

LINKED (OPEN) DATA

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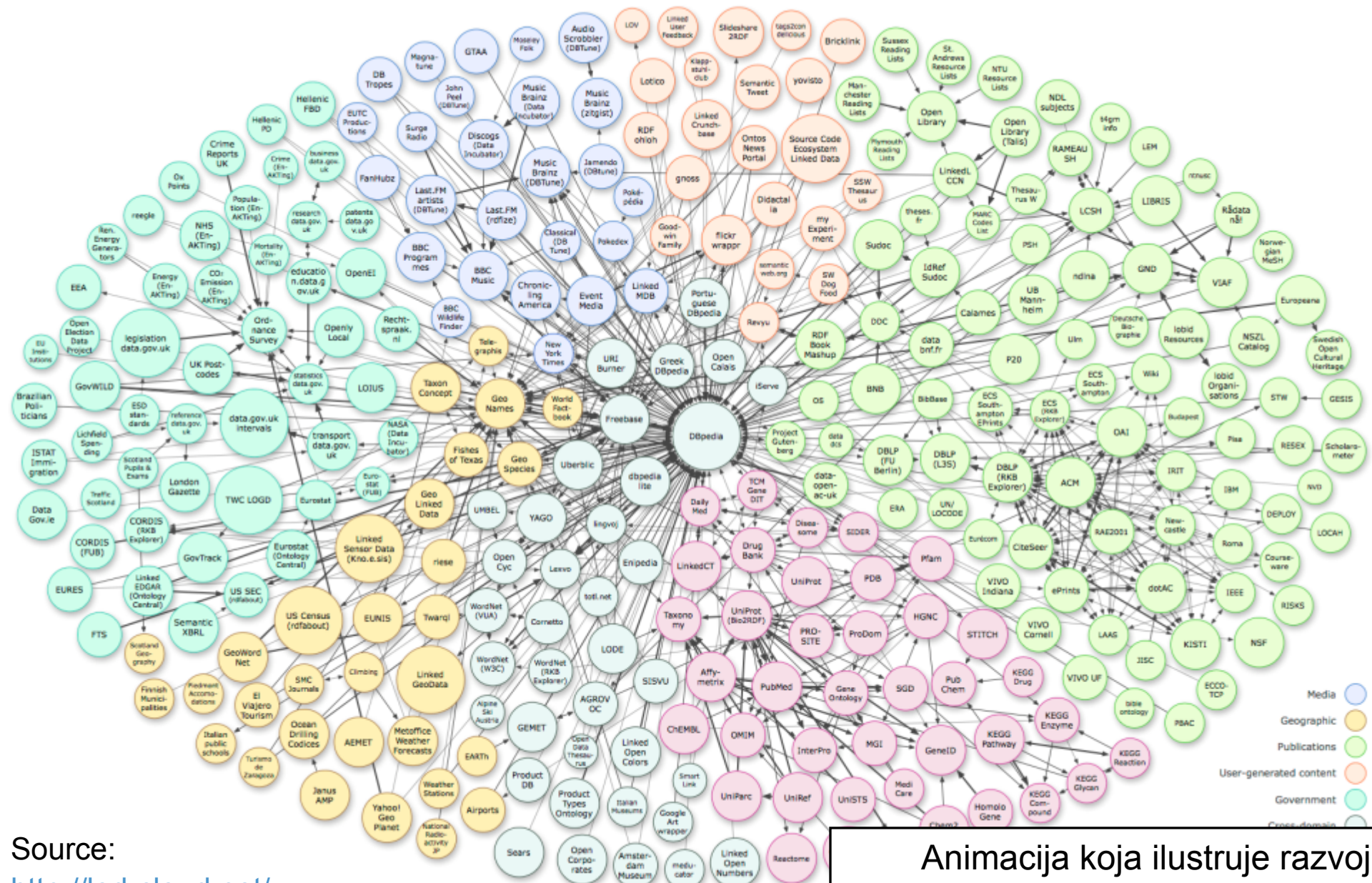
5 STAR LINKED OPEN DATA



Linked Open Data star scheme by example:

<http://5stardata.info/>

LINKED OPEN DATA CLOUD



Source:
<http://lod-cloud.net/>

Animacija koja ilustruje razvoj
LOD Cloud-a: <http://goo.gl/49p9Eh>

Strukturirani podaci estrahovani iz Wikipedia-e

<http://en.wikipedia.org/wiki/Belgrade>

```
<http://dbpedia.org/resource/Belgrade>  
  dbpprop:officialName "Belgrade" ;  
  dbpprop:nativeName "Београд" ;  
  dbpedia:country dbpedia:Serbia ;  
  dbpprop:leaderTitle  
    dbpedia:Mayor_of_Belgrade ;  
  dbpprop:leaderName "Dragan Đilas";  
  dbpedia:areaUrban "359.96" ;  
  dbpedia:areaMetro "3,222.68" ;  
  ...
```

