

27 November 2018

Data Service: Changes in the RDF format from 12 February 2019 (Export Release 2019.01)

1. Release schedule

Dear Sir or Madam

As part of the scheduled export format release planning¹ of the German National Library (DNB), the next changes in the conversion and the data modelling will take place on 12 February 2019. (There may be disruptions to the interfaces and the Data Shop during the technical changeover between 08:00 and 12:00 noon on this day.)

2. Linked Data Service - General

2.1. Full copies

Following the export releases, it is expected that updated full copies of the Integrated Authority File (GND²) and the DNB's bibliographic data will be made available for download in the serialisation formats RDF/XML, Turtle, JSON-LD, as an HDT file³ and in N-Triples as of February, June and November⁴. 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 Agency⁵ will be updated in March and October/November 2019.

2.1.1. Provenance information for bibliographic data

The subject "Provenance information for bibliographic data", i.e. information on the origin of each triple, is an important part of this release. This is of particular interest for the subject cataloguing elements (dcterms:subject, dc:subject) in the bibliographic data. It refers for example to the information concerning the process by which a GND Subject Heading is assigned to a publication (intellectual, machine-based with confidence value XY etc.). The formal element "Language" (dcterms: language) is also a corresponding application.

¹ <https://wiki.dnb.de/x/wgcbBQ>

² <https://www.dnb.de/EN/gnd>

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

⁴ <https://data.dnb.de/opendata/>

⁵ <http://sigel.staatsbibliothek-berlin.de/en/startseite/>

This provenance information is modelled along the lines of the PROV Ontology⁶, and a separate data copy is currently scheduled for publication at the end of November 2018. Relevant information will be provided through the mailing list Ids@lists.dnb.de, and precise documentation of the modelling process will also be made available.

2.2. Prefixes used in the document

	umbel:	http://umbel.org/umbel#
	dcterms:	http://purl.org/dc/terms/
	dc:	http://purl.org/dc/elements/1.1/
	gndo:	http://d-nb.info/standards/elementset/gnd#
	owl:	http://www.w3.org/2002/07/owl#
	rdfs:	http://www.w3.org/2000/01/rdf-schema#

3. Publication of RDF vocabularies

Together with this announcement of changes in RDF format, dated preview versions of the RDF vocabularies for “DNB Metadata Terms” and “GND Ontology” are published.

The preview versions for release 2019.01 can be accessed at:

- | http://d-nb.info/standards/elementset/dnb_20190212 (DNB Metadata Terms)
- | http://d-nb.info/standards/elementset/gnd_20190212 (GND Ontology)

3.1. Changes in GND Ontology

- | Correction: the main classes in the Integrated Authority File were previously declared to be mutually exclusive (“owl:AllDisjointClasses”). The classes in question are “gndo:ConferenceOrEvent”, “gndo:CorporateBody”, “gndo:Family”, “gndo:PlaceOrGeographicName”, “gndo:SubjectHeading” and “gndo:Work”. This declaration turned out to be incorrect, as the GND cataloguing conventions state that entities can by all means be instances of several classes. An example: <http://d-nb.info/gnd/1099-6> (“European Conference of Local Authorities”) is both a conference series (“gndo:SeriesOfConferenceOrEvent” is “rdfs:subclassOf” of “gndo:ConferenceOrEvent”) and a corporate body (“gndo:CorporateBody”) in the Integrated Authority File. For this reason, the axiom is to be removed without substitution for the time being.

4. Changes in GND conversions

4.1. GND Ontology profile

⁶ <https://www.w3.org/TR/prov-o/>

- | Correction: in very rare cases, names with several components were broken down incorrectly into several triples when forming the literals for variant names (“gndo:variantNameForThePerson”). This error has now been corrected.
Example in the test file: <http://d-nb.info/gnd/118806416>

The objective of the following measures is to align the scope of the links delivered in the RDF profile “GND Ontology” with “Entity Facts”.

- | New feature: further “owl:sameAs” relations will be taken over from the Virtual International Authority File (VIAF⁷).
The individual relations are:
 - o International Standard Name Identifier (ISNI⁸) (“[http://www.isni.org/...](http://www.isni.org/)”)
 - o Wikidata⁹ (“[http://www.wikidata.org/entity/...](http://www.wikidata.org/entity/)”)
 - o Library of Congress Authorities¹⁰ (“[http://id.loc.gov/authorities/...](http://id.loc.gov/authorities/)”)
- | Improvement: a link to the corresponding VIAF URI (“[http://viaf.org/viaf/...](http://viaf.org/viaf/)”) with “owl:sameAs” for the entity type “Person” has – where available – already been provided for some time. This has now been expanded to cover all entity types in the GND.

