

Advanced Set of SPARQL Queries

Open Data and Knowledge Graphs - Irene Aguado Oquillas

1. Get all the properties that can be applied to instances of the Politician class
(<http://dbpedia.org/ontology/Politician>)

SPARQL Query

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

PREFIX rdf: <<http://www.w3.org/1999/02/22-rdf-syntax-ns#>>

```
SELECT DISTINCT ?p
WHERE {
  ?s rdf:type dbo:Politician ;
  ?p ?o .
}
ORDER BY ?p
```

P
http://dbpedia.org/ontology/abstract
http://dbpedia.org/ontology/almaMater
http://dbpedia.org/ontology/award
http://dbpedia.org/ontology/battle
http://dbpedia.org/ontology/birthDate
http://dbpedia.org/ontology/birthName
http://dbpedia.org/ontology/birthPlace
http://dbpedia.org/ontology/child
http://dbpedia.org/ontology/citizenship
http://dbpedia.org/ontology/country
http://dbpedia.org/ontology/deathCause
http://dbpedia.org/ontology/deathDate
http://dbpedia.org/ontology/deathPlace
http://dbpedia.org/ontology/education
http://dbpedia.org/ontology/honours
http://dbpedia.org/ontology/imdbId
http://dbpedia.org/ontology/militaryBranch
http://dbpedia.org/ontology/militaryCommand
http://dbpedia.org/ontology/militaryService
http://dbpedia.org/ontology/monarch
http://dbpedia.org/ontology/nationality
http://dbpedia.org/ontology/occupation
http://dbpedia.org/ontology/office
http://dbpedia.org/ontology/orderInOffice
http://dbpedia.org/ontology/originalName

Query Result

<https://es.dbpedia.org/sparql?default-graph-uri=&query=PREFIX+dbo%3A++%3Chttp%3A%2F%2Fdbpedia.org%2Fontology%2F%3E%0D%0APREFIX+rdf%3A++%3Chttp%3A%2F%2Fwww.w3.org%2F1999%2F02%2F22-rdf-syntax-ns%23%3E%0D%0A%0D%0ASELECT+DISTINCT+%3Fp%0D%0A+WHERE+%7B%0D%0A++%3Fs+rdf%3Atype+dbo%3APolitician+%3B%0D%0A++++%3Fp+%3Fo+.%0D%0A%7D%0D%0AORDER+BY+%3Fp&should-sponge=&format=text%2Fhtml&timeout=0&debug=on&run=+Run+Query+>

2. Get all the properties, except rdf:type, that can be applied to instances of the Politician class

SPARQL Query

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

PREFIX rdf: <<http://www.w3.org/1999/02/22-rdf-syntax-ns#>>

```
SELECT DISTINCT ?p
WHERE {
  ?s rdf:type dbo:Politician ;
  ?p ?o .
  FILTER(?p != rdf:type)
}
ORDER BY ?p
```

P
http://dbpedia.org/ontology/abstract
http://dbpedia.org/ontology/almaMater
http://dbpedia.org/ontology/award
http://dbpedia.org/ontology/battle
http://dbpedia.org/ontology/birthDate
http://dbpedia.org/ontology/birthName
http://dbpedia.org/ontology/birthPlace
http://dbpedia.org/ontology/child
http://dbpedia.org/ontology/citizenship
http://dbpedia.org/ontology/country
http://dbpedia.org/ontology/deathCause
http://dbpedia.org/ontology/deathDate
http://dbpedia.org/ontology/deathPlace
http://dbpedia.org/ontology/education
http://dbpedia.org/ontology/honours
http://dbpedia.org/ontology/imdbId
http://dbpedia.org/ontology/militaryBranch
http://dbpedia.org/ontology/militaryCommand
http://dbpedia.org/ontology/militaryService
http://dbpedia.org/ontology/monarch
http://dbpedia.org/ontology/nationality
http://dbpedia.org/ontology/occupation
http://dbpedia.org/ontology/office
http://dbpedia.org/ontology/orderInOffice
http://dbpedia.org/ontology/originalName

