

From Open Collaboration to Customized Control

Transitioning from Wikidata to Wikibase

John Samuel

FOSDEM 2025

Track: Collaboration and Content Management

February 1, 2025

Website: <https://johnsamuel.info>



Goals

- **Key Themes:** Open collaboration, self-hosted data management, flexibility, and integration
- **Why Wikibase?**
 - Wikidata: Open, multilingual, and collaborative
 - Wikibase: Tailored control for specific data needs
- **Objective:** Explore how Wikibase balances independence with interconnectivity in the open data landscape



- **Associate Professor**, Software Design and Big Data, CPE Lyon
- **Active Contributor** on Wikidata and Wikimedia Commons.
- **Research Interests and Themes:** Knowledge Representation, Semantic Web, Web Services, Data Integration, Data Warehouse, Distributed Systems, Geographic Information System
- **Courses:** C Programming, Algorithms in C, Data Mining and Machine Learning, Artificial Intelligence and Deep Learning, Operating Systems and Concurrent Programming, Web Languages
- **Thesis:** Integration of data from web services

Wikidata was launched in 2012 as a collaborative project aimed at creating a structured and linked knowledge base. Wikidata is a free, open, linked, structured, collaborative, and multilingual knowledge base.

- **Free and Open:** Wikidata's data is freely and openly available.
- **Linked and Structured:** Information is interconnected and structured according to the RDF model.
- **Collaborative:** Contributors from around the world add and edit data.
- **Multilingual:** Supports multiple languages to promote inclusivity.



Evolution of Wikipedia sites: From multilingual Wikipedia sites with multiple subdomains to a multilingual Wikidata site with a single domain.



Wikipedia and Wikidata

Wikipedia

<https://fr.wikipedia.org/wiki/Chat>
<https://en.wikipedia.org/wiki/Cat>
<https://es.wikipedia.org/wiki/Gato>
<https://pt.wikipedia.org/wiki/Gato>

<https://fr.wikipedia.org/wiki/Example>
<https://en.wikipedia.org/wiki/Example>
<https://es.wikipedia.org/wiki/Ejemplo>
<https://pt.wikipedia.org/wiki/Exemplo>

<https://fr.wikipedia.org/wiki/Lyon>
<https://en.wikipedia.org/wiki/Lyon>
<https://es.wikipedia.org/wiki/Lyon>
<https://pt.wikipedia.org/wiki/Lyon>

Wikidata

<https://www.wikidata.org/wiki/Q146>

<https://www.wikidata.org/wiki/Q14944328>

<https://www.wikidata.org/wiki/Q456>

FOSDEM

 19 languages ▼

Contents hide

Article [Talk](#)

[Read](#) [Edit](#) [View history](#) [Tools](#) ▼

(Top)

From Wikipedia, the free encyclopedia

▼ [History](#)

[FOSDEM 2023](#)^[17]

[FOSDEM 2024](#)^[20]

[FOSDEM 2025](#)^[29] ^[30]

[Gallery](#)

[See also](#)

[References](#)

[External links](#)

Free and Open source Software Developers' European Meeting (FOSDEM) is a non-commercial, volunteer-organized European event centered on [free and open-source software development](#). It is aimed at developers and anyone interested in the free and open-source software movement. It aims to enable developers to meet and to promote the awareness and use of free and open-source software.

FOSDEM is held annually, usually during the first weekend of February,^[2] at the [Campus Solbosch](#) ^[nl] of the [Université Libre de Bruxelles](#) (ULB) in the southeast of [Brussels, Belgium](#).

History [\[edit\]](#)

FOSDEM was started in 2000^[3] under the name Open Source Developers of Europe Meeting (OSDEM) by [Raphael Bauduin](#). Bauduin said that since he felt he lacked the brains to properly contribute to the open-source community, he wanted to contribute by launching a European event in Brussels. Bauduin teamed up with [Damien Sandras](#).^[4] The team repeated the event. The F (of FOSDEM) was added at the request of [Richard Stallman](#).^[5]

The [Free Software Foundation](#)'s ceremony for the [Award for the Advancement of Free Software](#) was held at FOSDEM from 2002 to 2006 (for the awards for 2001 to 2005).^{[6][7]}

The event has been held annually in February since then, with growing numbers of visitors, talks and [tracks](#). It is organized thanks to the help of many volunteers

Free and Open source Software Developers' European Meeting



Genre	Software engineering conference
Venue	Campus Solbosch ^[nl] of the Université Libre de Bruxelles (ULB)
Location(s)	Brussels
Country	Belgium
Inaugurated	2000 (as OSDEM), 2001 (as FOSDEM) ^[1]
Previous event	3-4 February 2024 ↗
Next event	1-2 February 2025 ↗
Website	fosdem.org ↗ ↗

 22:29
Richard (RichiH) Hartmann  and Basti Schubert explain the organization of FOSDEM with free software, 02/2023.

FOSDEM

 19 languages 

Contents

- (Top)
- History
 - FOSDEM 2023^[17]
 - FOSDEM 2024^[20]
 - FOSDEM 2025^[29] ^[30]
- Gallery
- See also
- References
- External links

[Article](#) [Talk](#)

[Read](#) [Edit](#) [View history](#)

From Wikipedia, the free encyclopedia

Free and Open source Software Developers' European Meeting (FOSDEM) is a non-commercial, volunteer-organized European event centered on [free and open-source software development](#). It is aimed at developers and anyone interested in the free and open-source software movement. It aims to enable developers to meet and to promote the awareness and use of free and open-source software.

FOSDEM is held annually, usually during the first weekend of February,^[2] at the [Campus Solbosch](#) ^[n] of the [Université Libre de Bruxelles](#) (ULB) in the southeast of [Brussels, Belgium](#).

History [\[edit \]](#)

FOSDEM was started in 2000^[3] under the name Open Source Developers of Europe Meeting (OSDEM) by [Raphael Bauduin](#). Bauduin said that since he felt he lacked the brains to properly contribute to the open-source community, he wanted to contribute by launching a European event in Brussels. Bauduin teamed up with [Damien Sandras](#).^[4] The team repeated the event. The F (of FOSDEM) was added at the request of [Richard Stallman](#).^[5]

The [Free Software Foundation](#)'s ceremony for the [Award for the Advancement of Free Software](#) was held at FOSDEM from 2002 to 2006 (for the awards for 2001 to 2005).^[6]^[7]

The event has been held annually in February since then, with growing numbers of visitors, talks and [tracks](#). It is organized thanks to the help of many volunteers.

