7 June 2022 (Export Release 2022.02)

## 1. Release schedule

In accordance with the German National Library's (DNB) release planning for export formats<sup>1</sup>, the next change in the conversion and data modelling will take place on 7 June 2022. There may be disruptions to the interfaces and the Data Shop between 08:00 and 12:00 noon during the technical changeover.

## 2. Linked Data Service in general

### 2.1. Full copies

Following the export releases, it is expected that updated full copies of the Integrated Authority File (GND<sup>2</sup>) and the DNB's bibliographic data will be made available for download in the serialisation formats RDF/XML, Turtle, JSON-LD, as an HDT file<sup>3</sup> and in N-Triples as of March, June/July and October/November<sup>4</sup>.

Metadata provenance dump deliveries are effected at the same intervals. The provenance information is modelled along the lines of PROV Ontology<sup>5</sup> and published in the form of a separate data copy. Additional information regarding planning, documentation and modelling is available on the DNB WIKI<sup>6</sup>.

Full copies of the bibliographic data from the German Union Catalogue of Serials (ZDB) and the Address data of the German ISIL and Library Code Agency<sup>7</sup> will be updated in March and October/November.

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<sup>1</sup> <https://wiki.dnb.de/x/wgcbBQ>

<sup>2</sup> <https://www.dnb.de/EN/gnd>

<sup>3</sup> Header, Dictionary, Triples; <https://www.rdfhdt.org/what-is-hdt/>

<sup>4</sup> <https://data.dnb.de/opendata/>

<sup>5</sup> <https://www.w3.org/TR/prov-o/>

<sup>6</sup> <https://wiki.dnb.de/x/46G5C>

<sup>7</sup> <https://sigel.staatsbibliothek-berlin.de/en/startseite/>

The full copy for Entity Facts<sup>8</sup> is released monthly, albeit only in the format JSON-LD.

## 2.2. Prefixes used in the document

	bibo:	http://purl.org/ontology/bibo/
	cc:license	https://creativecommons.org/publicdomain/zero/1.0/
	dc:	http://purl.org/dc/elements/1.1/
	dcterms:	http://purl.org/dc/terms/
	dnbt:	https://d-nb.info/standards/elementset/dnb#
	foaf:	http://xmlns.com/foaf/0.1/
	owl:	http://www.w3.org/2002/07/owl#
	rdau	http://rdaregistry.info/Elements/u/
	rdf:	http://www.w3.org/1999/02/22-rdf-syntax-ns#
	skos:	https://www.w3.org/2004/02/skos/core#
	void:	http://d-nb.info/void#

## 3. Changes to the Linked Data Service

### | New feature:

Meta information is provided in particular data dumps (authorities\*\_lds, bib\_lds, dnb-all\_lds, zdb\_lds). This information includes details about licensing, the data provider, version information and short, human-readable descriptions of the data.

### Example for authorities\_lds

```
<https://d-nb.info/datasets/authorities>
  a void:Dataset ;
  cc:attributionName "German National Library"@en, "Deutsche
Nationalbibliothek"@de ;
  cc:attributionURL "https://www.dnb.de/" ;
  cc:license <https://creativecommons.org/publicdomain/zero/1.0/> ;
  dc:publisher <http://ld.zdb-services.de/resource/organisations/DE-101> ;
  dcterms:description ""Die Gemeinsame Normdatei (GND) ist eine Normdatei
für Personen, Körperschaften, Konferenzen, Geografika, Sachschlagwörter und
Werktitel, die vor allem zur Katalogisierung von Literatur in Bibliotheken
dient, zunehmend aber auch von Archiven, Museen, Projekten und in
Webanwendungen genutzt wird. Sie wird von der Deutschen Nationalbibliothek,
allen deutschsprachigen Bibliotheksverbänden mit den angeschlossenen
Bibliotheken, der Zeitschriftendatenbank (ZDB) und zahlreichen weiteren
Einrichtungen gemeinschaftlich geführt.""@de, ""The Integrated Authority
File (GND) is an authority file for Persons, Corporate bodies, Conferences
and Events, Geographic Information, Topics and Works. It is used above all
for the cataloguing of literature by libraries, but it is also increasingly
being deployed in archives, museums, projects and web applications. It is
operated cooperatively by the German National Library, all German-speaking
library networks and the associated libraries, the German Union Catalogue of
Serials (ZDB) and numerous other institutions.""@en ;
  dcterms:issued "2022-06-04"^^xsd:date ;
  dcterms:rights "see cc:license"@en, "siehe cc:license"@de ;
  dcterms:title "Integrated Authority File (GND)"@en, "Gemeinsame Normdatei
```

