

SPARQL: Getting Data from Wikidata

<https://query.wikidata.org/>



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WIKIDATA IN BRIEF

Claim: Item – Property – Value

Item Q number
Property P number

item	property	value
Marie Curie	field of work	chemistry
Q7186	P101	Q2329

Wikidata item basics

[Label, description, aliases](#) – human friendly language-specific strings

[Statements](#) – includes identifiers, sitelinks at bottom of an item

[Qualifiers](#) – adds details to claims (ie. dates, distinctions, etc)

[Copyright](#) - all content in Wikidata is Creative Commons CC0 (public domain)

Critical concepts

[Help:Basic membership properties](#)

Instance (P31) vs subclass (P279)

[Help:Sources](#)

Adding references, use "stated in" or "reference URL"

Displaying items

[Reasonator](#) and [SQID](#) – rich visual display of Wikidata items

[Wikidata Graph Builder](#) – show connectedness of items based on properties

Quervyng

[Query.wikidata.org](#) – SPARQL interface. Explore example queries and display options. CTRL-Space auto-expands item and property names to Q/P numbers.

[VizQuery](#) – simple query using rules without requiring coding

Simple editing tools

[Distributed Game](#) – contribute through Yes/No/Skip micro-decisions

[Mix-n-Match](#) – connect external identifiers to Wikidata items

Bulk editing

[Quickstatements](#) – use tab-delimited claims to edit

[PetScan](#) – powerful toolbox for Wikipedia categories and Wikidata

[OpenRefine](#) – open source tool for cleaning messy data, reconciliation

[Data donation](#) - how and why to contribute, and guidelines for institutions

Other tools

[TABernacle](#) – inspect and edit Wikidata interactively in table format

[Google Spreadsheet Wikipedia Tools](#) – query Wikipedia and Wikidata from spreadsheet cells

[External tools](#) – comprehensive list of all Wikidata tools

[WikiBase](#) – open source software extension to MediaWiki that runs Wikidata. Available as a Docker container to create a custom structured data repository

Community and news

[Wikidata:Project chat](#) – discussion forum

[Wikidata:Status updates](#) – weekly summary newsletter

The image shows a screenshot of the Wikidata interface for the item Marie Curie (Q7186). Callouts point to various parts of the interface:

- label**: Marie Curie (Q7186)
- Item identifier (QID)**: Q7186
- description**: French-Polish physicist and chemist; Maria Salomea Skłodowska | Maria Skłodowska-Curie
- aliases**: (None shown)
- statement group**: A table of statements with columns for property, value, and point in time. The first row shows 'award received' (Nobel Prize in Chemistry) with a value of '1911'. Callouts also point to the 'property' and 'value' columns.
- qualifier**: A callout pointing to the 'point in time' column.

At the bottom, there is a note: "Use edit and +add to modify".

WIKIDATA logo and version information:

Version 1.3 (2018-11)
by Andrew Lih (User:Fuzheado)
licensed under CC BY SA 4.0
andrew.lih@gmail.com

Digital version:
bit.ly/wikidata-onepage

Let's ask a question of Wikidata



What female musicians
are from Nigeria?



Query starts with **SELECT WHERE** {.....}



Wikidata Query Service

Examples

Help

More tools

English



1 **SELECT**

2

3 **WHERE** {

4 |

5 }

Search for an item example on Wikipedia to identify properties and values to use in query.



- Main page
- Community portal
- Project chat
- Create a new item
- Recent changes
- Random item
- Query Service
- Neatby
- Help
- Donate
- Lexicographical data
- Create a new Lexeme
- Recent changes
- Random Lexeme
- Tools
- What links here
- Related changes
- Special pages
- Permanent link
- Page information
- Cite this page
- Concept URI

Item Discussion

Yemi Alade (Q18016138)...

