
DCAT-AP-DONL Documentation

Kennis- en Exploitatiecentrum Officiële Overheidspublicaties

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The DCAT application profile for data.overheid.nl¹.

¹ <https://data.overheid.nl>

This documentation describes the DCAT application profile named DCAT-AP-DONL 1.1. This is a metadata standard based on the DCAT application profile DCAT-AP-NL 1.1. The application profile aims to reduce data duplication and to standardize values of properties wherever possible, this to improve its usefulness for linked data applications.

DCAT-AP-DONL 1.1 is the DCAT application profile used by [Data.Overheid.nl](https://data.overheid.nl)², which is *the* dataset portal of the Dutch government. It is also implemented as a CKAN extension which is available to the public on the [Textinfo Gitlab server](https://gitlab.textinfo.nl)³.

This documentation provides the exact details of the application profile and explains in what way it deviates from DCAT-AP-NL 1.1 and DCAT-AP-DONL 1.0 (its previous version).

1.1 Contact

For questions or comments regarding this DCAT application profile please contact KOOP at:

Online koopoverheid.nl⁴

Email opendata@overheid.nl

Telephone (070) 7000 526

1.2 References

- [Data.Overheid.nl](https://data.overheid.nl)⁵
- [DCAT-AP-NL 1.1](https://gitlab.textinfo.nl/opensource/ckanext-dcatdonl/)⁶

² <https://data.overheid.nl>

³ <https://gitlab.textinfo.nl/opensource/ckanext-dcatdonl/>

⁴ <https://www.koopoverheid.nl/>

⁵ <https://data.overheid.nl>

⁶ <http://dcat-ap-nl.nl>

- [CKANEXT-DCATDONL documentation](#)⁷
- [CKANEXT-DCATDONL repository](#)⁸

⁷ <https://ckanext-dcatdonl.readthedocs.io>

⁸ <https://gitlab.textinfo.nl/opensource/ckanext-dcatdonl/>

The following changes have been applied over time to the standard and/or its documentation.

2.1 12/11/2018

- The property `keyword` was incorrectly listed as mandatory. It has been updated to accurately describe its recommended status

2.2 05/11/2018

- The `downloadURL` property of a `Distribution` was incorrectly listed as having a `1..n` cardinality, this has been corrected to `0..n` to accurately reflect its recommended state.
- Further clarified the `Period` class. this class consists of only recommended properties but has additional rules which state that at least one of these properties should be present. An empty `Period` class is considered invalid.
- Introduced three new properties for the `Dataset` class, `highValue`, `basisRegister` and `referentieData`. These new properties are optional boolean properties. When these properties are not present in a dataset they are considered 'false'.
- The property `rights` of `Distribution` was incorrectly listed as mandatory, this property is recommended. Its state and cardinality have been corrected.

Classes

DCAT-AP-DONL 1.1 is based on the DCAT-AP-NL 1.1 standard. As such it inherits all the specifications from said standard. DCAT-AP-DONL 1.1 does modify the classes ‘Dataset’ and ‘Distribution’. The specifications of the DCAT-AP-DONL versions of these classes will now be handled. Given the fact that DCAT-AP-DONL must remain compatible with DCAT-AP-NL and by extension DCAT-AP-EU, these changes will not be groundbreaking.

In the schemas of the classes a column exists named ‘Man.’. This details whether a property is Mandatory (man), Recommended (rec) or Optional (opt).

There are direct references in the schemas below to the classes Period, LegalFoundation and Checksum , for the sake of clarity these are included in this documentation, however, these are direct copies of their counterparts in the DCAT-AP-NL standard.

