

Data Catalog Vocabulary (DCAT)

Sample Solutions

Task 3.1-B

Look at the dcat dataset in Figure 6, which is encoded as RDF/XML. Give one example of a subject-predicate-object statement that describes a resource.

Subject:	https://opendata.rhein-kreis-neuss.de/api/v2/catalog/datasets/rhein-kreis-neuss-windenergieanlagen
Predicate:	dcat:keyword
Object:	"Energie"

Task 3.1-C

According to the Dublin Core vocabulary, what is the definition of the terms "dct:issued" and "dct:modified"?

dct:issued	"Date of formal issuance of the resource."
dct:modified	"Date on which the resource was changed."

Task 3.2-A - Creating a DCAT metadata record

Use RDFS to create a meaningful metadata set.

Below is a sample XML from the RDFS editor tool. The XML can be copied into the *RDF data* tab of RDFS editor. This will populate the *Editor* and *Presenter* tab with the values from the XML.

```

<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:dcterms="http://purl.org/dc/terms/"
  xmlns:dcat="http://www.w3.org/ns/dcat#"
  xmlns:ns1="http://www.w3.org/2006/time#"
  xmlns:foaf="http://xmlns.com/foaf/0.1/">
  <rdf:Description rdf:about="http://example.com/about">
    <dcterms:title xml:lang="en">Münster City Buildings</dcterms:title>
    <dcterms:description xml:lang="en">A dataset containing information about buildings in
Münster city.</dcterms:description>
    <dcterms:issued
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2023-08-15</dcterms:issued>
    <dcterms:modified
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2024-03-15</dcterms:modified>
    <dcterms:identifier>muenster-city-buildings</dcterms:identifier>
    <dcat:keyword>Building</dcat:keyword>
    <dcat:keyword>Property</dcat:keyword>
    <dcat:keyword>Real Estate</dcat:keyword>
    <dcat:keyword>Urban Planning</dcat:keyword>
    <dcat:theme rdf:resource="http://inspire.ec.europa.eu/theme/bu"/>
    <dcat:theme rdf:resource="http://inspire.ec.europa.eu/theme/ad"/>
    <dcterms:language rdf:resource="http://id.loc.gov/vocabulary/iso639-1/en"/>
    <dcat:contactPoint rdf:resource="John Doe"/>
    <dcat:landingPage rdf:resource="http://muenster-city/buildings"/>
    <dcterms:spatial rdf:resource="https://www.geonames.org/2867543"/>
    <dcterms:temporal rdf:nodeID="_:n10"/>
    <dcterms:accrualPeriodicity
rdf:resource="http://purl.org/linked-data/sdmx/2009/code#freq-Q"/>
    <dcterms:publisher rdf:nodeID="_:n11"/>
    <dcat:distribution rdf:nodeID="_:n12"/>
    <dcat:distribution rdf:nodeID="_:n13"/>
    <dcat:distribution rdf:nodeID="_:n14"/>
  </rdf:Description>
  <rdf:Description rdf:nodeID="_:n10">
    <rdf:type rdf:resource="http://www.w3.org/2006/time#Interval"/>
    <ns1:hasBeginning rdf:nodeID="_:n15"/>
    <ns1:hasEnd rdf:nodeID="_:n16"/>
  </rdf:Description>
  <rdf:Description rdf:nodeID="_:n15">
    <rdf:type rdf:resource="http://www.w3.org/2006/time#Instant"/>
    <ns1:inXSDDateTime
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2020-07-01</ns1:inXSDDateTime
>
  </rdf:Description>
  <rdf:Description rdf:nodeID="_:n16">
    <rdf:type rdf:resource="http://www.w3.org/2006/time#Instant"/>
    <ns1:inXSDDateTime
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2023-08-01</ns1:inXSDDateTime

