

OSLC QUERY CAPABILITIES AND SPARQL

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Can someone tell me...

*“Swedish writers that were born
in Stockholm before 1900”*



And if you have a response...

*“Places (lat. and long) far from
Stockholm 200Km”*



It was easy...try this one...

“Give me a list of countries and names in English and Chinese including the ISO-3 code and latitude and longitude”

SPARQL Query DBPedia Writers

```
PREFIX dbo: <http://dbpedia.org/ontology/>
```

```
SELECT ?name ?birth ?description ?person WHERE {  
    ?person dbo:birthPlace :Stockholm.  
    ?person <http://purl.org/dc/terms/subject>  
<http://dbpedia.org/resource/Category:Swedish_writers> .  
    ?person dbo:birthDate ?birth .  
    ?person foaf:name ?name .  
    ?person rdfs:comment ?description .  
    FILTER (?birth < "1900-01-01"^^xsd:date).  
    FILTER (LANG(?description) = 'en') .  
}  
ORDER BY ?name
```

<http://dbpedia.org/snorql/>

SPARQL Explorer for http://dbpedia.org/sparql

SPARQL:

```

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 ?name ?birth ?description ?person WHERE {
  ?person dbo:birthPlace :Stockholm.
  ?person <http://purl.org/dc/terms/subject> <http://dbpedia.org/resource/Category:Swedish_writers> .
  ?person dbo:birthDate ?birth .
  ?person foaf:name ?name .
  ?person rdfs:comment ?description .
  FILTER (?birth < "1900-01-01"^^xsd:date).

```

Results:

SPARQL results:

name	birth	description	person
"August Johan Strindberg"@en	"1849-01-22"^^xsd:date	"Johan August Strindberg (22 January 1849 – 14 May 1912) was a Swedish playwright, novelist, poet, essayist and painter. A prolific writer who often drew directly on his personal experience, Strindberg's career spanned four decades, during which time he wrote over 60 plays and more than 30 works of fiction, autobiography, history, cultural analysis, and politics."@en	:August_Strindberg ⓘ

SPARQL Query DBPedia places

```
PREFIX geo: <http://www.w3.org/2003/01/geo/wgs84_pos#>
```

```
PREFIX onto: <http://dbpedia.org/ontology/>
```

```
SELECT * WHERE {
```

```
    ?s a onto:Place .
```

```
    ?s geo:lat ?lat .
```

```
    ?s geo:long ?long .
```

```
FILTER (
```

```
    xsd:double(?lat) - xsd:double(59.3294) <= 2 &&
```

```
    xsd:double(59.3294) - xsd:double(?lat) <= 2 &&
```

```
    xsd:double(?long) - xsd:double(18.0686) <= 2 &&
```

```
    xsd:double(18.0686) - xsd:double(?long) <= 2) .
```

```
}
```

```
LIMIT 100
```

<http://dbpedia.org/snorql/>

SPARQL results:

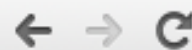
s	lat	long
:Hotel_Paracas	-13.8358	-76.2544
:Capit%3A1n_FAP_Ren%3A1n_EI%3:ADas_Olivera_Airport	-13.745	-76.2203
:Paracas_District	-13.7125	-76.2079
:Pisco,_Peru	-13.71	-76.2032
:Pisco_Province	-13.7	-76.2
:Huaytar%3A1	-13.6044	-75.3531
:Chincha_Alta	-13.45	-76.1333
:Chincha_Province	-13.45	-76.1333
:Chocos_District	-13.3167	-75.7833
:Lake_Choclococha	-13.1667	-75.0667
:San_Vicente_de_Ca%3%B1ete	-13.0833	-76.4
:San_Vicente_de_Ca%3%B1ete_District	-13.0833	-76.4
:Cerro_Azul,_Peru	-13.0325	-76.4867
:Quilman%3A1_District	-12.9594	-76.3881
:Lake_Coyllorcocha	-12.8	-75.5833
:Oxapampa_Province	-12.5675	-75.4039
:Pucusana	-12.4816	-76.7977

SPARQL Query

Webindex countries

```
SELECT *
WHERE {
  ?country rdf:type wi-onto:Country.
  ?country rdfs:label ?label.
  FILTER (lang(?label) = 'en').
  ?country skos:prefLabel ?countryLabel.
  FILTER (lang(?countryLabel) = 'zh').
  ?country wi-onto:has-iso-alpha3-code ?id.
  ?country geo:lat ?lat.
  ?country geo:long ?long.
}
```