3.1 Dataset

The properties and their acceptable values are outlined below:

Property	Man.	Card.	URI	Value
identifier	man	1..1	dct:identifier	xsd:anyURI
title	man	1..1	dct:title	xml:string
description	man	1..1	dct:description	xml:string
keyword	rec	0..n	dcat:keyword	xml:string
metadataLanguage	man	1..1	dct:language	donl:language
language	man	1..n	dct:language	donl:language
theme	man	1..n	dcat:theme	overheid:taxonomiebeleidsagenda
modificationDate	man	1..1	dct:modified	xsd:date (ISO 8601)
authority	man	1..1	overheid:authority	donl:authority
publisher	man	1..1	dct:publisher	donl:authority
contactPoint	man	1..1	dcat:contactPoint	vcard:Kind
accessRights	rec	0..1	dct:accessRights	overheid:openbaarheidsniveau
datasetStatus	rec	0..1	adms:status	overheid:datasetStatus

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Table 1 – continued from previous page

Property	Man.	Card.	URI	Value
landingPage	rec	0..1	dc:landingPage	xsd:anyURI
spatial	rec	0..n	dct:spatial	overheid:spatial
temporal	rec	0..1	dct:temporal	class Period
conformsTo	rec	0..n	dct:conformsTo	xsd:anyURI
alternativeIdentifier	rec	0..n	adms:identifier	xsd:anyURI
relatedResource	rec	0..n	dct:relation	xsd:anyURI
source	rec	0..n	dct:source	xsd:anyURI
hasVersion	rec	0..n	dct:hasVersion	xsd:anyURI
isVersionOf	rec	0..n	dct:isVersionOf	xsd:anyURI
releaseDate	rec	0..1	dct:issued	xsd:date (ISO 8601)
version	rec	0..1	owl:versionInfo	xml:string
versionNotes	rec	0..n	adms:versionNotes	xml:string
legalFoundation	rec	0..1	overheid:grondslag	class LegalFoundation
datePlanned	opt	0..1	skos:concept	xsd:date (ISO 8601)
documentation	opt	0..n	foaf:page	xsd:anyURI
frequency	opt	0..1	dct:accrualPeriodicity	overheid:frequency
provenance	opt	0..n	dct:provenance	xsd:anyURI
sample	opt	0..n	adms:sample	xsd:anyURI
highValue	rec	0..1	skos:concept	xsd:boolean
basisRegister	rec	0..1	skos:concept	xsd:boolean
referentieData	rec	0..1	skos:concept	xsd:boolean

3.2 Distribution

The properties and their acceptable values are outlined below:

Property	Man.	Card.	URI	Value
accessURL	man	1..1	dc:accessURL	xsd:anyURI
license	man	1..1	dct:license	overheid:license
title	man	1..1	dct:title	xml:string
description	man	1..1	dct:description	xml:string
language	man	1..n	dct:language	donl:language
format	man	1..1	dct:format	mdr:filetype
rights	rec	0..1	dct:rights	xml:string
status	rec	0..1	adms:status	adms:distributiestatus
releaseDate	rec	0..1	dct:issued	xsd:date (ISO 8601)
modificationDate	rec	0..1	dct:modified	xsd:date (ISO 8601)
byteSize	rec	0..1	dc:byteSize	xml:number
downloadURL	rec	0..n	dc:downloadURL	xsd:anyURI
mediaType	rec	0..1	dc:mediaType	iana:mediatype
linkedSchemas	rec	0..n	dct:conformsTo	xsd:anyURI
checksum	opt	0..1	spdc:checksum	class Checksum
documentation	opt	0..n	foaf:page	xsd:anyURI

3.3 Period

The properties and their acceptable values are outlined below:

Property	Man.	Card.	URI	Value
label	rec	0..1	skos:concept	xml:string
startDate	rec	0..1	schema:startDate	xsd:date (ISO 8601)
endDate	rec	0..1	schema:endDate	xsd:date (ISO 8601)

As stated, the `Period` class consists of only recommended properties. However, when providing a `Period` for your dataset at least *one* of these recommended properties must be provided. An empty `Period` class is considered invalid.

3.4 LegalFoundation

The properties and their acceptable values are outlined below:

Property	Man.	Card.	URI	Value
ref	man	1..1	overheid:juriconnector	xml:string
label	man	1..1	overheid:linktekst	xml:string
uri	man	1..1	foaf:page	xsd:anyURI

3.5 Checksum

The properties and their acceptable values are outlined below:

Property	Man.	Card.	URI	Value
hash	man	1..1	skos:concept	xml:string
algorithm	man	1..1	skos:concept	xml:string

All other classes of the DCAT-AP-DONL standard are fully inherited from the DCAT-AP-NL standard.

