
atlasdcat

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ATLASDCAT PACKAGE

1.1 Submodules

1.2 atlasdcat.attribute module

Attribute module for mapping an Atlas Glossery to DCAT rdf.

class atlasdcat.attribute.**Attribute**(*value*)

Bases: `str`, `Enum`

Attribute enum.

ACCESS_RIGHTS = 'accessRights'

ACCESS_URL = 'accessURL'

CONTACT_EMAIL = 'contactEmail'

CONTACT_NAME = 'contactName'

DATASET = 'Dataset'

DISTRIBUTION = 'Distribution'

DOWNLOAD_URL = 'downloadURL'

FORMAT = 'format'

FREQUENCY = 'frequency'

GENERATED = 'generated'

INCLUDE_IN_DCAT = 'includeInDCAT'

KEYWORD = 'keyword'

LICENSE = 'license'

PUBLISHER = 'publisher'

SPATIAL = 'spatial'

SPATIAL_RESOLUTION_IN_METERS = 'spatialResolutionInMeters'

TEMPORAL_END_DATE = 'temporalEndDate'

```
TEMPORAL_RESOLUTION = 'temporalResolution'
TEMPORAL_START_DATE = 'temporalStartDate'
THEME = 'theme'
TITLE = 'title'
```

1.3 atlasdcat.glossaryclient module

AtlasClient module for mapping an Atlas Glossery to DCAT rdf.

```
class atlasdcat.glossaryclient.AtlasGlossaryClient(endpoint_url, authentication, **kwargs)
```

Bases: GlossaryClient

Class for Atlas Glossary REST Client.

```
update_term(term, **kwargs)
```

Update a single term to Apache Atlas.

Provide an AtlasGlossaryTerm or dictionary.

Parameters

- **term** (`Union[Dict, _CrossPlatformTerm]`) – The term to be updated.
- **kwargs** (`Dict`) – The parameters to pass into the url.

Return type

`Dict`

Returns

The updated term's current state.

Raises

`TypeError` – A type error

1.4 atlasdcat.mapper module

Mapper module for mapping an Atlas Glossery to DCAT rdf.

This module contains methods for mapping an Atlas Glossery to DCAT rdf according to the [dcat-ap-no v.2 standard](#)

Example

```
Setup the AtlasDcatMapper. >>> from atlasdcat import AtlasDcatMapper, AtlasGlossaryClient >>> from pya-
pacheatlas.auth import BasicAuthentication >>> >>> atlas_auth = BasicAuthentication(username="dummy",
password="dummy") >>> atlas_client = AtlasGlossaryClient( >>> endpoint_url="http://atlas", authenti-
cation=atlas_auth >>> ) >>> >>> mapper = AtlasDcatMapper( >>> glossary_client=atlas_client, >>>
glossary_id="myglossary", >>> catalog_uri="https://example.com/catalog", >>> catalog_language="http:
//publications.europa.eu/resource/authority/language/NOB", >>> catalog_title="Catalog", >>> cata-
log_publisher="https://domain/publisher", >>> dataset_uri_template="http://domain/datasets/{guid}", >>> dis-
tribution_uri_template="http://domain/distributions/{guid}", >>> language="nb", >>> )
```

Map glossary terms to DCAT Catalog >>> try: >>> mapper.fetch_glossary() >>> catalog = mapper.map_glossary_terms_to_dataset_catalog() >>> print(catalog.to_rdf()) >>> except Exception as e: >>> print(f'An exception occurred: {e}')

```
>>> catalog = Catalog()
>>> catalog.identifier = "http://catalog-uri"
>>> catalog.title = {"nb": "mytitle"}
>>> catalog.publisher = "http://publisher"
>>> catalog.language = ["nb"]
>>> catalog.license = ""
```

```
>>> dataset = Dataset()
>>> dataset.title = {"nb": "Dataset"}
>>> dataset.description = {"nb": "Dataset description"}
>>> catalog.datasets = [dataset]
>>>
>>> try:
>>> 6+
mapper.fetch_glossary()
    mapper.map_dataset_catalog_to_glossary_terms(catalog)
    mapper.save_glossary_terms()
except Exception as e:
    print(f'An exception occurred: {e}')
```

class atlasdcat.mapper.**AtlasDcatMapper**(*glossary_client, glossary_id, catalog_uri, catalog_language, catalog_title, catalog_publisher, dataset_uri_template, distribution_uri_template, language='nb', attr_mapping=None, is_purview=None, include_approved_only=False*)

Bases: **object**

Class for mapping Atlas Glossary terms to DCAT catalog.

fetch_glossary()

Fetch detailed glossary.