Tools

General

[What links here](#)

[Related changes](#)

[Special pages](#)

[Permanent link](#)

[Page information](#)

[Cite this page](#)

[Get shortened URL](#)

[Download QR code](#)

[Edit interlanguage links](#)

Print/export

[Download as PDF](#)

[Printable version](#)

In other projects

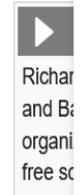
[Wikimedia Commons](#)

[MediaWiki](#)

[Meta-Wiki](#)

[Wikidata item](#)

	Free and Open source Software Developers' European Meeting
Genre	Software conference
Venue	Campus Solbosch, Université Libre de Bruxelles (ULB)
Location(s)	Brussels, Belgium
Country	Belgium
Inaugurated	2000
Previous event	3-4 January 2001
Next event	1-2 February 2025
Website	fosdem.org





Item [Discussion](#)

Read

[View history](#)

S

FOSDEM (Q475430)

annual event in Brussels centered on free and open source software development

[edit](#)

Free and Open source Software Developers' European Meeting | OSDEM

[In more languages](#)

[Configure](#)

Language	Label	Description	Also known as
default for all languages	No label defined	–	
English	FOSDEM	annual event in Brussels centered on free and open source software development	Free and Open source Software... OSDEM
French	FOSDEM	conférence européenne des développeurs de logiciels libres	Free and open source software ... OSDEM
Spanish	FOSDEM	Conferencia anual sobre software libre que se celebra en Bruselas el primer fin de semana de febrero.	Free and Open source Software... OSDEM
German	FOSDEM	jährliches Treffen von Entwicklern Freier Software in Brüssel	OSDEM

[All entered languages](#)

Statements

instance of	annual conference	edit
	0 references	+ add reference

- [Main page](#)
- [Community portal](#)
- [Project chat](#)
- [Create a new Item](#)
- [Recent changes](#)
- [Random Item](#)
- [Query Service](#)
- [Nearby](#)
- [Help](#)
- [Donate](#)

- [Lexicographical data](#)
- [Create a new Lexeme](#)
- [Recent changes](#)
- [Random Lexeme](#)

- [Tools](#)
- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Permanent link](#)
- [Page information](#)
- [Concept URI](#)
- [Cite this page](#)
- [Get shortened URL](#)
- [Download QR code](#)

Wikipedia: Multilingual Articles

The Infobox is a key component of Wikipedia articles. It provides a structured and concise summary of essential information about a topic.

- **Infobox Content:**

- **Essential Information:** Includes key details such as date of birth, location, statistics, etc.
- **Relevant Links:** Often linked to relevant entities on Wikidata.

FOSDEM

 19 languages ▼

Contents hide

(Top)

▼ History

[FOSDEM 2023](#)^[17]

[FOSDEM 2024](#)^[20]

[FOSDEM 2025](#)^[29] ^[30]

[Gallery](#)

[See also](#)

[References](#)

[External links](#)

Article [Talk](#)

[Read](#) [Edit](#) [View history](#) [Tools](#) ▼

From Wikipedia, the free encyclopedia

Free and Open source Software Developers' European Meeting (FOSDEM) is a non-commercial, volunteer-organized European event centered on [free and open-source software development](#). It is aimed at developers and anyone interested in the free and open-source software movement. It aims to enable developers to meet and to promote the awareness and use of free and open-source software.

FOSDEM is held annually, usually during the first weekend of February,^[2] at the [Campus Solbosch](#) ^[nl] of the [Université Libre de Bruxelles](#) (ULB) in the southeast of [Brussels, Belgium](#).

History [edit]

FOSDEM was started in 2000^[3] under the name Open Source Developers of Europe Meeting (OSDEM) by [Raphael Bauduin](#). Bauduin said that since he felt he lacked the brains to properly contribute to the open-source community, he wanted to contribute by launching a European event in Brussels. Bauduin teamed up with [Damien Sandras](#).^[4] The team repeated the event. The F (of FOSDEM) was added at the request of [Richard Stallman](#).^[5]

The [Free Software Foundation](#)'s ceremony for the [Award for the Advancement of Free Software](#) was held at FOSDEM from 2002 to 2006 (for the awards for 2001 to 2005).^[6]^[7]

The event has been held annually in February since then, with growing numbers of visitors, talks and [tracks](#). It is organized thanks to the help of many volunteers.

Free and Open source Software Developers' European Meeting



FOSDEM

Genre	Software engineering conference
Venue	Campus Solbosch ^[nl] of the Université Libre de Bruxelles (ULB)
Location(s)	Brussels
Country	Belgium
Inaugurated	2000 (as OSDEM), 2001 (as FOSDEM) ^[1]
Previous event	3-4 February 2024 ↗
Next event	1-2 February 2025 ↗
Website	fosdem.org ↗

 22:29
Richard (RichiH) Hartmann  and Basti Schubert explain the organization of FOSDEM with free software, 02/2023.

Sommaire masquer

Début

Description

- Historie

- 2001

- 2002

- 2003

- 2004

- 2005

- 2006

- 2007

- 2008

- Depuis 2009

- Notes et références

- Voir aussi

- Article connexe

- Lien externe

Le **FOSDEM** (*Free and Open Source Software Developers' European Meeting* : réunion européenne des développeurs de logiciels libres et *open source*) est une conférence annuelle organisée à l'**Université libre de Bruxelles** depuis 2001^{1,2,3,4,5}.

La rencontre a lieu chaque année en février avec plus de 5 000 participants⁶ et accueille régulièrement des personnalités connues dans le monde des **logiciels libres** comme **Richard Stallman** et **Jon « Maddog » Hall**.

Description [modifier] [modifier le code]

Différentes conférences et ateliers sont organisés, autour des différents thèmes liés aux logiciels ou matériels libres.

Au niveau du développement du **matériel libre**, le projet de **SoC** sous licence libre, Libre-SoC, à par exemple présenté l'utilisation de **GTKWave** pour visualiser la sortie de l'**intégration continue** (CI) utilisé pour le développement de son SoC⁷.