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<sup>8</sup> <https://www.dnb.de/EN/entityfacts>

```
(GND) "@de ;
  void:exampleResource <https://d-nb.info/gnd/11903336> ;
  owl:versionInfo "2022-06" ;
  foaf:homepage <https://gnd.network> .
```

## 4. Publication of RDF vocabularies

In addition to the announcement of changes in RDF format, dated preliminary versions of the RDF vocabularies for "DNB Metadata Terms" will also be provided in line with release planning. The preliminary versions for release 2022.02 can be accessed at:

| [https://d-nb.info/standards/elementset/dnb\\_20220607](https://d-nb.info/standards/elementset/dnb_20220607) (DNB Metadata Terms)

### Changes in DNB Metadata Terms

- | New feature:  
The two new object properties `dnbt:attributionRequired` and `dnbt:copyrighted` have been added to describe statements from licence information.

## 5. Changes in GND conversions

### 5.1. Cross-concordance

- | New feature:  
As additional data dumps along with this release, cross-concordances between the GND and other thesauri are provided as linked data for the first time, and will be provided at the usual frequency of three times a year in the future.  
The cross-concordances (= mappings) available here are intellectually generated relations between the standardised vocabulary of two thesauri. The authority file that is networked in this way, allows for (multi-lingual) meta searches in library catalogues and portals, as well as supporting external data transfer and automatic indexing procedures.  
SKOS<sup>9</sup> (Simple Knowledge Organization System) is used to describe the terms and the relationships between the terms.

#### 5.1.1. GND – STW (Thesaurus for Economics)

The mapping between the economics section of the GND and the Standard Thesaurus for Economics<sup>10</sup>, that contains vocabulary for all topics related to economics as well as from related disciplines such as law, sociology, politics and geographic terms, is managed and made available as part of an ongoing cooperation between the DNB and the ZBW<sup>11</sup>.

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<sup>9</sup> <http://www.w3.org/2009/08/skos-reference/skos.html>

<sup>10</sup> <https://zbw.eu/stw/version/latest/about.en.html>

<sup>11</sup> <https://www.zbw.eu/en/>

## For example

```
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix dcterms: <http://purl.org/dc/terms/> .
```

```
<https://d-nb.info/gnd/1123527725> dcterms:isPartOf <https://d-
nb.info/datasets/authorities> ;
    skos:inScheme <https://d-nb.info/datasets/authorities> ;
    skos:closeMatch <http://zbw.eu/stw/descriptor/30200-2> ;
    skos:prefLabel "Agilität <Management>"@de .
```

```
<http://zbw.eu/stw/descriptor/30200-2> dcterms:isPartOf <https://d-
nb.info/gnd/mapping/stw/target> ;
    skos:closeMatch <https://d-nb.info/gnd/1123527725> ;
    skos:prefLabel "Agilität"@de .
```

## Examples in the test file:

- | authorities-gnd-stw\_TESTDATEN.jsonld
- | authorities-gnd-stw\_TESTDATEN.nt
- | authorities-gnd-stw\_TESTDATEN.rdf
- | authorities-gnd-stw\_TESTDATEN.ttl

In the future, the respective dump can be found at <https://data.dnb.de/opendata/> under the following name:

```
mapping-authorities-gnd-stw_lds_{datum}.FORMAT.gz
```

## 5.1.2. GND – MeSH (Medical Subject Headings)

The mapping between the medicine section of the GND and the thesaurus by the National Library of Medicine<sup>12</sup> that is used around the world, is updated with biomedical terms and made available as part of an ongoing cooperation between the DNB and the ZBMed<sup>13</sup>, who is in charge of German translations of MeSH<sup>14</sup>.