Query Result

<https://es.dbpedia.org/sparql?default-graph-uri=&query=PREFIX+dbo%3A++%3Chttp%3A%2F%2Fdbpedia.org%2Fontology%2F%3E%0D%0APREFIX+rdf%3A++%3Chttp%3A%2F%2Fwww.w3.org%2F1999%2F02%2F22-rdf-syntax-ns%23%3E%0D%0A%0D%0ASELECT+DISTINCT+%3Fp%0D%0A+WHERE+%7B%0D%0A++%3Fs+rdf%3Atype+dbo%3APolitician+%3B%0D%0A++++%3Fp+%3Fo+.%0D%0A++FILTER%28%3Fp+%21%3D+rdf%3Atype%29%0D%0A%7D%0D%0AORDER+BY+%3Fp%0D%0A&should-sponge=&format=text%2Fhtml&timeout=0&debug=on&run=+Run+Query+>

3. Which different values exist for the properties, except for rdf:type, applicable to the instances of Politician?

SPARQL Query

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

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

SELECT DISTINCT ?o

WHERE {

?s rdf:type dbo:Politician ;

?p ?o .

FILTER(?p != rdf:type)

}

ORDER BY ?o

"-36.58888888888889" <db:05"
"-33.4328146" <db:0394898"
"35"
"3662433"
"1" <db:0394898"
"3662433"
"4" y 64 <db:0394898"
"64"
"3662433"
"Barack Obama signature.svg"
"Chairman_HILL"
"Compositor musical de Costa Rica"
"Defensor General de Costa Rica"
"Diputado Propietario a la Asamblea Nacional Constituyente de la República de Costa Rica"
"Firma de Gustavo Petro.svg"
"General del Ejército"
"Jefe Supremo del Estado"
"Jefe de Estado de Costa Rica"
"John F. Kennedy Signature 2.svg"
"Mayor"
"Michelle Obama signature.svg"
"Minister Plenipotentiary of Colombia to the Governments-in-exile of Belgium, the Netherlands, Norway and Poland, based in London"
"Politico"
"Presidente de Costa Rica"
"Presidente de la Corte Suprema de Justicia"
"Presidente de la Diputación de Costa Rica"
"Rector del Liceo de Costa Rica"

Query Result

https://es.dbpedia.org/sparql?default-graph-uri=&query=PREFIX+dbo%3A+++3Chttp%3A%2F%2Fdbpedia.org%2Fontology%2F%3E%0D%0APREFIX+rdf%3A+++3Chttp%3A%2F%2Fwww.w3.org%2F1999%2F02%2F22-rdf-syntax-ns%23%3E%0D%0A%0D%0ASELECT+DISTINCT+%3Fo%0D%0AWHERE+%7B%0D%0A+++3Fs+rdf%3Atype+dbo%3APolitician+%3B%0D%0A+++++3Fp+%3Fo+.%0D%0A++FILTER+%28%3Fp+%21%3D+rdf%3Atype%29%0D%0A%7D%0D%0AORDER+BY+%3Fo%0D%0A&should-sponge=&format=text%2Fhtml&timeout=120000&debug=on&run=+Run+Query+

4. For each of these applicable properties, except for rdf:type, which different values do they take globally for all those instances?

SPARQL Query

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

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

SELECT DISTINCT ?p ?o

WHERE {

?s rdf:type dbo:Politician ;

?p ?o .

FILTER(?p != rdf:type)