Histoire [modifier] [modifier le code]

Le FOSDEM est lancé en 2001 sous le nom de OSDEM (Open Source Developers of Europe Meeting) par Raphaël Bauduin⁸. Le F de FOSDEM est ajouté à la demande de **Richard Stallman**.

2001 [modifier] [modifier le code]

Les 3 et 4 février.

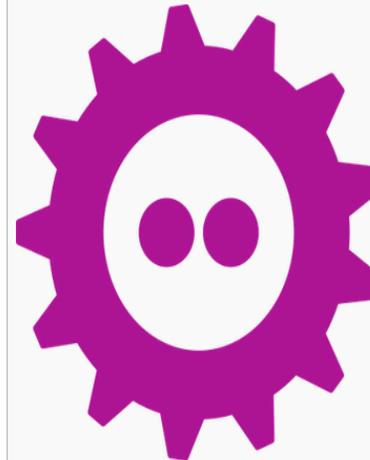
Première édition sous le nom d'OSDEM.

2002 [modifier] [modifier le code]

Les 15 et 16 février.

Remise du *Free Software Award* à **Guido Van Rossum**.

Free and open source software developers' European meeting



Type	Salon
Création	2001
Édition	20 ^e
Pays	 Belgique
Localisation	Bruxelles
Coordonnées	 50° 48′ 42″ nord, 4° 22′ 52″ est
Site web	(en) Site officiel

Géolocalisation sur la carte : Belgique



Artículo [Discusión](#)[Leer](#) [Editar](#) [Ver historial](#) [Herramientas](#) ▼Coordenadas: 50°48′42″N 4°22′52″E﻿ / ﻿(mapa)**Contenidos** ocultar**Inicio**▼ **Historia**[Edición de 2021](#)[Financiación](#)[Referencias](#)[Enlaces externos](#)

Free and Open Source Software Developers' European Meeting (FOSDEM¹) es un evento europeo no comercial, organizado por voluntarios, centrado en el desarrollo de [software libre](#) y de [código abierto](#) . Está dirigido a desarrolladores y a cualquier persona interesada en el movimiento de software libre y de código abierto. Su objetivo es permitir que los desarrolladores se reúnan y promuevan la conciencia y el uso del software de código abierto y libre.

FOSDEM se celebra anualmente, generalmente durante el primer fin de semana de febrero, en el Campus de Solbosch de la [Universidad Libre de Bruselas](#) en el sureste de [Bruselas](#), [Bélgica](#).

Historia [[editar](#)]

FOSDEM se inició en 2000 bajo el nombre de Open Source Developers of Europe Meeting (OSDEM) por Raphael Bauduin.² Bauduin dijo que como sentía que carecía de cerebro para contribuir adecuadamente a la comunidad de código abierto, quería contribuir con el lanzamiento de un evento europeo en Bruselas. Bauduin se asoció con Damien Sandras. El equipo repitió el evento. La F (de FOSDEM) se agregó a petición de [Richard Stallman](#) al año siguiente. Desde entonces el evento se ha celebrado cada año en el mes de febrero, con un número creciente de visitantes. Se organiza gracias a la ayuda de muchos voluntarios. Cada año reciben más de 5000 desarrolladores al Campus de Solbosch. Raphael ya no es la fuerza impulsora detrás de FOSDEM. Después de 7 años de arduo trabajo, dejó el equipo para nuevos planes de código abierto.

Edición de 2021 [[editar](#)]

La edición del año 2021, debido a la [pandemia de COVID-19](#), se realizó de forma online³

FOSDEM



Logo oficial del FOSDEM

Localización

País	Bélgica
Localidad	Universidad libre de Bruselas
Lugar	Bruselas, Bélgica
Coordenadas	50°48′42″N 4°22′52″E﻿ / ﻿(mapa)

Datos generales

Tipo	Conferencia sobre software libre .
Ingreso	Gratuito, sin registro previo
Organizador	FOSDEM VZW
Objetivo	Promover y divulgar el software libre .

Histórico

Fecha	Primer fin de semana del mes de febrero
Primer evento	3 de febrero de 2001
Duración	2 días
Frecuencia	Anual

[Sitio web oficial](#) ↗

[[editar datos en Wikidata](#)]

Wikipedia: Multilingual Articles

- **Infobox Objectives:**
 - **Quick Accessibility:** Facilitates quick access to important facts.
 - **Uniformity:** Maintains a consistent structure across articles.
- **Dynamic Evolution:**
 - **Collaborative Updates:** Can be collaboratively updated by the Wikipedia community.
 - **Dynamic Links with Wikidata:** Links can be dynamically connected to Wikidata data for centralized updates.

Wikidata: Potential issues

EN

Country	France
Region	Provence-Alpes-Côte d'Azur
Department	Vaucluse
Arrondissement	Avignon
Canton	Avignon-1, Avignon-2, Avignon-3
Intercommunality	CA Grand Avignon
Government	
• Mayor (2014-2020)	Cécile Helle (PS)
Area ¹	64.78 km ² (25.01 sq mi)
Population (2015) ²	92,130
• Density	1,400/km ² (3,700/sq mi)
Time zone	CET (GMT +1) (UTC+1)
• Summer (DST)	CEST (UTC+2)
INSEE/Postal code	84007@ /84000
Elevation	10-122 m (33-400 ft) (avg. 23 m or 75 ft)
UNESCO World Heritage Site	
Official name	Historic Centre of Avignon: Papal Palace, Episcopal Ensemble and Avignon Bridge
Criteria	Cultural: i, ii, iv
Reference	228@
Inscription	1995 (19th Session)
Area	8.2 ha

FR

Pays	 France
Région	Provence-Alpes-Côte d'Azur
Département	Vaucluse (préfecture)
Arrondissement	Avignon (chef-lieu)
Canton	Bureau centralisateur de Avignon-1 Avignon-2 Avignon-3
Intercommunalité	Grand Avignon (siège)
Maire	Cécile Helle
Mandat	2014-2020
Code postal	84000 / 84140
Code commune	84007
Démographie	
Gentilé	Avignonnais
Population municipale	92 130 hab. (2015 ▲)
Densité	1 422 hab./km ²
Population aire urbaine	527 731 hab. (2015)
Géographie	
Coordonnées	43° 57′ 00″ nord, 4° 49′ 01″ est﻿ / ﻿43.95000°N 4.81694°E﻿ / 43.95; 4.81694
Altitude	Min. 10 m Max. 122 m
Superficie	64,78 km ²
Localisation	