<http://data.webfoundation.org/snorql>



```
PREFIX sdmx-code: <http://purl.org/linked-data/sdmx/2009/code#>
PREFIX sdmx-subject: <http://purl.org/linked-data/sdmx/2009/subject#>
PREFIX dc: <http://purl.org/dc/elements/1.1/>
```

```
SELECT *
WHERE{
  ?country rdf:type wi-onto:Country.
  ?country rdfs:label ?label.
  FILTER (lang(?label) = 'en').
  ?country skos:prefLabel ?countryLabel.
  FILTER (lang(?countryLabel) = 'zh').
  ?country wi-onto:has-iso-alpha3-code ?id.
  ?country geo:lat ?lat.
  ?country geo:long ?long.
}
```

Results:

SPARQL results:

country	label	countryLabel	id	lat	long
wi-country:AFG	"Afghanistan"@en	"阿富汗伊斯兰共和国"@zh	"AFG"	"33.93911"	"67.709953"
wi-country:ARG	"Argentina"@en	"阿根廷共和国"@zh	"ARG"	"-38.416097"	"-63.616671999999999"
wi-country:ALB	"Albania"@en	"阿尔巴尼亚共和国"@zh	"ALB"	"41.153332"	"20.168331"
wi-country:AND	"Andorra"@en	"安道尔公国"@zh	"AND"	"42.546245"	"1.601554"



What happened if I change...

“Authors of the requirements specification version 2”



“Which subsystems are directly related to the braking system?”



*“Give me the list of requirements of the **Car system** in English and Chinese including any other metadata...”*

OSLC QUERY SPEC.

- Based on **graph patterns**
 - Similar to SPARQL
 - Two types
 - **Property Tree Patterns** (`oslc.properties`)
 - **Member List Patterns** (at least one)
 - `oslc.where, oslc.searchTerms, oslc.orderBy,`
`y oslc.select`
- **URI base**
 - `oslc:queryBase`
- **Result:**
 - Set of triples

Official Examples

- Give me the “bugs” with **identifier 4242**
 - [http://example.com/bugs?oslc.where=dcterms:identifier="4242"](http://example.com/bugs?oslc.where=dcterms:identifier=)
- Give me the “bugs” with priority “**high**” created after **1st of April, 2010**
 - `http://example.com/bugs?oslc.where=cm:severity="high" and dcterms:created>"2010-04-01"`
- Give me the “bugs” created by Jhon Smith
 - Nested properties
 - `http://example.com/bugs?oslc.where=dcterms:creator{foaf:givenName="John" and foaf:familyName="Smith"}`

Preliminary Evaluation

- **OSQL Query Interface is a kind of restricted syntax of SPARQL**
 - In SPARQL BGP are already implemented
 - The service will perform a query returning some triples (no translation)
 - More intuitive and “pedantic semantic web”
 - Implicit content negotiation
- **Why not SPARQL?**
 - <http://open-services.net/resources/tutorials/oslc-primer/query-mechanisms/>
 - *A RDF endpoint must be deployed*
 - *Queries are translated to the target or real query language*
 - *Security->SPARQL injection attack?*
 - *More simple*
 - *Use the graph model and a restricted query language (not engaged to SPARQL)*

Formal semantics?

OSCL query

SPARQL

(it can be translated to SQL queries)

Expressivity?

OSCL query

SPARQL

Federated queries?

OSCL query

SPARQL

CRUD operations?

OSCL query (hard-coded)

SPARQL 1.1 (INSERT & UPDATE)

Auto-discovery?

OSCL query

SPARQL 1.1 (Service)

A RDF repository is required?

OSCL query (hard-coded)

SPARQL

It is not mandatory it depends on how data is published

OWA operators or query modifiers?

OSCL query

SPARQL

Standard?

OSCL query

SPARQL

Community and Documentation?

OSCL query

SPARQL

...?

OSCL query

SPARQL

Discussion

- **SPARQL** is the **standard** for querying RDF

**Should OSLC consider the use
of SPARQL?**

– As a logical view or interface (at least)...

Questions



*Thank you for
your attention!*

