Querying DBPedia

SPARQL on the DBPedia endpoint – Samples
This section provides you samples that will help you to query DBPedia. All these examples were run successfully with the SPARQL Explorer for the http://dbpedia.org/sparql endpoint, named SNORQL. This querying tool is available at http://dbpedia.org/snorql.

How to perform a simple search by label
In this SPARQL query, we perform a simple search by rdfs:label and include it in the solution. If there are multiple resources with the same label in the ontology, they will also be included in the query solution.

PREFIX : <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?s WHERE {
  ?s rdfs:label "Rock"
}

How to perform a simple search by label in a given language
This query is similar to the previous one but a new criterion is introduced. We now restrict the search on a specific language using language tags. The solution will be drastically reduced or it will simply be empty.

PREFIX : <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?s WHERE {
  ?s rdfs:label "Rock"@fr
}

How to get the label(s) of a given resource
The following SPARQL query returns the label(s) of a given resource. If this resource was described in multiple languages in Wikipedia, you should get multiple values for the rdfs:label property.

Notice the “:“ (colon) character before “Albert_Einstein”. Because the prefix “nothing” references the namespace http://dbpedia.org/resource/, there is no prefix to use to reference the absolute URI http://dbpedia.org/resource/Albert_Einstein identifying the Albert Einstein resource in the ontology.

PREFIX : <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX dbo: <http://dbpedia.org/ontology/>
How to get the label of a given resource in a particular target language
This SPARQL Query is similar to the previous one, except that we focus on the resource’s rdfs:label in a particular target language.

Use the lang operator to obtain the language tag of a given literal. If there is no tag for the tested literal, it returns an empty string ("""). There are numerous operators introduced by SPARQL 1.0. You can review them at http://www.w3.org/TR/2008/REC-rdf-sparql-query-20080115/#SparqlOps.

PREFIX dbo: <http://dbpedia.org/ontology/>
SELECT ?l WHERE {
  :Albert_Einstein rdfs:label ?l.
}

How to get the abstract of a movie in all available languages
This request queries the ontology to get the subject, but also the label and the abstract of a given movie (in this case “Batman Begins”) in every available language its abstract was written in the database.

PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>;
PREFIX dc: <http://purl.org/dc/elements/1.1/>
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbpedia2: <http://dbpedia.org/property/>
PREFIX dbpedia: <http://dbpedia.org/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
PREFIX dbo: <http://dbpedia.org/ontology/>
SELECT ?f ?l ?a
WHERE {
  ?f rdf:type dbo:Film .
  ?f dbo:abstract ?a
  FILTER (regex (?l, "Batman Begins", "i") && (lang(?l) = lang(?a)))
}
ORDER BY lang(?l)
How to get the list of capitals in the United States

In this request, we make use of the Wikipedia categories to find all the States composing the U.S.A. (Alabama) and their capitals (Austin, Texas) as subject and literals. In DBPedia, resources are given categories by having one or more values for the http://purl.org/dc/terms/subject property.

```sparql
PREFIX : <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX dbpedia: <http://dbpedia.org/>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbc: <http://dbpedia.org/resource/Category/>
PREFIX dcterms: <http://purl.org/dc/terms/>

SELECT ?s ?sl ?c ?cl WHERE {
  ?s dcterms:subject dbc:States_of_the_United_States .
  ?s a dbo:AdministrativeRegion .
  ?s dbo:capital ?c .
  FILTER (lang(?sl) = "en" && lang(?cl) = "en")
}
ORDER BY asc(?l)
```

How to get all Nobel laureates in Physics – 1

This request focuses on retrieving the name(s) and birth date of the Nobel laureates in Physics, described in English.

```sparql
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbc: <http://dbpedia.org/resource/Category/>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX dbp: <http://dbpedia.org/property/>

SELECT ?name, ?birthDate WHERE {
  ?nobel dbo:birthDate ?birthDate .
  ?nobel dbp:name ?name .
  FILTER (lang(?name) = "en")
}
```

How to get all Nobel laureates in Physics – 2

This query is similar to the previous one, but includes the date of death of the Laureates. You will notice that the solution is significantly smaller than the one you get in the previous query. In SPARQL, the solution is discarded when a data is missing. Some Nobel laureates are still alive and then the associated
resources have no value for the date of death property. We will make them appear again in the next query example.

```
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbc: <http://dbpedia.org/resource/Category:>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX dbp: <http://dbpedia.org/property/>

SELECT ?name, ?birthDate, ?deathDate WHERE {
?nobel dbo:birthDate ?birthDate .
?nobel dbo:deathDate ?deathDate .
?nobel dbp:name ?name .
FILTER (lang(?name) = "en")
}
ORDER BY asc(?birthDate)
```

**How to get all Nobel laureates in Physics – 3**

This query sample is similar to the previous one, except that it includes an optional part aiming at including Nobel laureates that are still alive in the solution.

```
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbc: <http://dbpedia.org/resource/Category:>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX dbp: <http://dbpedia.org/property/>

SELECT ?nobel, ?name, ?birthDate, ?deathDate WHERE {
?nobel dbo:birthDate ?birthDate .
?nobel dbp:name ?name .
FILTER (lang(?name) = "en") .

OPTIONAL { ?nobel dbo:deathDate ?deathDate }
}
ORDER BY asc(?birthDate)
```

**Useful links**

- **DBPedia Lookup Service:** [http://wiki.dbpedia.org/Lookup](http://wiki.dbpedia.org/Lookup)
Useful tips

How to get the URI of a particular DBPedia resource using Wikipedia

(The content of this section comes from [http://wiki.dbpedia.org/Datasets](http://wiki.dbpedia.org/Datasets) and [http://wiki.dbpedia.org/URIencoding](http://wiki.dbpedia.org/URIencoding))

Each thing in the DBpedia data set is identified by a URI reference of the form http://dbpedia.org/resource/Name, where Name is taken from the URL of the source Wikipedia article, which has the form http://en.wikipedia.org/wiki/Name. Thus, each resource is tied directly to an English-language Wikipedia article. There are several details on the encoding of URIs that have to be taken into account. Please find them below.

- The alphanumeric characters “a” through “z”, “A” through “Z” and “0” through “9” remain the same.
- The following special characters remain the same.
  - . (dot)
  - - (dash)
  - * (star)
  - / (slash)
  - : (colon)
  - _ (underscore)
  - , (comma)
  - & (ampersand)
- The space character ‘ ’ is converted into an underscore character ‘_’.
  - Multiple underscores are collapsed into one.
- All other characters are unsafe and are first converted into one or more bytes using UTF-8 encoding. Then each byte is represented by the 3-character string “%xy” where xy is the two-digit hexadecimal representation of the byte.