IT

Localizzazione	
Stato	 Francia
Regione	 Provenza-Alpi-Costa Azzurra
Dipartimento	 Vaucluse
Arrondissement	Avignone
Cantone	Avignone-1 Avignone-2 Avignone-3
Amministrazione	
Sindaco	Cécile Helle (PS) dal 2014
Territorio	
Coordinate	43°57′N 4°49′E﻿ / ﻿43.950°N 4.817°E﻿ / 43.950; 4.817
Altitudine	122 m s.l.m.
Superficie	64,78 km²
Abitanti	91 451 ^[1] (2009)
Densità	1 411,72 ab./km²
Altre informazioni	
Cod. postale	84000
Prefisso	49
Fuso orario	UTC+1
Codice INSEE	84007@
Nome abitanti	(it) Avignonesi (fr) Avignonnais (oc) avinhonenc -a
Cartografia	

DE

Region	Provence-Alpes-Côte d'Azur
Département	Vaucluse (Präfektur)
Arrondissement	Avignon
Kanton	Avignon-1 (Hauptort) Avignon-2 (Hauptort) Avignon-3 (Hauptort)
Gemeindeverband	Grand Avignon
Koordinaten	43° 57′ N, 4° 48′ O﻿ / ﻿43.950°N 4.800°O﻿ / 43.950; -4.800
Höhe	10-122 m
Fläche	64,78 km ²
Einwohner	92.130 (1. Januar 2015)
Bevölkerungsdichte	1.422 Einw./km ²
Postleitzahl	84000
INSEE-Code	84007@
Website	www.avignon.fr@
	
Das historische Zentrum rund um den Papstpalast	

NL

Situering	
Regio	Provence-Alpes-Côte d'Azur
Departement	Vaucluse (84)
Arrondissement	Avignon
Kanton	hoofdplaats van 4 kantons: Avignon-Nord, Avignon-Est, Avignon-Sud en Avignon-Ouest
Coördinaten	43° 57' NB, 4° 49' OL
Algemeen	
Oppervlakte	64,80 km ²
Inwoners (1 Jan. 2011)	90.194 (1.391,9 inw./km ²)
Hoogte	10 - 122 m
Overlig	
Postcode	84000
INSEE-code	84007
Foto's	
	
Portaal 	Frankrijk

Wikipedia: Multilingual articles

Potential issues

- Possibility of redundancies between details in the Infobox and the main body of the article.
- Coordinated maintenance of Infoboxes across different Wikipedia editions can be complex.
- Difficulty in achieving centralized updates for all language versions.



Wikipedia: Multilingual
articles

Wikidata: Labels, Descriptions, and

Wikidata elements include labels, descriptions, and aliases. Labels are the primary, multilingual names assigned to each entity. Descriptions provide brief information about the nature or meaning of the element, while aliases are synonyms or variants used to facilitate search.

FOSDEM (Q475430)

annual event in Brussels centered on free and open source software development [edit](#)
Free and Open source Software Developers' European Meeting | OSDEM

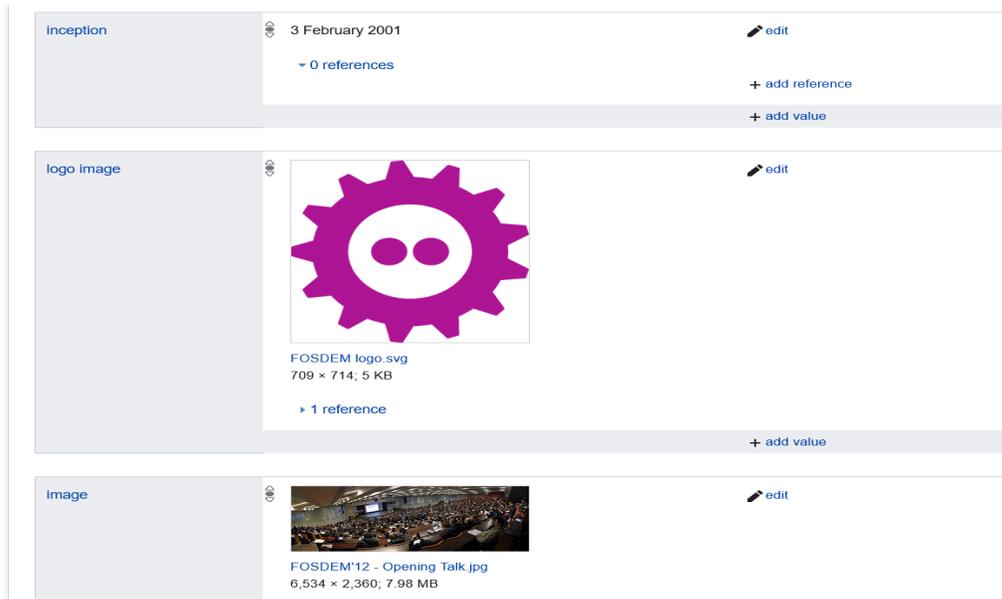
Languages **Labels** **Description** **Aliases**

Language	Label	Description	Also known as
default for all languages	No label defined	—	
English	FOSDEM	annual event in Brussels centered on free and open source software development	Free and Open source Software... OSDEM
French	FOSDEM	conférence européenne des développeurs de logiciels libres	Free and open source software ... OSDEM
Spanish	FOSDEM	Conferencia anual sobre software libre que se celebra en Bruselas el primer fin de semana de febrero.	Free and Open source Software... OSDEM
German	FOSDEM	jährliches Treffen von Entwicklern Freier Software in Brüssel	OSDEM

Example: FOSDEM (Q475430)

Wikidata Item: Labels and Properties

Properties define the characteristics or relationships of items. Examples: Date of birth, place of birth, gender, etc. They enable precise structuring of information related to items.