```

```

>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n11">
  <rdf:type rdf:resource="http://xmlns.com/foaf/0.1/Organization"/>
  <foaf:name>Muenster City Planning Department</foaf:name>
  <foaf:homepage rdf:resource="http://example.com/muenster-city"/>
  <foaf:mbox rdf:resource="planning-muenster@example.com"/>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n12">
  <rdf:type rdf:resource="http://www.w3.org/ns/dcat#Distribution"/>
  <dcterms:title xml:lang="en">wms</dcterms:title>
  <dcterms:description xml:lang="en">A web map service of the buildings
dataset</dcterms:description>
  <dcterms:issued
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2023-08-15</dcterms:issued>
  <dcterms:license rdf:resource="http://creativecommons.org/licenses/by/3.0/">
  <dcat:accessURL rdf:resource="http://example.com/muenster-city/buildings/wms"/>
  <dcat:mediaType rdf:nodeID="_:n17"/>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n17">
  <dcterms:format>wms</dcterms:format>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n13">
  <rdf:type rdf:resource="http://www.w3.org/ns/dcat#Distribution"/>
  <dcterms:title xml:lang="en">GeoJSON</dcterms:title>
  <dcterms:description xml:lang="en">GeoJSON file containing the buildings
information</dcterms:description>
  <dcterms:issued
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2023-08-15</dcterms:issued>
  <dcterms:modified
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2024-03-15</dcterms:modified>
  <dcterms:license rdf:resource="http://creativecommons.org/licenses/by/3.0/">
  <dcat:accessURL rdf:resource="http://example.com/muenster-city/buildings/geojson"/>
  <dcat:downloadURL
rdf:resource="http://example.com/muenster-city/buildings/geojson/download"/>
  <dcat:mediaType rdf:nodeID="_:n18"/>
  <dcat:byteSize
rdf:datatype="http://www.w3.org/2001/XMLSchema#decimal">45589</dcat:byteSize>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n18">
  <dcterms:format>application/json</dcterms:format>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n14">
  <rdf:type rdf:resource="http://www.w3.org/ns/dcat#Distribution"/>
  <dcterms:title xml:lang="en">shapefile</dcterms:title>
  <dcterms:description xml:lang="en">a shapefile containing the buildings
information</dcterms:description>
  <dcterms:issued

```

```

rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2023-08-15</dcterms:issued>
  <dcterms:modified
rdf:datatype="http://www.w3.org/2001/XMLSchema#date">2024-03-15</dcterms:modified>
  <dcterms:license rdf:resource="http://creativecommons.org/licenses/by/3.0/"/>
  <dcat:accessURL rdf:resource="http://example.com/muenster-city/buildings/shp"/>
  <dcat:downloadURL
rdf:resource="http://example.com/muenster-city/buildings/shp/download"/>
  <dcat:mediaType rdf:nodeID="_:n19"/>
  <dcat:byteSize
rdf:datatype="http://www.w3.org/2001/XMLSchema#decimal">78554588987</dcat:byteSize>
</rdf:Description>
<rdf:Description rdf:nodeID="_:n19">
  <dcterms:format>shapefile</dcterms:format>
</rdf:Description>
</rdf:RDF>

```

Task 3.4.3-B SPARQL query - retrieving datasets related to the keyword “Ladesäulen”

```

PREFIX dcat: <http://www.w3.org/ns/dcat#>
PREFIX dct: <http://purl.org/dc/terms/>

SELECT ?dataset ?title ?keyword

WHERE {
  ?dataset a dcat:Dataset ;
  dct:title ?title ;
  dcat:keyword ?keyword .
  FILTER (CONTAINS(?keyword, "Ladesäulen"))
}

```

This query is searching for datasets that are classified as `dcat:Dataset` and have a keyword containing the term "Ladesäulen". The query returns the URI or identifier of the dataset, the title and the keyword of each dataset that meets the FILTER criteria.

Task 3.4.3-C SPARQL query - retrieving details on the distributions of a certain dataset

```
PREFIX dcat: <http://www.w3.org/ns/dcat#>
PREFIX dct: <http://purl.org/dc/terms/>

SELECT ?dataset ?datasetTitle ?distribution ?distributionTitle ?accessURL
WHERE {
  ?dataset a dcat:Dataset ;
    dct:title ?datasetTitle ;
    dcat:distribution ?distribution ;
    dcat:keyword ?keyword .

  OPTIONAL { ?distribution dct:title ?distributionTitle . }
  ?distribution dcat:accessURL ?accessURL .

  FILTER (CONTAINS(?datasetTitle, "Grevenbroich: E-Ladesäulen"))
}
```

This query retrieves datasets with the title containing "Grevenbroich: E-Ladesäulen", along with their distributions (including optional titles and access URLs).