Changes from the related DCAT application profiles will be listed and motivated.

4.1 Changes from the DCAT-AP-DONL 1.0 standard

The changes from DCAT-AP-DONL 1.0 to DCAT-AP-DONL 1.1 are listed below.

Note: DCAT-AP-DONL 1.0 was surprisingly poorly documented, given this, the list below may not be fully accurate. This changelog is based on **2015-04-17 Mapping Modellen_0.xlsx**.

4.1.1 New properties

The following properties have been introduced

Note: Most of the new properties are due to changes in the parent standard DCAT-AP-NL 1.1. These changes will be listed, but not motivated.

Dataset:metadataLanguage This new mandatory property forces providers to clarify which language is used in the metadata of a Dataset.

Dataset:alternativeIdentifier From DCAT-AP-NL 1.1

Dataset:relatedResource From DCAT-AP-NL 1.1

Dataset:source From DCAT-AP-NL 1.1

Dataset:hasVersion From DCAT-AP-NL 1.1

Dataset:isVersionOf From DCAT-AP-NL 1.1

Dataset:documentation From DCAT-AP-NL 1.1

Dataset:provenance From DCAT-AP-NL 1.1

Dataset:sample From DCAT-AP-NL 1.1

Distribution:metadataLanguage This new mandatory property forces providers to clarify which language is used in the metadata of a Distribution.

Distribution:license From DCAT-AP-NL 1.1

Distribution:language From DCAT-AP-NL 1.1

Distribution:rights From DCAT-AP-NL 1.1

Distribution:linkedSchemas From DCAT-AP-NL 1.1

Distribution:checksum From DCAT-AP-NL 1.1

Distribution:documentation From DCAT-AP-NL 1.1

4.1.2 Changed properties

Changes have been made to every property of DCAT-AP-DONL 1.0. See the new class definitions for the new version of the classes. The most important conceptual changes are detailed and motivated below

Standardization of values In order to combat the fifty different spellings of ‘Gemeente Nijmegen’ and the likes, most property ranges have been limited to a certain list of acceptable values. These lists of values contain URIs that reference resources that have acceptable values for the given property, e.g. [http://standaarden.overheid.nl/owms/terms/Nijmegen_\(gemeente\)](http://standaarden.overheid.nl/owms/terms/Nijmegen_(gemeente)).

Promoting linked data Most property ranges have been limited from *xml:string* to *xsd:anyURI*. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

4.1.3 Removed properties

The following properties have been removed

Note: Most of the removed properties are due to changes in the parent standard DCAT-AP-NL 1.1. These changes will be listed, but not motivated.

Dataset:LODStars From DCAT-AP-NL 1.1

Dataset:doel From DCAT-AP-NL 1.1

Dataset:kwaliteit From DCAT-AP-NL 1.1

4.2 Changes from the DCAT-AP-NL 1.1 standard

The changes from [DCAT-AP-NL 1.1](http://standaarden.overheid.nl/owms/terms/)⁹ to DCAT-AP-DONL 1.1 are listed below.

⁹ <http://dcat-ap-nl.nl>

4.2.1 New properties

The following properties have been introduced

Dataset:datasetStatus This recommended property defines in which part of a lifecycle a dataset exists. A dataset can be available, planned unavailable or being researched. Use Dataset:datePlanned to indicate when a dataset is expected to receive the datasetStatus available.

Dataset:datePlanned This optional property defines the planned date at which this dataset becomes available. It is closely related to the datasetStatus planned, unavailable and being researched.

Dataset:license This new, mandatory, property was introduced for the Dataset class. It allows a license to apply to a dataset, rather than a Distribution, which already had the license property.

Dataset:metadataLanguage This new mandatory property forces providers to clarify which language is used in the metadata of a Dataset.