The screenshot displays three property instances for the Wikidata item FOSDEM (Q475430):

- inception**: 3 February 2001. Includes an edit icon, a link to 0 references, and buttons for '+ add reference' and '+ add value'.
- logo image**: FOSDEM logo.svg (709 × 714; 5 KB). Includes an edit icon, a link to 1 reference, and a '+ add value' button.
- image**: FOSDEM'12 - Opening Talk.jpg (6,534 × 2,360; 7.98 MB). Includes an edit icon.

Example: FOSDEM (Q475430)

Properties

country	Belgium	edit
	0 references	+ add reference
		+ add value
located in the administrative territorial entity	Brussels-Capital Region	edit
	0 references	+ add reference
		+ add value
location	Université Libre de Bruxelles	edit
	0 references	+ add reference
		+ add value
coordinate location		edit

Properties

FOSDEM - Properties of Wikidata

FOSDEM - Wikidata Properties

Property	Value
instance of	annual conference
	convention series
	recurring event
inception	3 February 2001
location	Université Libre de Bruxelles
continent	Europe
country	Belgium

FOSDEM - Wikidata Properties

Property	Value
instance of (P31)	annual conference
	convention series
	recurring event
inception (P571)	3 February 2001
location (P276)	Université Libre de Bruxelles
continent (P30)	Europe
country (P17)	Belgium

FOSDEM (Q475430) - Properties of

Property	Value
instance of (P31)	annual conference (Q56220509)
	convention series (Q15900647)
	recurring event (Q15275719)
inception (P571)	3 February 2001
location (P276)	Université Libre de Bruxelles (Q574606)
continent (P30)	Europe (Q46)
country (P17)	Belgium (Q31)

Properties, Qualifiers and References

- **Basic Information:**
 - **Item:** Represents an entity in Wikidata (person, place, concept, etc.).
 - **Unique Identifier (QID):** Each item is associated with a unique identifier.
- **Properties:**
 - **Definition:** Characteristics or relationships specific to an item.
 - **Examples:** Date of birth, population, gender, etc.
 - **Data Structuring:** Organizes information in a categorical manner.

Properties, Qualifiers and References

- **Qualifiers:**

- **Precision:** Add additional details to statements.
- **Examples:** Period for a position held, location for an event, etc.
- **Data Refinement:** Improve the accuracy of information.

- **References:**

- **Source of Information:** Indicate the origin of the data.
- **Citations and Links:** Include references for verification and transparency.
- **Basis of Reliability:** Strengthen the credibility of the information.

Identifiers

BabelNet ID	 03616430n  edit
	▶ 1 reference
	+ add value
Facebook username	 fosdem  edit
	▶ 1 reference
	+ add value
Freebase ID	 /m/037tnk  edit
	▶ 1 reference
	+ add value
Instagram username	 fosdem  edit
	▶ 1 reference
	+ add value
Mastodon address	 fosdem@fosstodon.org  edit
	start time 28 October 2018
	language of work or name English
	▶ 2 references

External Identifiers: FOSDEM (Q475430)

Linked Open Data

Linked Open Data (LOD) is an approach that allows for connecting heterogeneous datasets in an open and interconnected manner, facilitating the discovery and use of information.

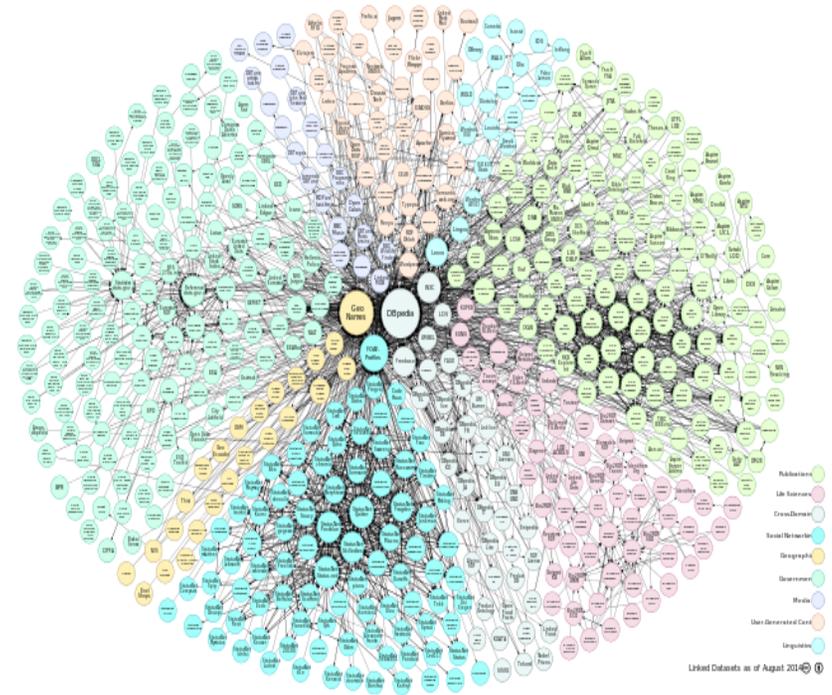
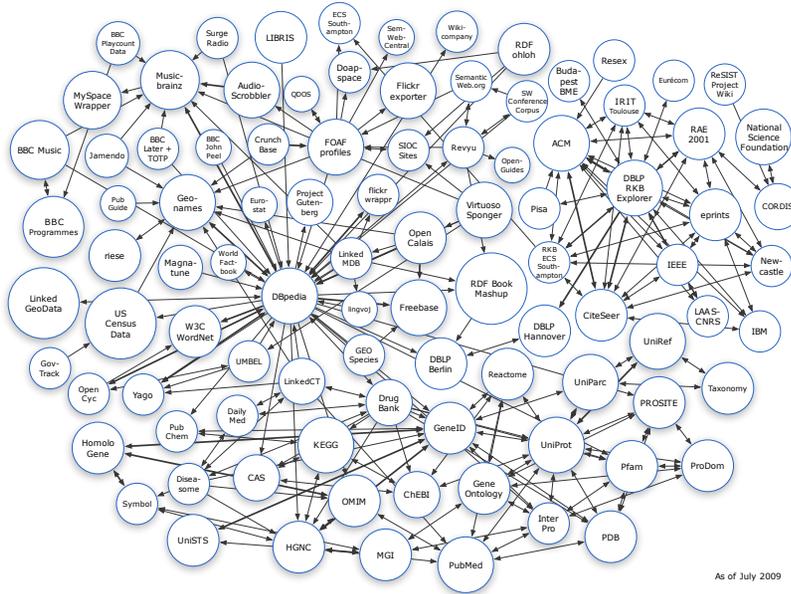
Key Principles

- **Unique Identifiers (URIs):** Each resource is uniquely identified using URIs.
- **RDF Model (Resource Description Framework):** Structuring data in the form of triples (subject-predicate-object) to represent relationships.
- **SPARQL Protocol:** Query language for querying RDF data in a standardized way.