}

ORDER BY ?p ?o

P	
http://dbpedia.org/ontology/abnaci	"Ahmed Hilal Abd al-Sadi (Arabic: أحمد هلال عبد السدي; 1963 - 1983) was a soldier, economist, and politician, who served in various post-Ottoman Empire govern
http://dbpedia.org/ontology/abnaci	"Aliaha Musa al-Said (also Aliaha, Agha, Agha, Said, Al Said, Said, Arabic: علياها موسى السعيد) is a Sudanese translator and politician who served as a mem
http://dbpedia.org/ontology/abnaci	"Aldo Vivier (born August 20, 1939) is a French Socialist Party (PS) politician, best known for chairing (1986-2002) the French Mission Interministerial
http://dbpedia.org/ontology/abnaci	"Alain Pashkevich (or Clontia; Belarusian: Алякс Пашкевіч; 15 July 1976 - 5 February 1985) was a Belarusian poet and political activist
http://dbpedia.org/ontology/abnaci	"Archer Kent Blood (March 28, 1923 - September 3, 2004) was an American career diplomat and academic. He served as the last American Consul General to B
http://dbpedia.org/ontology/abnaci	"Asem Mohamed Abdelhadi (also: Asem, Abdelhadi, Abdelhadi; Arabic: أسامة محمد عبد الحادي) is a Sudanese diplomat. She became Sudan's first female Minister of Foreign
http://dbpedia.org/ontology/abnaci	"Barack Hussein Obama II (Barack H. Obama or Barack Isiah Obama; born August 4, 1961) is an American politician who served as the 44th p
http://dbpedia.org/ontology/abnaci	"Fusajirō Yamuchi (山内 豊次郎, Yamuchi Fusajirō, 12 November 1859 - 1 January 1948), born Fusajirō Fukui (福井 豊次郎), was a Japanese entrepreneur who
http://dbpedia.org/ontology/abnaci	"Gustavo Francisco Petro Urrego OBE OMC (Spanish pronunciation: [ɡusˈtaβo franˈsisko petɾo ˈuɾeɣo]; born 19 April 1968) is a Colombian economist, polit
http://dbpedia.org/ontology/abnaci	"John Fitzgerald Kennedy (May 29, 1917 - November 22, 1963), often referred to by his initials JFK and the nickname Jack, was an American politician who
http://dbpedia.org/ontology/abnaci	"Harila Stephens Kline Daniels (born 1957) is an American diplomat who is the current Director General of the Foreign Service. She is a former United St
http://dbpedia.org/ontology/abnaci	"Michael Langston Robinson Obama (born January 17, 1964) is an American attorney and author who served as first lady of the United States from 2009 to 2
http://dbpedia.org/ontology/abnaci	"Thad William Allen (born 18 January 1949) is a former admiral of the United States Coast Guard who served as first lady of the United States from 2006 to 2010. Als
http://dbpedia.org/ontology/abnaci	"Venecio Rodríguez Engleit OBE (18 April 1879 - 22 December 1954) was a distinguished Spanish navy officer, scientist, and engineer. @en
http://dbpedia.org/ontology/abnaci	"Gustavo Uribe Vélez CIC (born 4 July 1952) is a Colombian politician who served as the 31st President of Colombia from 7 August 2002 to 7 August 2010. @
http://dbpedia.org/ontology/abnaci	- Datos: Q982991?@es
http://dbpedia.org/ontology/abnaci	- Datos: Q982991?@es
http://dbpedia.org/ontology/abnaci	- Wikimedia Commons alberga una categoría multimedia sobre Charles Adams Nasher. Charles Adams Nasher (7 de mayo de 1906 - 16 de noviembre de 1984) fue
http://dbpedia.org/ontology/abnaci	"Anna Elizabeth Burke AB (1 de enero de 1904) es una expolítica australiana y actual miembro del Tribunal de Apelaciones Administrativas. Fue miembro
http://dbpedia.org/ontology/abnaci	"Anniea Hevili Leiviska (n. 1985) es una política tongana. Es la actual Ministra de Infraestructura y Turismo de Tonga desde el 9 de octubre de 2019. @
http://dbpedia.org/ontology/abnaci	"Felipe Salido Deyas". Fue un destacado ingeniero militar, distinguido maestro y político mexicano. Nació en Álamo, Sonora, el 28 de mayo de 1883. Sus
http://dbpedia.org/ontology/abnaci	"Hussein Muhammad Abu-Wizar al-Gadafi -nunque existen otras formas de transliterar su nombre (como Housseim o Houssein Kadafi, por ejemplo)- (en árabe: <
http://dbpedia.org/ontology/abnaci	"18 de noviembre de 1929 - 28 de julio de 1948) Fue un político argentino. Ocupó numerosos cargos de importancia a lo largo de su carrera política dentro