Distribution:metadataLanguage This new mandatory property forces providers to clarify which language is used in the metadata of a Distribution.

4.2.2 Changed properties

The following properties have been modified

Dataset:title The cardinality has been changed from *1..n* to *1..1*. Data.Overheid.nl demands that metadata is provided in only *one* language, therefore there is no longer any need to support multiple titles for one dataset.

Dataset:description The cardinality has been changed from *1..n* to *1..1*. Data.Overheid.nl demands that metadata is provided in only *one* language, therefore there is no longer any need to support multiple descriptions for one dataset.

Dataset:theme This property was changed from *Recommended* to *Mandatory*. Data.Overheid.nl requires at least one theme to properly categorize datasets. Because of this, its cardinality is changed from *0..n* to *1..n*.

Dataset:authority This property was changed from *Recommended* to *Mandatory*. It must always be clear who owns the dataset, therefore this property needs to be mandatory. Because of this, its cardinality is changed from *0..1* to *1..1*.

Dataset:publisher This property was changed from *Recommended* to *Mandatory*. It must always be clear who published the dataset, therefore this property needs to be mandatory. Because of this, its cardinality is changed from *0..1* to *1..1*.

Dataset:contactPoint This property was changed from *Recommended* to *Mandatory*. A published dataset needs to have a contactPoint so that questions and/or comments regarding a dataset have a place to go. Because of this, its cardinality is changed from *0..n* to *1..1*.

Dataset:conformsTo This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata. Furthermore, its range was narrowed to *xsd:anyURI*. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

Dataset:alternativeIdentifier This property was changed from *Optional* to *Recommended*. The alternativeIdentifier is important in the quest to minimise duplicate datasets. As such this property now has a higher classification to signify this.

Dataset:relatedResource This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata. Furthermore, its range was narrowed to *xsd:anyURI*. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

Dataset:source This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much meta-data about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata. Furthermore, its range was narrowed to *xsd:anyURI*. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

Dataset:hasVersion This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata. Furthermore, its range was narrowed to *xsd:anyURI*. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

Dataset:isVersionOf This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata. Furthermore, its range was narrowed to *xsd:anyURI*. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

Dataset:releaseDate This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata.

Dataset:version This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much meta-data about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata.

Dataset:version_notes This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a dataset as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:license This property was changed from *Recommended* to *Mandatory*. Data.Overheid.nl requires that all distributions have a license property. It must always be clear what license applies to a distribution. Because of this, its cardinality is changed from *0..1* to *1..1*.

Distribution:title The cardinality has been changed from *1..n* to *1..1*. Data.Overheid.nl demands that metadata is provided in only *one* language, therefore there is no longer any need to support multiple titles for one distribution.

Distribution:description The cardinality has been changed from *1..n* to *1..1*. Data.Overheid.nl demands that meta-data is provided in only *one* language, therefore there is no longer any need to support multiple titles for one distribution.

Distribution:format This property was changed from *Recommended* to *Mandatory*. A Distribution always has a format, as such, it should be provided. Because of this, its cardinality is changed from *0..1* to *1..1*.

Distribution:byteSize This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:downloadURL This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:mediaType This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:releaseDate This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:rights This property was changed from *optional* to *Mandatory*. Rights always apply to Distributions, therefore providers must dictate which rights apply to the Distribution. Because of this, its cardinality is changed from *0..1* to *1..1*.

Distribution:status This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:modificationDate This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. This is purely a semantic change to inspire providers to provide more metadata.

Distribution:linkedSchemas This property was changed from *Optional* to *Recommended*. Data.Overheid.nl wants as much metadata about a distributions as possible. Furthermore its range has been narrowed to only allow valid URIs. Data.Overheid.nl prefers resolvable URIs from a linked data perspective.

4.2.3 Removed properties

The following properties have been removed

None No properties have been removed that were part of the DCAT-AP-NL 1.1 standard.

Two aspects of the DCAT-AP-DONL 1.1 application profile deserve further elaboration, as they are a considerable change from either DCAT-AP-DONL 1.0 or DCAT-AP-NL 1.1. This is done below.