Objectives

- **Data Interconnection:** Facilitate the linking of different data sources, providing a global and coherent view.
- **Accessibility and Openness:** Encourage the public availability of data with open licenses promoting their use.

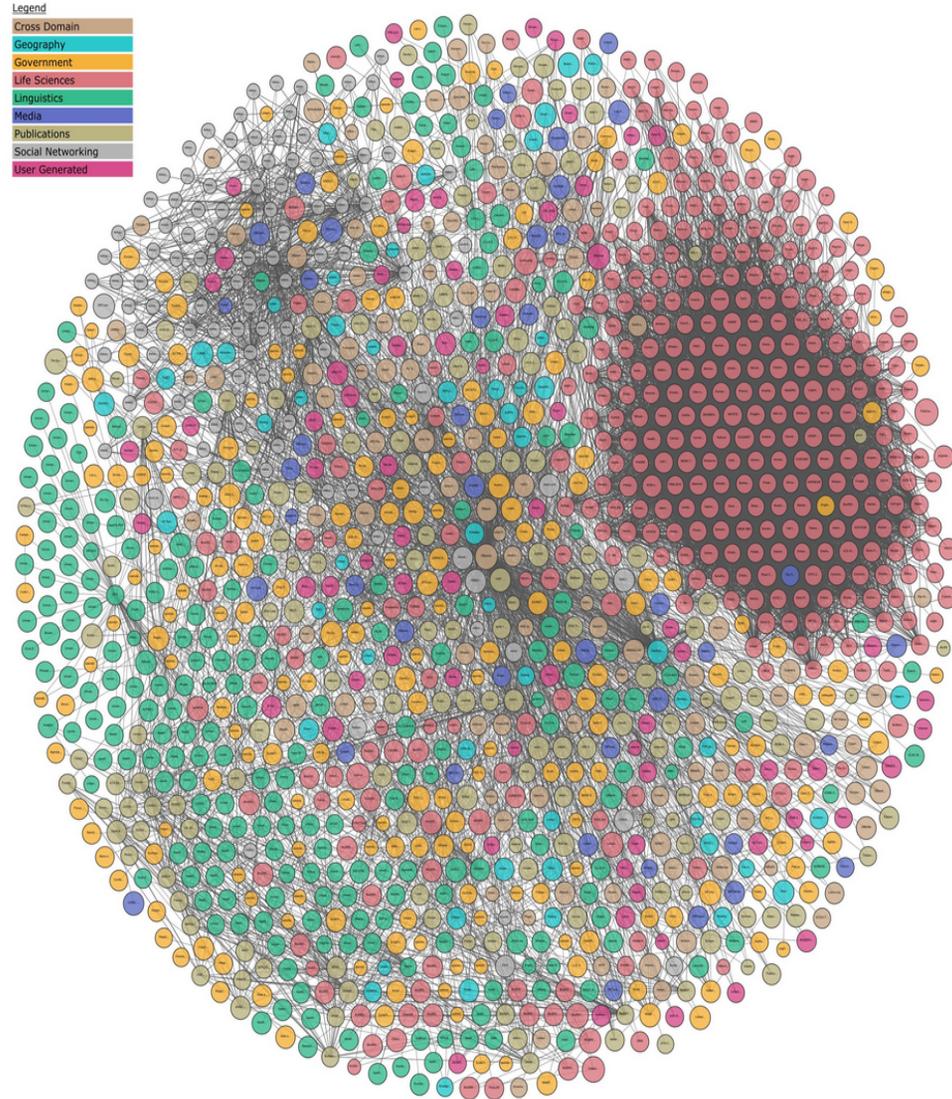
Linked Open Data



Linked Open data: LOD, 2010

Linked Open Data:
Representation of relations
(2009)

1. https://commons.wikimedia.org/wiki/File:Lod-datasets_2009-07-14.svg
2. https://commons.wikimedia.org/wiki/File:Lod-datasets_2010-09-22_colored.png



The Linked Open Data Cloud from lod-cloud.net



Linked Open Data: Representation of relations (October 2024)

The screenshot shows the Wikidata Query interface. At the top, there are navigation buttons for 'Examples', 'Help', and 'Tools', along with a language selector set to 'English'. The main area is divided into a 'Query Helper' on the left and a SPARQL query editor on the right. The 'Query Helper' shows a filter for 'instance of' with the value 'programming language' and a 'Limit 100' option. The SPARQL query is as follows:

```
1 SELECT ?languageLabel (YEAR(?inception) as ?year)
2 WHERE
3 {
4   #instances of programming language
5   ?language wdt:P31 wd:Q9143;
6             wdt:P571 ?inception;
7             rdfs:label ?languageLabel.
8   FILTER(lang(?languageLabel) = "en")
9 }
10 ORDER BY ?year
11 LIMIT 100
```

Below the query editor, there are buttons for 'Code', 'Download', and 'Link'. The 'Download' button is open, showing options for 'JSON file', 'JSON file (verbose)', 'TSV file', 'TSV file (verbose)', and 'CSV file'. The results table shows the following data:

languageLabel
ENIAC coding system
ENIAC Short Code
Von Neumann and Goldstine graphing system

At the bottom left, there is a 'Web Interface' link.