Nigerian singer and songwriter ✎ edit
Yemi Eberachi Alade (Mama Africa)


→ In more languages
Configure

Language	Label	Description	Also known as
English	Yemi Alade	Nigerian singer and songwriter	Yemi Eberachi Alade (Mama Afr...
Igbo	Yemi	Ndi na-etí egwu na Najíríá	Mama Africa
Yoruba	Yemi	No description defined	

All entered languages

Statements

instance of **human** ✎ edit
→ 0 references
+ add reference
+ add value

image ✎ edit

Yemi Alade 2018.jpg
661 × 775; 170 KB
→ 0 references
+ add reference
+ add value

sex or gender **female** ✎ edit
→ 0 references
+ add reference
+ add value

country of citizenship **Nigeria** ✎ edit

Wikipedia (11 entries) ✎ edit

ar	ياسمي آلايد
en	Yemi Alade
es	Yemi Alade
fr	Yemi Alade
ha	Yemi Alade
hu	Yemi Alade
ja	イェミ・アラダ
in	Yemi Alade
sw	Yemi Alade
vi	Yemi Alade
yo	Yemi Aládé

Wikibooks (0 entries) ✎ edit

Wikinews (0 entries) ✎ edit

Wikiquote (0 entries) ✎ edit

Wikisource (0 entries) ✎ edit

Wikiversity (0 entries) ✎ edit

Wikivoyage (0 entries) ✎ edit

Wiktionary (0 entries) ✎ edit

Multilingual sites (1 entry) ✎ edit
commons | Category:Yemi Alade



Add
several
triples as
filters,
and
variable
to get
output



```
1 SELECT ?item
```

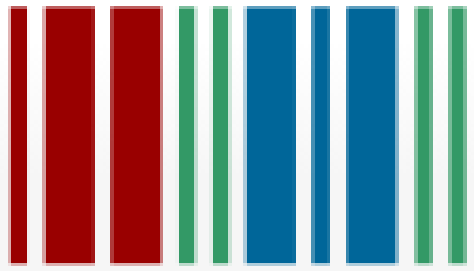
```
3 WHERE {
```

```
5 ?item wdt:P27 wd:Q1033.
```

```
6 ?item wdt:P21 wd:Q6581072.
```

```
7 ?item wdt:P31 wd:Q5.
```

```
9 }
```



Add the Label Service for human readable result

```
1 SELECT ?item ?itemLabel
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
10 }
```

1812 results in 2284 ms

Code

Download

item

itemLabel

wd:Q969691

Oluchi Onweagba

Search



Add more triples to display their date of birth and place of birth



```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:05.
8   ?item wdt:P569 ?dob.
9   ?item wdt:P19 ?birthPlace.
10
11 SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
12 }
13
14
```

851 results in 3832 ms

</> Code



Search

item	itemLabel	dob	birthPlaceLabel
wd:Q15994530	Rosemary Hutton	22 October 1925	Dundee



Add
OPTIONAL
to include
result with
missing dob
or
birthplace



```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   OPTIONAL {?item wdt:P569 ?dob.}
10  OPTIONAL {?item wdt:P19 ?birthPlace.}
11
12  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
13 }
14
15
```

OPTIONAL {?item wdt:P569 ?dob.}
OPTIONAL {?item wdt:P19 ?birthPlace.}



1849 results in 5914 ms

</> Code



item	itemLabel	dob	birthPlaceLabel
wd:Q6152883	Jane Wall	1 January 1972	Lagos



Add
coordinates
to get the
locations of
birthplaces
and show
on a map

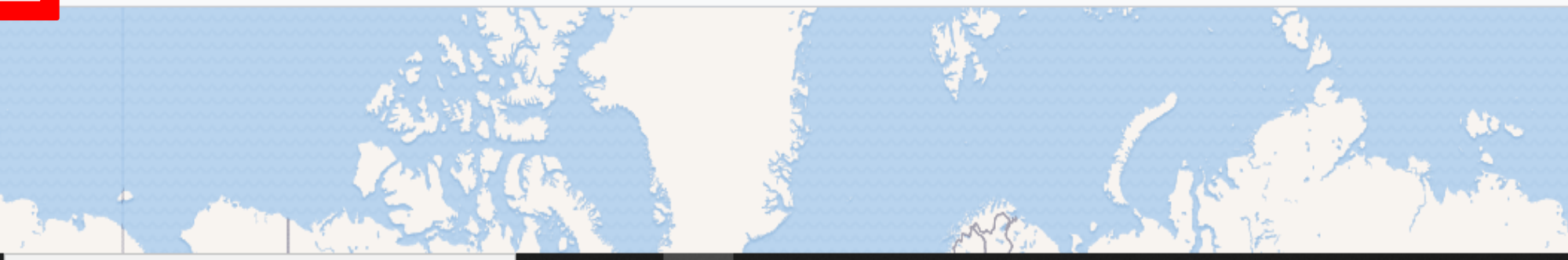
Wikidata Query Service

Examples Help More tools

```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel ?coord
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   OPTIONAL {?item wdt:P569 ?dob.}
10
11  OPTIONAL {?item wdt:P19 ?birthPlace.
12             ?birthPlace wdt:P625 ?coord.
13             }
14
15  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
16 }
17
18
```

Map

1894 results in 10379 ms



Filter by occupation (musician) to get a less busy map and add default view as map.