4.2. Profile Entity Facts

- | Improvement: at first, no RDF context was linked when modelling geo-coordinates for entities of the type “place”¹¹. Excerpts from GeoJSON-LD¹² have now been integrated as context so that the Entity Facts data can all be mapped as JSON-LD. This is possible in this format because only point coordinates are transported at present. (The GND mapping of polygon coordinates – which is not possible in GeoJSON – is provided for in theory but is not available in practice.)
Example in the test file: all
- | New feature: with this release, “sameAs” links to <http://sws.geonames.org/> will become available for the entity type “place”.
Example in the test file: all
<http://hub.culturegraph.org/entityfacts/4018122-4>

⁷ <https://viaf.org/>

⁸ <http://www.isni.org/>

⁹ <https://www.wikidata.org>

¹⁰ <https://authorities.loc.gov/>

¹¹ cf. <https://lists.dnb.de/pipermail/lds/2018-May/000118.html>

¹² <http://geojson.org/geojson-ld/>

```

{
  "@context" :
"http://hub.culturegraph.org/entityfacts/context/v1/entityfacts.jsonld",
  "@type" : "place",
  "@id" : "http://d-nb.info/gnd/4018122-4",
  "preferredName" : "Frankfurt (Oder)",
  "sameAs" : [ {
    "@id" : "http://sws.geonames.org/2925535",
    "collection" : {
      "abbr" : "geonames",
      "name" : "GeoNames",
      "publisher" : "GeoNames",
      "icon" : "http://www.geonames.org/geonames.ico"
    }
  }
]
}

```

- | Improvement: Entity Facts¹³ will in future also be available in encrypted format via the HTTPS protocol. There will be no automatic redirects between HTTP and HTTPS URLs – users can actively decide to use the HTTPS link. We recommend retrieval via HTTPS, as this guarantees the authenticity of the Entity Facts data and data protection for the application that integrates Entity Facts.

The context file will be integrated via HTTP or HTTPS depending on the URL retrieved. From now on, the description of the Entity Facts document will refer solely to the HTTPS URL as the recommended URL.

An example:

A request to <https://hub.culturegraph.org/entityfacts/121966151> returns the following data (excerpt):

```

{
  "@context" :
"https://hub.culturegraph.org/entityfacts/context/v1/entityfacts.jsonld",
  "@type" : "person",
  "@id" : "http://d-nb.info/gnd/121966151",
  "describedBy" : {
    "valid" : "2018-10-15T19:32:59+0200",
    "license" : "https://creativecommons.org/publicdomain/zero/1.0/",
    "@id" : https://hub.culturegraph.org/entityfacts/121966151
  }
}

```

¹³ <https://www.dnb.de/EN/entityfacts>

5. Changes in the conversion of the bibliographic data of the German National Library and the German Union Catalogue of Serials

- | Change: Persistent identifiers of the URN type are now delivered beginning with "http://nbn-resolving.org/..." instead of "http://nbn-resolving.de/...". However, both resolver addresses will remain active in the future.

Example in the test file:

```
<http://d-nb.info/1162896434> umbel:isLike <https://nbn-resolving.org/urn:nbn:de:101:1-2018071705435047337751> .
```

- | Change: the output of the DOI-type Persistent Identifier has also been adjusted. Instead of "http://dx.doi.org/..." the URL begins with "https://doi.org/...".

Example in the test file:

```
<http://d-nb.info/1162896434> umbel:isLike <https://doi.org/10.1007/978-3-319-74983-9>
```

6. Sample files and other information

The following sample files, including the announced changes, can be retrieved in the serialisation forms RDF/XML, Turtle and JSON-LD from <https://data.dnb.de/testdat>:

- | "GNDTestRelease2019_01 ..." for GND authority data
- | "DNBTitelTestRelease2019_01 ..." for DNB bibliographic data
- | "EntityFacts_TestRelease2019_01 ..." for Entity Facts in RDF (JSON-LD) format

Information on the Linked Data Service of the German National Library can be obtained on our website¹⁴.

Please do not hesitate to contact us should you have any questions.

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<http://www.dnb.de>

¹⁴ <https://www.dnb.de/EN/lds>