5.1 Dataset identifier

The value of a dataset identifier is the original identifier of the dataset. This value must be preserved when this dataset moves across dataportals. This ensures that the dataset, regardless of the dataportal it currently resides in, can always be uniquely identified. To communicate that a dataset is or has been present in a dataportal, the dataportal may elect to include its own internal identifier of the dataset as a part of the `alternativeIdentifier` property.

This process is visualised below:

In the event that changes are made to a dataset that are not made by the original authority or publisher, the identifier property is invalidated. At this point the value of the identifier property is the identifier of the dataset that that dataportal currently maintains. In the above example, should NGR make changes to the dataset, then the internal identifier that NGR maintains for the dataset becomes the identifier of the new dataset.

5.2 Multilingual support

DCAT-AP-DONL mandates that the metadata of a dataset is provided in only one language. In order to provide metadata in multiple languages for a single dataset, the following steps must be taken.

First create the original dataset with metadata in a specific language:

```
{
  "identifier": "http://mydata.portal.com/dataset/mijndataset1",
  "metadata_language": "http://publications.europa.eu/resource/authority/language/
↪NLD",
  "title": "Mijn dataset titel 1",
  "description": "Mijn dataset omschrijving 1",
```

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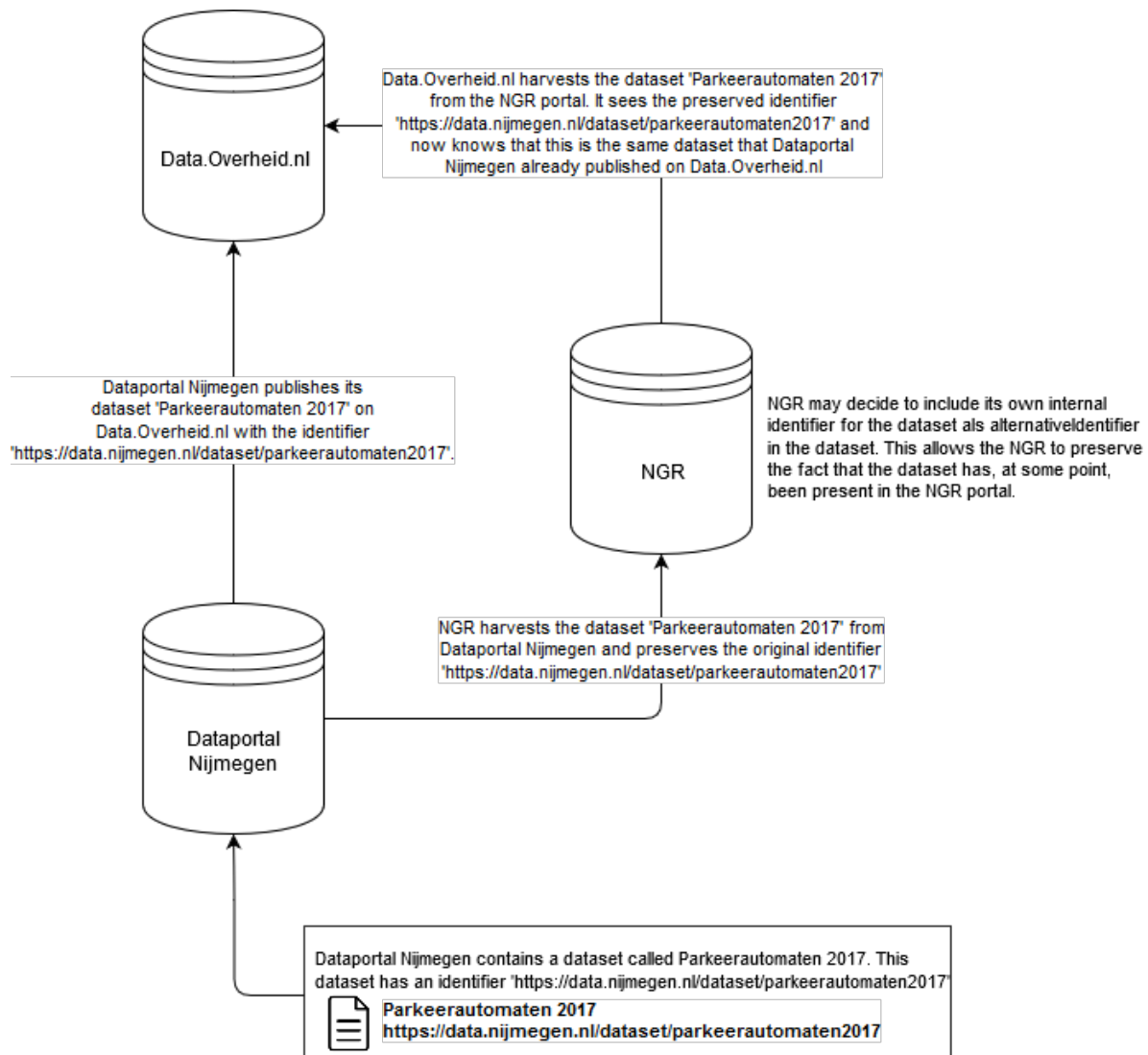