Return type

None

property glossary_terms: **List[Dict]**

List[Dict], the persisted glossary terms.

Return type

List[Dict]

map_dataset_catalog_to_glossary_terms(catalog)

Map dcat dataset catalog RDF resource to glossary terms.

Parameters

catalog (**Catalog**) – A dataset catalog RDF resource

Raises

- **MappingError** – A mapping error if the language does not match
- **InvalidStateError** – If glossary is not fetched before calling this function

Return type

None

map_glossary_terms_to_dataset_catalog()

Map glossary terms to dcat dataset catalog RDF resource.

Return type

`Catalog`

Returns

A catalog RDF resource.

Raises

`InvalidStateError` – If glossary is not fetched before calling this function

save_glossary_terms()

Save glossary terms.

Raises

`InvalidStateError` – If there are no terms to save.

Return type

`None`

property tmp_glossary_terms: List[Dict]

Dict, the temporary glossary terms.

Return type

`List[Dict]`

exception atlasdcat.mapper.FormatError

Bases: `MappingError`

Exception class for format errors.

exception atlasdcat.mapper.InvalidStateError

Bases: `MappingError`

Exception class for invalid state errors.

exception atlasdcat.mapper.MappingError

Bases: `Exception`

Exception class for mapping errors.

exception atlasdcat.mapper.TemporalError

Bases: `MappingError`

Exception class for temporal errors.

1.5 atlasdcat.termtype module

Termtype module for mapping an Atlas Glossery to DCAT rdf.

class atlasdcat.termtype.TermType(value)

Bases: `Enum`

Term type enum.

DATASET = 1

DISTRIBUTION = 2

UNKNOWN = -1

1.6 Module contents

atlasdcat package.

EXAMPLE

Very simple server exposing an API with the DCAT-representation.

NOT suited for production use

2.1 Requirements

.env in a basic auth scenario:

```
BASIC_AUTH_USERNAME=dummy
BASIC_AUTH_ATLAS_PASSWORD=dummy
ATLAS_ENDPOINT_URL=http://your.atlas.host.com/api/atlas/v2
```

If you run against openID connect (e.g. in Azure Purview scenario), this is what you need to put in your .env:

```
SERVICE_PRINCIPLE_TENANT_ID=
SERVICE_PRINCIPLE_CLIENT_ID=
SERVICE_PRINCIPLE_CLIENT_SECRET=very_secret_secret
ATLAS_ENDPOINT_URL=http://your.purview.host.com/catalog/api/atlas/v2
```

2.2 Setup local Apache Atlas server

```
cd atlas
docker-compose up
```

After building the atlas docker image, docker-compose will start the following services: atlas-server, kafka and zookeeper. Starting the Apache Atlas server can take up to 10 minutes. Be patient.

Wait for the following message:

```
atlas-server_1 | Apache Atlas Server started!!!
atlas-server_1 |
atlas-server_1 | waiting for atlas to be ready
atlas-server_1 | .....
atlas-server_1 | Server: Apache Atlas
...
atlas-server_1 | glossary created
atlas-server_1 | Done setting up Atlas
```

Configuration (.env file)

```
GLOSSARY_ID=xxxx
BASIC_AUTH_USERNAME=admin
BASIC_AUTH_ATLAS_PASSWORD=admin
ATLAS_ENDPOINT_URL=http://localhost:21000/api/atlas/v2
```

Run following command to get the glossary ID

```
curl -u admin:admin http://localhost:21000/api/atlas/v2/glossary
```

This will output something like this. Look for the value for “guid”.

```
[{"guid": "2c453c5e-6d47-4fcc-ae17-d1753ab72abb", "qualifiedName": "myglossary",
  "name": "myglossary", "terms": [{"termGuid": "0181bc5d-58aa-4194-8c5e-c8267a305ead",
  "relationGuid": "1d94e821-bf9e-4d12-b145-35b66d5be2ee", "displayText": "dataset"}]}
```

2.3 Usage

```
% poetry run python simple-server.py
```

In another shell:

Fetch data catalog as RDF

```
% curl http://localhost:8081/catalog
```

Save data catalog as Glossary Terms to Apache Atlas.

