TP utilisation de SPARQL   - web sémantique N7 nov 2019

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- Fichiers des TPS dans le Moodle
  - TP1 et TP2 : http://moodle-n7.inp-toulouse.fr/mod/resource/view.php?id=37216
  - TP3 (pas le temps) : archive http://moodle-n7.inp-toulouse.fr/mod/resource/view.php?id=37214

- Tp SPARQL : http://melodi.irit.fr/sparqluedo/

- https://melodi.irit.fr/sparqluedo/dbpedia.html

- Dbpedia endPoint : http://dbpedia.org/sparql

- Consulter DBPedia : http://dbpedia.org/page/...
http://dbpedia.org/page/Nile

Requêtes SPARQL sur DBpedia

Liens utiles :

- Endpoint SPARQL de DBpedia
- Description du jeu de données de DBpedia

Quelques exemples :

Who is the daughter of Bill Clinton married to?

```
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbp: <http://dbpedia.org/property/>
PREFIX res: <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT DISTINCT ?uri ?string
WHERE {
        res:Bill_Clinton dbo:child ?child .
        ?child dbp:spouse ?string .
        ?uri rdfs:label ?string .
}
```

Which river does the Brooklyn Bridge cross?

```
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX res: <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT DISTINCT ?uri ?string
WHERE {
        res:Brooklyn_Bridge dbo:crosses ?uri .
        OPTIONAL { ?uri rdfs:label ?string. FILTER (lang(?string) = 'en') }
}
```

Where did Abraham Lincoln die?

```
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX res: <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT DISTINCT ?uri ?string WHERE
{
        res:Abraham_Lincoln dbo:deathPlace ?uri .
        OPTIONAL { ?uri rdfs:label ?string. FILTER (lang(?string) = 'en') }
}
```

Requêtes à traiter :

- In which country does the Nile start?
- How tall is Claudia Schiffer?
- Which are the capitals of all countries in Africa?
- Which french cities have more than 100000 inhabitants?
- Which states border Illinois?
- Which television shows were created by Walt Disney?
- In which films directed by Garry Marshall was Julia Roberts starring?
- Which awards did WikiLeaks win?
- What is the currency of the Czech Republic?
- What is the area code of Berlin?

Exemple de la requête sur les villes françaises

- Qu'est-ce qu'une ville ?
  - Spécifier le type : ?city rdf:type yago:City108524735
  - Specifier des relations : . ?city dbp:urbanPop ?population .
  - ?villes dbp:mayor ?may .

- Située en France? Spécifier des relations et des catégories Wikipedia (France, villes de France)
  - ?city dbo:country dbr:France .
  - ?city dct:subject dbc:Cities_in_France .
  - ?ville dct:subject dbc:Prefectures_in_France .
  - ?department dbo:country res:France .   ?city dbo:department ?department .

- Comment exprimer la population ?
  - ?city dbp:urbanPop ?population
  - ?city dbo:populationTotal ?population

- Comment combiner plusieurs solutions ?

Requête avec des disjonctions (UNION) TESTER en SORTANT FILTER et OPTIONAL

```
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX res: <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT DISTINCT ?locationlabel ?population
WHERE
{{
  ?FrenchLocation dbo:country dbr:France .
  ?FrenchLocation dbp:urbanPop ?population .
  FILTER (?population >= 100000)                        .
  OPTIONAL { ?FrenchLocation rdfs:label ?locationlabel. FILTER (lang(?locationlabel) = 'fr') }
}
UNION
{
  ?FrenchLocation dct:subject dbc:Cities_in_France .
  ?FrenchLocation dbo:populationTotal ?population .
  FILTER (?population >= 100000)                        .
  OPTIONAL { ?FrenchLocation rdfs:label ?locationlabel. FILTER (lang(?locationlabel) = 'fr') }
}
}
```

```sparql
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX res: <http://dbpedia.org/resource/>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT DISTINCT ?locationlabel ?population
WHERE
{{
  ?FrenchLocation dbo:country dbr:France .
?FrenchLocation dbp:urbanPop ?population.    tTESTER avec / SANS)
}
UNION
{
  ?FrenchLocation dct:subject dbc:Cities_in_France . }
UNON
{?FrenchLocation rdf:type yago:City108524735 .
 ?FrenchLocation dbo:country dbr:France . }
union
{ ?department dbo:country res:France .
   ?FrenchLocation dbo:department ?department . }
{  ?FrenchLocation dbp:urbanPop ?population .}
UNION
{ ?FrenchLocation dbo:populationTotal ?population .}

 FILTER (?population >= 100000)                          .
 OPTIONAL { ?FrenchLocation rdfs:label ?locationlabel. FILTER (lang(?locationlabel) = 'fr') }
}
```