Wikidata Query Service

Examples Help More tools

```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel ?coord
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   ?item wdt:P106 wd:Q639669.
10
11  OPTIONAL {?item wdt:P569 ?dob.}
12
13  OPTIONAL {?item wdt:P19 ?birthPlace.
14             ?birthPlace wdt:P625 ?coord.
15             }
16
17  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
18 }
19
20 #defaultView:Map
```

Map

12 results in 2660 ms

Code





Add subclass to get more result



```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel ?coord
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   ?item wdt:P106/wdt:P279 wd:Q639669.
10
11  OPTIONAL {?item wdt:P569 ?dob.}
12
13  OPTIONAL {?item wdt:P19 ?birthPlace.
14             ?birthPlace wdt:P625 ?coord.
15             }
16
17  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
18 }
19
20 #defaultView:Map
21
```

Map

100 results in 6734 ms

</> Code



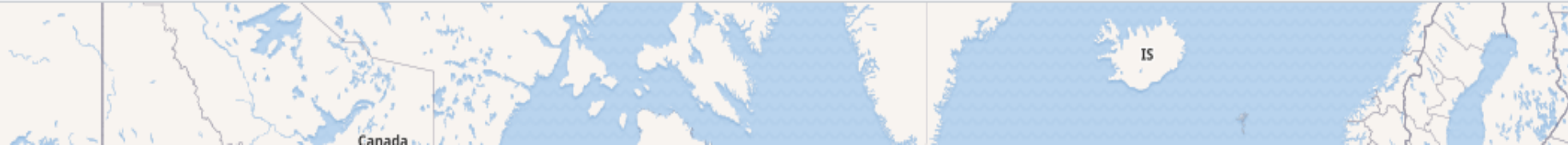
Get more
result by
querying
down the
subclass
logic



```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel ?coord
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   ?item wdt:P106/wdt:P279* wd:Q639669.
10
11  OPTIONAL {?item wdt:P569 ?dob.}
12
13  OPTIONAL {?item wdt:P19 ?birthPlace.
14             ?birthPlace wdt:P625 ?coord.
15             }
16
17  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
18 }
19
20 #defaultView:Map
21
```

Map

156 results in 18979 ms



Add image to results

```
1 SELECT ?item ?itemLabel ?dob ?birthPlaceLabel ?coord ?image
2
3 WHERE {
4
5   ?item wdt:P27 wd:Q1033.
6   ?item wdt:P21 wd:Q6581072.
7   ?item wdt:P31 wd:Q5.
8
9   ?item wdt:P106/wdt:P279* wd:Q639669.
10
11  OPTIONAL {?item wdt:P569 ?dob.}
12
13  OPTIONAL {?item wdt:P19 ?birthPlace.
14             ?birthPlace wdt:P625 ?coord.
15             }
16
17  OPTIONAL {?item wdt:P18 ?image.}
18
19  SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
20 }
21
22 #defaultView:Map
23 |
```



Get more results by searching for female musicians in West Africa



```
1 SELECT DISTINCT ?item ?itemLabel ?dob ?birthPlaceLabel ?coord ?image
2
3 WHERE {
4
5     ?item wdt:P27 ?nationality.
6     ?nationality wdt:P361 wd:Q4412.
7
8     ?item wdt:P21 wd:Q6581072.
9     ?item wdt:P31 wd:Q5.
10
11     ?item wdt:P106/wdt:P279* wd:Q639669.
12
13     OPTIONAL {?item wdt:P569 ?dob.}
14
15     OPTIONAL {?item wdt:P19 ?birthPlace.
16                 ?birthPlace wdt:P625 ?coord.
17                 }
18
19     OPTIONAL {?item wdt:P18 ?image.}
20
21     SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en". }
22 }
23
```


Thank You!

Learn more @

https://www.wikidata.org/wiki/Wikidata:SPARQL_tutorial