The dataset identifier should be omitted when a dataset does not exist in Atlas. The mapper will generate an identifier.

```
% curl -X POST -H "Content-Type: application/json" \
  -d '{
    "_type": "Catalog",
    "access_rights_comments": [],
    "catalogrecords": [
      {
        "_type": "CatalogRecord",
        "conforms_to": [],
        "identifier": "http://example.com/catalog-record/1"
      }
    ],
    "conforms_to": [],
    "datasets": [
      {
        "_type": "Dataset",
        "access_rights_comments": [],
        "conforms_to": [],
        "distributions": [],
        "frequency": "http://WEEKLY",
        "is_referenced_by": [],
        "landing_page": [],
        "language": [],
        "qualified_attributions": [],
```

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```

        "qualified_relation": [],
        "resource_relation": [],
        "theme": [],
        "title": {"en": "Dataset 1", "nb": "Datasett 1"},
        "description": {"en": "Dataset 1 description", "nb": "Datasett 1_
↪beskrivelse"}
    },
    {
        "_type": "Dataset",
        "access_rights_comments": [],
        "conforms_to": [],
        "distributions": [],
        "is_referenced_by": [],
        "landing_page": [],
        "language": [],
        "qualified_attributions": [],
        "qualified_relation": [],
        "resource_relation": [],
        "theme": [],
        "title": {"en": "Dataset 2", "nb": "Datasett 2"},
        "description": {"en": "Dataset 2 description", "nb": "Datasett 2_
↪beskrivelse"}
    }
],
"description": {"en": "Description", "nb": "Beskrivelse"},
"identifier": "http://example.com/catalogs/1",
"is_referenced_by": [],
"landing_page": [],
"language": ["en", "nb"],
"qualified_attributions": [],
"qualified_relation": [],
"resource_relation": [],
"themes": [],
"title": {"en": "This catalog", "nb": "Denne katalogen"}
}' \
http://localhost:8081/catalog

```


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A Python library for mapping [Apache Atlas](#) Glossary terms to DCAT metadata and vice versa.

Specifications [the Norwegian Application Profile of the DCAT standard](#).

INSTALLATION

To install the `datacatalogtordf` package, run this command in your terminal:

```
$ pip install atlasdc
```


USAGE

Setup Atlas DCAT Mapper:

```
from atlasdcat import AtlasDcatMapper, AtlasGlossaryClient
from pyapacheatlas.auth import BasicAuthentication

atlas_auth = BasicAuthentication(username="dummy", password="dummy")
atlas_client = AtlasGlossaryClient(
    endpoint_url="http://atlas", authentication=atlas_auth
)

mapper = AtlasDcatMapper(
    glossary_client=atlas_client,
    glossary_id="myglossary",
    catalog_uri="https://domain/catalog",
    catalog_language="http://publications.europa.eu/resource/authority/language/NOB",
    catalog_title="Catalog",
    catalog_publisher="https://domain/publisher",
    dataset_uri_template="http://domain/datasets/{guid}",
    distribution_uri_template="http://domain/distributions/{guid}",
    language="nb",
)
```

Map Apache Atlas Glossary terms to DCAT RDF (turtle):

```
try:
    mapper.fetch_glossary()
    catalog = mapper.map_glossary_terms_to_dataset_catalog()
    print(catalog.to_rdf())
except Exception as e:
    print(f"An exception occurred: {e}")
```

Map DCAT RDF Catalog to Apache Atlas Glossary terms:

```
catalog = Catalog()
catalog.identifier = "http://catalog-uri"
catalog.title = {"nb": "mytitle"}
catalog.publisher = "http://publisher"
catalog.language = ["nb"]
catalog.license = ""

dataset = Dataset()
```

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```
dataset.title = {"nb": "Dataset"}
dataset.description = {"nb": "Dataset description"}
catalog.datasets = [dataset]

try:
    mapper.fetch_glossary()
    mapper.map_dataset_catalog_to_glossary_terms(catalog)
    mapper.save_glossary_terms()
except Exception as e:
    print(f"An exception occurred: {e}")
```

For an example of usage of this library in a simple server, see [example](#) .

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