### For example:

```
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix dcterms: <http://purl.org/dc/terms/> .
```

```
<https://d-nb.info/gnd/040012204> dcterms:isPartOf <https://d-
nb.info/datasets/authorities> ;
    skos:inScheme <https://d-nb.info/datasets/authorities> ;
    skos:exactMatch <http://id.nlm.nih.gov/mesh/vocab#D000437> ;
    skos:prefLabel "Alkoholismus"@de ;
    skos:note "Ausc. 2020|2021"@de .
```

```
<http://id.nlm.nih.gov/mesh/vocab#D000437> dcterms:isPartOf <https://d-
nb.info/mapping/gnd/mesh/target> ;
    skos:exactMatch <https://d-nb.info/gnd/040012204> ;
```

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<sup>12</sup> <https://www.nlm.nih.gov/>

<sup>13</sup> <https://www.zbmed.de/>

<sup>14</sup> <https://www.zbmed.de/open-science/terminologien/deutscher-mesh/>, <https://www.nlm.nih.gov/mesh/meshhome.html>

```
skos:prefLabel    "Alcoholism"@en ;
skos:note         "Ausz. 2020|2021"@de .
```

Examples in the test file:

```
| authorities-gnd-mesh_TESTDATEN.jsonld
| authorities-gnd-mesh_TESTDATEN.nt
| authorities-gnd-mesh_TESTDATEN.rdf
| authorities-gnd-mesh_TESTDATEN.ttl
```

In the future, the respective dump can be found at <https://data.dnb.de/opendata/> under the following name:

```
mapping-authorities-gnd-mesh_lds_{datum}.FORMAT.gz
```

```
| https://d-nb.info/standards/elementset/gnd (GND Ontology)
| https://d-nb.info/standards/vocab/gnd/gnd-sc.html (GND Subject Categories)
```

## 5.2. Entity Facts profile

New feature:

For any image links originating from Wiki Commons, licence notices from Wikimedia Commons are adopted without modifications by many entities. This includes, in particular, information about the image's licensing, who created the image and the text that must be added as source and reference information in case of any subsequent use of the image. This information may contain HTML code.

For example: Excerpt from <https://hub.culturegraph.org/entityfacts/119033364>

```
"depiction" : {
  "@id" :
"http://commons.wikimedia.org/wiki/Special:FilePath/Douglas%20adams%20por
trait%20cropped.jpg",
  "provider" : "Wikimedia Commons",
  "creator" : [ "Michael Hughes" ],
  "creditText" : [ "Flickr" ],
  "copyrighted" : "true",
  "license" : [ {
    "@id" : "https://creativecommons.org/licenses/by-sa/2.0",
    "abbr" : "CC BY-SA 2.0",
    "name" : "Creative Commons Attribution-Share Alike 2.0",
    "attributionRequired" : "true",
    "restrictions" : ""
  } ],
  "url" :
"https://commons.wikimedia.org/wiki/File:Douglas%20adams%20portrait%20cro
pped.jpg?uselang=de",
  "thumbnail" : {
    "@id" :
"https://commons.wikimedia.org/wiki/Special:FilePath/Douglas%20adams%20po
rtrait%20cropped.jpg?width=270"
  }
},
```

## 6. Examples and further information

In the course of the next few days the following example files, including the announced changes, can be accessed in the serialisation formats RDF/XML, Turtle and JSON-LD by visiting <https://data.dnb.de/testdat/>:

- | EntityFacts\_TESTDATEN.jsonld (nur JSON-LD)
- | authorities-gnd-mesh\_TESTDATEN.jsonld
- | authorities-gnd-mesh\_TESTDATEN.nt
- | authorities-gnd-mesh\_TESTDATEN.rdf
- | authorities-gnd-mesh\_TESTDATEN.ttl
- | authorities-gnd-stw\_TESTDATEN.jsonld
- | authorities-gnd-stw\_TESTDATEN.nt
- | authorities-gnd-stw\_TESTDATEN.rdf
- | authorities-gnd-stw\_TESTDATEN.ttl

All the information regarding the German National Library's Linked Data Service can be found on our website<sup>15</sup>.

If you have any questions please do not hesitate to mail us at [metadatendienste@dnb.de](mailto:metadatendienste@dnb.de).

Yours faithfully  
on behalf of Deutsche Nationalbibliothek (German National Library)

Tracy Arndt (Information Infrastructure)  
and Uta Ackermann (Digital Services)

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<sup>15</sup> <https://www.dnb.de/EN/lds>