Query Result

[https://es.dbpedia.org/sparql?default-graph-uri=&query=PREFIX+dbo%3A+++3Chttp%3A%2F%2Fdbpedia.org%2Fontology%2F%3E%0D%0APREFIX+rdf%3A+++3Chttp%3A%2F%2Fwww.w3.org%2F1999%2F02%2F22-rdf-syntax-ns%23%3E%0D%0A%0D%0A%0D%0ASELECT+DISTINCT+%3Fp+%3Fo%0D%0AWHERE+%7B%0D%0A+++3Fs+rdf%3Atype+dbo%3APolitician+%3B%0D%0A+++++3Fp+%3Fo+.%0D%0A++FILTER+%28%3Fp+%21%3D+rdf%3Atype%29%0D%0A%7D%0D%0AORDE+R+BY+%3Fp+%3Fo%0D%0A&should-sponge=&format=text%2Fhtml&timeout=120000&debug=on&run=+Run+Query+](https://es.dbpedia.org/sparql?default-graph-uri=&query=PREFIX+dbo%3A+++3Chttp%3A%2F%2Fdbpedia.org%2Fontology%2F%3E%0D%0APREFIX+rdf%3A+++3Chttp%3A%2F%2Fwww.w3.org%2F1999%2F02%2F22-rdf-syntax-ns%23%3E%0D%0A%0D%0A%0D%0ASELECT+DISTINCT+%3Fp+%3Fo%0D%0AWHERE+%7B%0D%0A+++3Fs+rdf%3Atype+dbo%3APolitician+%3B%0D%0A+++++3Fp+%3Fo+.%0D%0A++FILTER+%28%3Fp+%21%3D+rdf%3Atype%29%0D%0A%7D%0D%0AORDE+R+BY+%3Fp+%3Fo%0D%0A&should-sponge=&format=text%2Fhtml&timeout=120000&debug=on&run=+Run+Query+>)

5. For each of these applicable properties, except for `rdf:type`, how many distinct values do they take globally for all those instances?

SPARQL Query

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

PREFIX rdf: <<http://www.w3.org/1999/02/22-rdf-syntax-ns#>>

SELECT ?p (COUNT(DISTINCT ?o) AS ?numDistinctValues)

WHERE {

 ?s rdf:type dbo:Politician ;

 ?p ?o .

 FILTER (?p != rdf:type)

}

GROUP BY ?p

ORDER BY ?p

p	numDistinctValues
http://dbpedia.org/ontology/abstract	23256
http://dbpedia.org/ontology/almaMater	17
http://dbpedia.org/ontology/award	108
http://dbpedia.org/ontology/battle	3
http://dbpedia.org/ontology/birthDate	19
http://dbpedia.org/ontology/birthName	8
http://dbpedia.org/ontology/birthPlace	7558
http://dbpedia.org/ontology/child	1234
http://dbpedia.org/ontology/citizenship	1
http://dbpedia.org/ontology/country	121
http://dbpedia.org/ontology/deathCause	2
http://dbpedia.org/ontology/deathDate	9
http://dbpedia.org/ontology/deathPlace	2513
http://dbpedia.org/ontology/education	6
http://dbpedia.org/ontology/honours	6
http://dbpedia.org/ontology/imdbId	1
http://dbpedia.org/ontology/militaryBranch	1
http://dbpedia.org/ontology/militaryCommand	1
http://dbpedia.org/ontology/militaryService	3
http://dbpedia.org/ontology/monarch	1
http://dbpedia.org/ontology/nationality	256
http://dbpedia.org/ontology/occupation	629
http://dbpedia.org/ontology/office	4
http://dbpedia.org/ontology/orderInOffice	17

Query Result

<https://es.dbpedia.org/sparql?default-graph-uri=&query=PREFIX+dbo%3A++%3Chttp%3A%2F%2Fdbpedia.org%2Fontology%2F%3E%0D%0APREFIX+rdf%3A++%3Chttp%3A%2F%2Fwww.w3.org%2F1999%2F02%2F22-rdf-syntax-ns%23%3E%0D%0A%0D%0ASELECT+%3Fp+%28COUNT%28DISTINCT+%3Fo%29+AS+%3FnumDistinctValues%29%0D%0AWHERE+%7B%0D%0A++%3Fs+rdf%3Atype+dbo%3APolitician+%3B%0D%0A+++++%3Fp+%3Fo+.%0D%0A++FILTER+%28%3Fp+%21%3D+rdf%3Atype%29%0D%0A%7D%0D%0AGROUP+BY+%3Fp%0D%0AORDER+BY+%3Fp%0D%0A%0D%0A&should-sponge=&format=text%2Fhtml&timeout=120000&debug=on&run=+Run+Query+>