SPARQL Queries

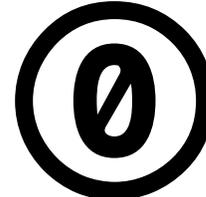
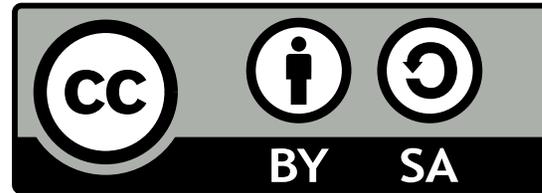
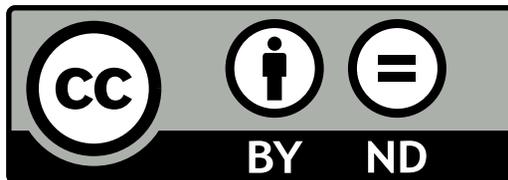
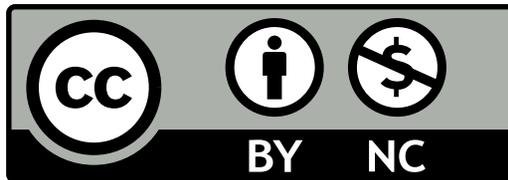
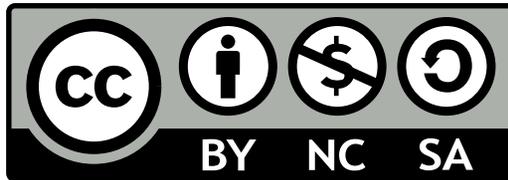
Identifiers of annual conferences.

```
SELECT ?annualconference WHERE {  
  
  ?annualconference wdt:P31 wd:Q56220509.  
  
}
```

What happens if we can choose a selection of features from Wikidata? And the answer is Wikibase.

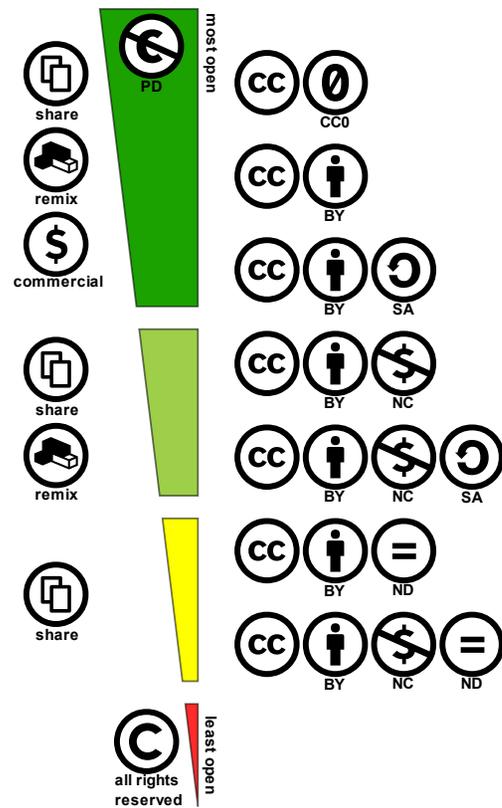
- **Open and Free:** Choose your own license.
- **Collaborative:** Choose the people or institutions you want to collaborate with.
- **Multilingual:** Choose the languages you want to work with.
- **Self-hosted Instance:** Create your own local self-hosted (and private) Wikibase instance.
- **Linked and Structured:** Information is interconnected and structured according to the RDF model.





Examples: Creative Commons

(CC)



Examples: Creative Commons

(CC)

FOSDEM - Relevant Properties

Property	Value
instance of (P31)	annual conference (Q56220509)
	convention series (Q15900647)
	recurring event (Q15275719)
inception (P571)	3 February 2001
location (P276)	Université Libre de Bruxelles (Q574606)
continent (P30)	Europe (Q46)
country (P17)	Belgium (Q31)
video	Link to FOSDEM website



[Main page](#)
[Recent changes](#)
[Random page](#)
[Help about MediaWiki](#)

Tools
[What links here](#)
[Related changes](#)
[Special pages](#)
[Printable version](#)
[Permanent link](#)
[Page information](#)
[Concept URI](#)

Wikibase
[New Item](#)
[New Property](#)
[New Lexeme](#)
[New Schema](#)
[All Properties](#)
[Query Service](#)
[Cradle](#)
[QuickStatements](#)

In other languages
[Add links](#)

Item [Discussion](#)

[Read](#)

[View history](#)

Rethinking the command-line (Q672)

web page

[In more languages](#)

[Configure](#)

Language	Label	Description	Also known as
English	Rethinking the command-line	web page	
French	No label defined	page web	

Statements

title Rethinking the command-line (English)
[0 references](#)

language of work English
[0 references](#)

instance of web page
[0 references](#)

creation time 3 June 2015
[0 references](#)

Web Interface



Accueil
Modifications récentes
Page au hasard
Aide concernant
MediaWiki

Outils
Pages liées
Suivi des pages liées
Pages spéciales
Version imprimable
Lien permanent
Informations sur la page
URI du concept

Wikibase
New Item
New Property
New Lexeme
New Schema
All Properties
Query Service
Cradle
QuickStatements

Dans d'autres langues
[Ajouter des liens](#)

Web Interface

Item [Discussion](#)

Lire [Voir l'historique](#)

Programmation en C (2024-2025) (Q1714)

page web

[Plus de langues](#)

[Configurer](#)

Langue	Libellé	Description	Également connu comme
français	Programmation en C (2024-2025)	page web	
anglais	Pas de libellé défini	web page	

Déclarations

title *anglais* Programmation en C (2024-2025) (français)

[0 référence](#)

language of work *anglais* French *anglais*

[0 référence](#)

nature de l'élément web page *anglais*

[0 référence](#)

œuvre complète disponible à l'URL <https://johnsamuel.info/fr/enseignement/cours/2024/C/index.html>

[0 référence](#)



Main page
Recent changes
Random page
Help about MediaWiki

Tools

What links here
Related changes
Special pages
Printable version
Permanent link
Page information
Concept URI

Wikibase

New Item
New Property
New Lexeme
New Schema
All Properties
Query Service
Cradle
QuickStatements

In other languages

Add links

Web Interface

Property [Discussion](#) [Read](#) [View history](#)

title ^(P27)

published name of a work, such as a newspaper article, a literary work, piece of music, a website, or a performance work

[In more languages](#)

[Configure](#)

Language	Label	Description	Also known as
English	title	published name of a work, such as a newspaper article, a literary work, piece of music, a website, or a performance work	
French	No label defined	No description defined	