Fig. 1: Identifier workflow visualised

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```
    ...  
}
```

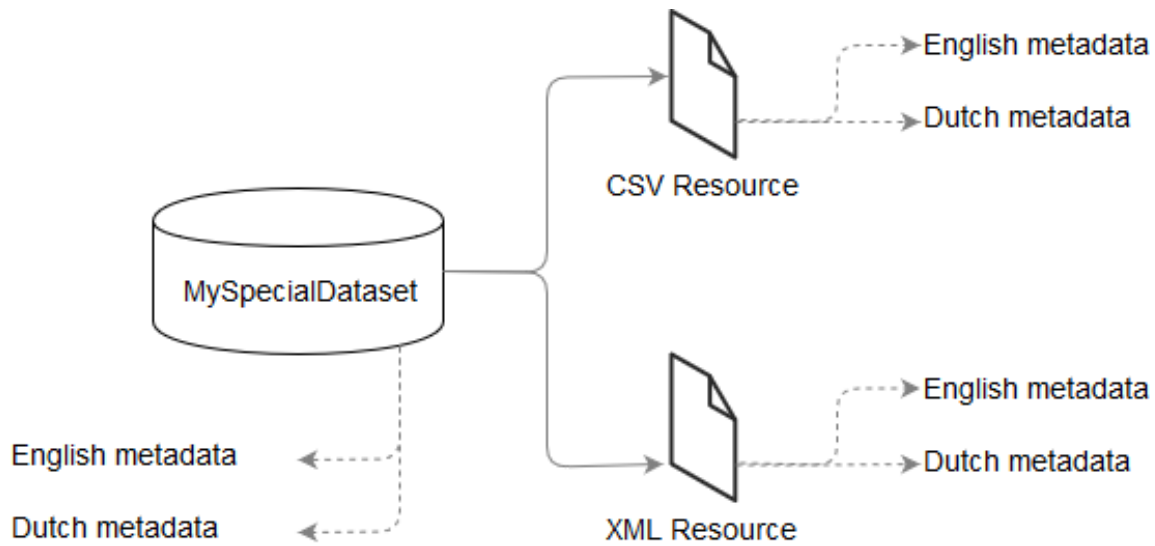
Then, when wanting to support metadata in a secondary language, create a new dataset with the metadata in the new language which references the original dataset:

```
{  
  "identifier":      "http://mydata.portal.com/dataset/mijndataset1",  
  "metadata_language": "http://publications.europa.eu/resource/authority/language/  
↔ENG",  
  "title":          "My dataset 1",  
  "description":    "My dataset description 1",  
  "is_version_of":  "https://data.overheid.nl/datasets/mijndataset1",  
  ...  
}
```

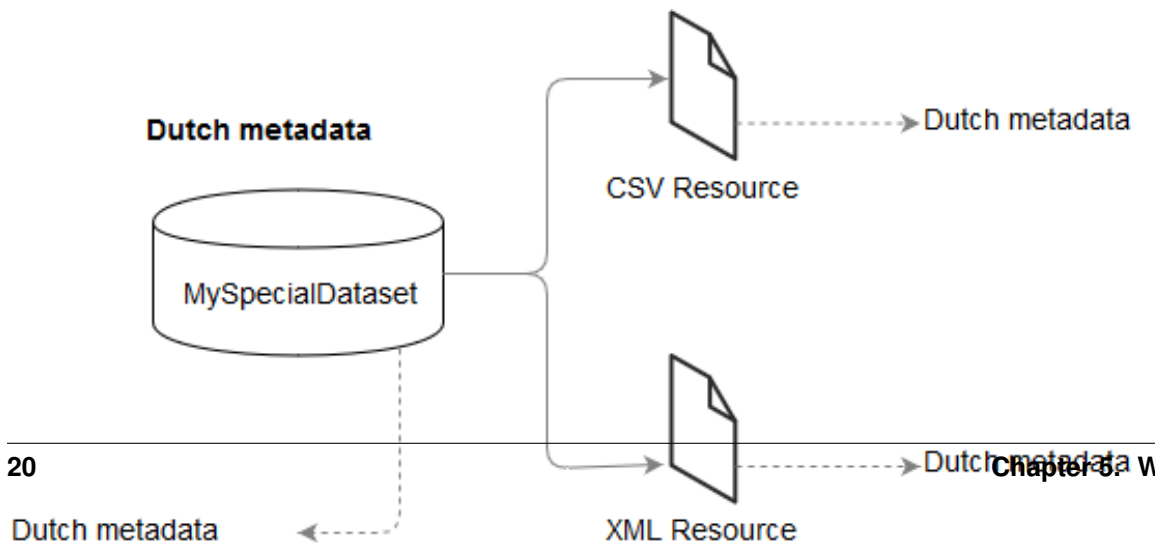
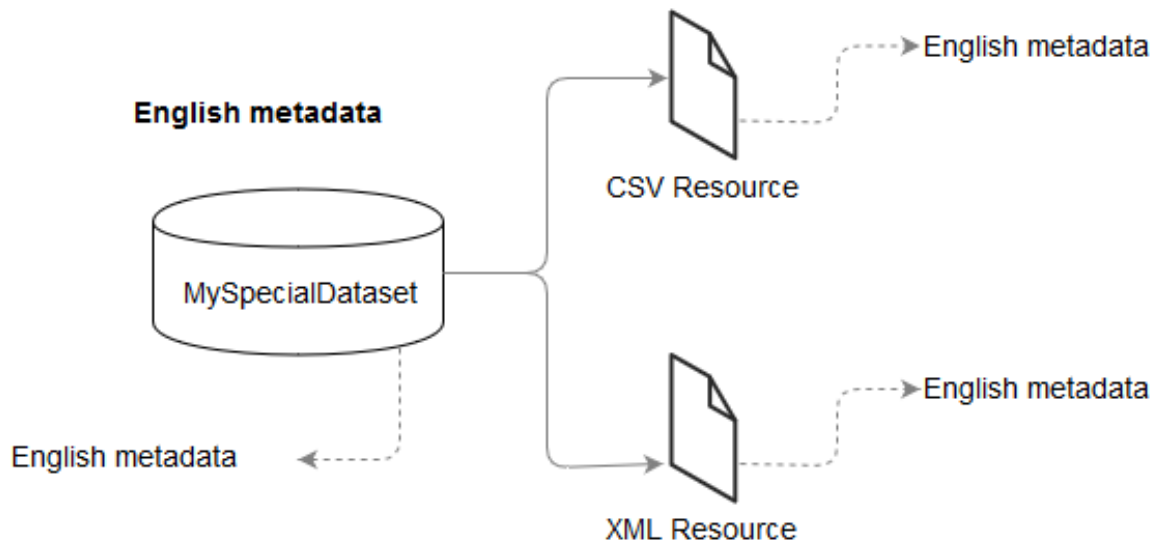
By declaring your dataset with the same identifier and stating that the new dataset is a version of the original dataset you signal that the datasets are identical and that only the metadata is different. Ensure that the different datasets have unique `metadataLanguage` properties.

A visual guide:

In short: group all the resources with metadata in the same language under one dataset, which `metadataLanguage` matches that of the resources. When the dataset becomes available in a new language, create and maintain a separate dataset and resources for the new language. The actual `accessURLs` and `downloadURLs` can be the same across both datasets.



DCAT-AP-DONL



Valuelists

The DCAT-AP-DONL 1.1 standard uses lists of acceptable values in order to standardize the values of properties wherever possible. These lists are mostly inherited from the parent standard DCAT-AP-NL 1.1¹⁰. These lists are shown below.

These valuelists are published on waardelijsten.dcat-ap-donl.nl¹¹.

Name	Location
adms:changetype	http://waardelijsten.dcat-ap-donl.nl/adms_changetype.json
adms:distributiestatus	http://waardelijsten.dcat-ap-donl.nl/adms_distributiestatus.json
donl:catalogs	http://waardelijsten.dcat-ap-donl.nl/donl_catalogs.json
donl:language	http://waardelijsten.dcat-ap-donl.nl/donl_language.json
donl:organization	http://waardelijsten.dcat-ap-donl.nl/donl_organization.json
iana:mediatypes	http://waardelijsten.dcat-ap-donl.nl/iana_mediatypes.json
mdr:filetype_nal	http://waardelijsten.dcat-ap-donl.nl/mdr_filetype_nal.json
overheid:dataset_status	http://waardelijsten.dcat-ap-donl.nl/overheid_dataset_status.json
overheid:frequency	http://waardelijsten.dcat-ap-donl.nl/overheid_frequency.json
overheid:license	http://waardelijsten.dcat-ap-donl.nl/overheid_license.json
overheid:openbaarheidsniveau	http://waardelijsten.dcat-ap-donl.nl/overheid_openbaarheidsniveau.json
overheid:spatial_gemeente	http://waardelijsten.dcat-ap-donl.nl/overheid_spatial_gemeente.json
overheid:spatial_koninkrijksdeel	http://waardelijsten.dcat-ap-donl.nl/overheid_spatial_koninkrijksdeel.json
overheid:spatial_provincie	http://waardelijsten.dcat-ap-donl.nl/overheid_spatial_provincie.json
overheid:spatial_scheme	http://waardelijsten.dcat-ap-donl.nl/overheid_spatial_scheme.json
overheid:spatial_waterschap	http://waardelijsten.dcat-ap-donl.nl/overheid_spatial_waterschap.json
overheid:taxonomiebeleidsagenda	http://waardelijsten.dcat-ap-donl.nl/overheid_taxonomiebeleidsagenda.json

DCAT-AP-DONL 1.1 maintains its own valuelists rather than simply using the DCAT-AP-NL valuelists. The primary motivator behind this decision is that DCAT-AP-DONL may elect **not** to support certain values of the DCAT-AP-NL valuelists. In order to support this feature, DCAT-AP-DONL has to maintain its own valuelists. An example of such a usecase is where DCAT-AP-DONL may decide not to support a certain license that DCAT-AP-NL supports.

¹⁰ <https://dcat-ap-nl.nl>

¹¹ <http://waardelijsten.dcat-ap-donl.nl>

CHAPTER 7

Implementation

The DCAT-AP-DONL 1.1 metadata standard has been implemented in a CKAN extension. This extension allows your CKAN installation to manage datasets and distributions according to the standards defined in this documentation.

This extension, called **ckanext-dcatdonl**, can be found online at:

Repository gitlab.textinfo.nl/opensource/ckanext-dcatdonl/¹².

Documentation ckanext-dcatdonl.readthedocs.io¹³

¹² <https://gitlab.textinfo.nl/opensource/ckanext-dcatdonl/>

¹³ <https://ckanext-dcatdonl.readthedocs.io>