Data type

Monolingual text

Statements

[Wikidata property identifier](#) P1476

[0 references](#)

[exact match](#) <https://www.wikidata.org/wiki/Property:P1476>

[0 references](#)



WIKIBASE
CLOUD

[Main page](#)
[Recent changes](#)
[Random page](#)
[Help about MediaWiki](#)

Tools

[What links here](#)
[Related changes](#)
[Special pages](#)
[Printable version](#)
[Permanent link](#)
[Page information](#)
[Concept URI](#)

Wikibase

[New Item](#)
[New Property](#)

[New | ex:emp](#)

Web Interface

Property

[Discussion](#)

[Read](#)

[View history](#)

equivalent property (P2)

equivalent property in other ontologies

▼ [In more languages](#)

[Configure](#)

Language	Label	Description	Also known as
English	equivalent property	equivalent property in other ontologies	
French	propriété équivalente	No description defined	

Data type

URL

Statements



[Main page](#)
[Recent changes](#)
[Random page](#)
[Help about MediaWiki](#)

Tools
[What links here](#)
[Related changes](#)
[Special pages](#)
[Printable version](#)
[Permanent link](#)
[Page information](#)
[Concept URI](#)

Wikibase
[New Item](#)
[New Property](#)
[New Lexeme](#)
[New Schema](#)
[All Properties](#)
[Query Service](#)
[Cradle](#)
[QuickStatements](#)

[In other languages](#)
[Add links](#)

Web Interface

Property [Discussion](#) [Read](#) [View h](#)

equivalent class (P1)

equivalent class in other ontologies

[In more languages](#)

[Configure](#)

Language	Label	Description	Also known as
English	equivalent class	equivalent class in other ontologies	
French	classe équivalente	No description defined	

Data type

URL

Statements

equivalent class  <https://www.wikidata.org/wiki/Property:P1709>
[0 references](#)

Wikidata property identifier  P1709
[0 references](#)

Query Service: jsamwrites.wikibase.cloud

Examples

More tools

```
1 SELECT ?property ?label WHERE {  
2   ?property rdf:type wikibase:Property;  
3   rdfs:label ?label.  
4   FILTER(lang(?label)="en")  
5 }
```



Web Interface

SPARQL queries

Complete list of My Properties.

```
PREFIX wikibase: <http://wikiba.se/ontology#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

SELECT ?property ?label WHERE {
  ?property rdf:type wikibase:Property;
  rdfs:label ?label.
  FILTER((LANG(?label)) = "en")
}
```

Requêtes SPARQL

List of courses sorted by academic year

```
PREFIX wd: <https://jsamwrites.wikibase.cloud/entity/>
PREFIX wdt: <https://jsamwrites.wikibase.cloud/prop/direct/>

SELECT DISTINCT ?item ?title ?url ?year WHERE {
  ?item wdt:P3 ?url;
  wdt:P27 ?title;
  wdt:P10 ?time;
  wdt:P29 wd:Q1043.
  BIND(YEAR(?time) AS ?year)
}
ORDER BY DESC (?year)
```

Query Service: jsamwrites.wikibase.cloud

Examples

More tools



```
1 PREFIX wdjs: <https://jsamwrites.wikibase.cloud/entity/>
2 PREFIX wdtjs: <https://jsamwrites.wikibase.cloud/prop/direct/>
3
4 SELECT ?label (lang(?label) as ?language){
5   wdjs:P26 wdtjs:P5 ?value. # Wikidata idenitifier of Official website
6
7   # Convert ?value to a Wikidata URI
8   BIND(IRI(CONCAT("http://www.wikidata.org/entity/", STR(?value))) AS ?wikidataEntity)
9
10  # Federated query to Wikidata
11  SERVICE <https://query.wikidata.org/sparql> {
12    ?wikidataEntity rdfs:label ?label. # Get all labels
13  }
14 }
15
```



Web Interface



Your own Wikibase in five minutes

Simple & Secure

TRY IT OUT



A tour of Wikibases in the cloud

Have you ever wanted to take a look at other Wikibases, so you can see how other folks have set them up? Here's a list of other instances on Wikibase Cloud for your information and inspiration.

Sort: exclude empty Wikibases

744 results

- | | | | |
|---|---|---|---|
|  Doelgericht Digitaal Transformereren
No. of pages: 880923 |  biodiversity citizen science
No. of pages: 578984 |  wikifod
No. of pages: 469132 |  geokb
No. of pages: 454247 |
|  FrameNet Akkadian 257
No. of pages: 186991 |  Kranditri 0.1
No. of pages: 151642 |  Internet Domains
No. of pages: 311084 |  Podiumdocumentatie Vlaams Theaterinstituut
No. of pages: 246085 |
|  wikidp
No. of pages: 104925 |  FrameNet Akkadian 267
No. of pages: 104347 |  Semantic Name Authority Repository Cymru
No. of pages: 131228 |  Wikibase Cloud Status
No. of pages: 91825 |
|  MLV
No. of pages: 88321 |  Datenbank Nordhausen
No. of pages: 86804 |  DS 2.0 Catalog
No. of pages: 63673 |  TRE Test
No. of pages: 73092 |

- **Key Takeaways:**

- Wikibase offers structured, self-hosted data management
- Combines Wikidata's strengths with customization and control
- Seamless integration with global entities and linked open data
- Wikibase for personal or institutional data needs

- **Next Steps:**

- Explore integration possibilities with other sources
- Leverage open data while maintaining independence

Online Resources

- Wikidata <https://www.wikidata.org/>
- Wikibase <https://wikiba.se/>
- Wikibase Cloud <https://www.wikibase.cloud/>
- A tour of Wikibases in the cloud <https://www.wikibase.cloud/discovery>
- The Linked Open Data Cloud <https://lod-cloud.net/>
- Resource Description Framework (RDF) <https://www.w3.org/RDF/>
- Resource Description Framework https://en.wikipedia.org/wiki/Resource_Description_Framework
- Wikimedia Commons

Thank You!

From Open Collaboration to Customized Control: Transitioning from Wikidata to Wikibase

John Samuel

FOSDEM 2025

Track: Collaboration and Content Management

February 1, 2025

Website: <https://johnsamuel.info>