Belgrade
Београд
Beograd

— City —



Flag



Coat of arms



Location within Europe and Serbia

Coordinates: 44°49′N 20°28′E﻿ / ﻿44.817°N 20.467°E﻿ / 44.817; 20.467

Country	Serbia
District	City of Belgrade
Municipalities	17
Establishment	Prior to 279 B.C. (Singidunum) ^[1]
Government	
 • Mayor	Dragan Đilas (DS)
 • Ruling parties	DS/SPS-PUPS
Area ^[2]	
 • Urban	359.96 km ² (138.98 sq mi)
 • District	3,222.68 km ² (1,244.28 sq mi)

GEONAMES ([HTTP://WWW.GEONAMES.ORG/](http://www.geonames.org/))

- Otvorena, globalna geo. baza znanja - Wikipedia za geo podatke/znanje
- Omogućuje odgovore na pitanja tipa:
 - Gde se nalazi neko mesto?
 - Koje su njegove koordinate?
 - Kojoj regiji ili provinciji mesto pripada?
 - Koji grad ili adresa su u blizini zadate geografske širine i dužine?

GEONAMES ([HTTP://WWW.GEONAMES.ORG/](http://www.geonames.org/))

```
<http://sws.geonames.org/3020251/>
  rdf:type geo:Feature ;
  geo:name "Embrun"@fr ;
  geo:alternateName "Embrun, Hautes-Alpes"@fr ;
  geo:inCountry <http://www.geonames.org/countries/#FR> ;
  geo:population "7069" ;
  geo:postalCode "05200" ;
  wgs84_pos:lat "44.5667" ;
  wgs84_pos:long "6.5000" ;
  geo:locationMap
    <http://www.geonames.org/3020251/embrun.html> ;
  owl:sameAs <http://rdf.insee.fr/geo/COM_05046> ;
  geo:wikipediaArticle
    <http://en.wikipedia.org/wiki/Embrun> ;
  ...
```

FREEBASE.COM

- Otvorena baza enciklopedijskog znanja – “strukturirana Wikipedia”
- Znanje koje sadrži dolazi iz dva glavna izvora:
 - Znanje importovano iz različitih online izvora
 - npr., CIA Factbook, Wikipedia
 - Znanje koje dodaju korisnici
 - User-friendly proces dodavanja novih činjenica
- Osnova baze znanja na kojoj je zasnovan Google Knowledge Graph

Novak Djokovic

Scroll to:

People

Tennis

Olympic athlete

Sports

Film actor

More...



Novak Djokovic (Serbian: Новак Ђоковић or Novak Đoković; pronounced [nɔ̌ʋak dʒòːkɔʋitɕ] (listen); born 22 May 1987) is a Serbian professional tennis player and a former World No. 1. As of 6 August 2012 he is ranked World No. 2. He has won five Grand Slam singles titles: the 2008, 2011 and 2012 Australian Open, the 2011 Wimbledon Championships, and the 2011 US Open. By winning three Majors in 2011, Djokovic became the sixth male player in the o... [More](#)

[W](#) [Read article at Wikipedia](#)

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News for novak djokovic



[Novak Djokovic calls Davis Cup court worst he has played on – video](#)

The Guardian - 1 day ago

Novak Djokovic has voiced concerns about the state of the court to be used for Serbia's Davis Cup tie with Belgium.

[Novak Djokovic revels in 'incredible' win over Andy Murray](#)

BBC Sport - 6 days ago

[Novak Djokovic blasts 'dangerous' clay court](#)

Mid-Day - 1 day ago

[Novak Djokovic | The official website](#)

www.novakdjokovic.rs/

Official Website provides up-to-date information with pictures, event schedules, statistics, forum, online shop, news and biography.

[Novak Djokovic - Wikipedia, the free encyclopedia](#)

en.wikipedia.org/wiki/Novak_Djokovic

Novak Djokovic is a Serbian professional tennis player who is currently ranked the World No. 1 by the ATP and is ranked the year-end World No. 1 for both 2011 ...

[Statistics - 2011 - 2012 - Marko Djokovic](#)

[Tennis - ATP World Tour - Tennis Players – Novak Djokovic](#)

www.atpworldtour.com/Tennis/Players/.../Novak-Djokovic.asp...

Named recipient of Arthur Ashe Humanitarian of Year in 2012 for Novak Djokovic

Google's Knowledge Graph

Novak Djokovic



Novak Djokovic is a Serbian professional tennis player who is currently ranked the World No. 1 by the ATP and is ranked the year-end World No. 1 for both 2011 and 2012. He is considered by many to be one of the greatest tennis players of all time. [Wikipedia](#)

Born: May 22, 1987 (age 25), Belgrade

Height: 6' 2" (1.88 m)

Grand slams: 6

Weight: 180.8 lbs (82 kg)

Parents: Dijana Djokovic, Srđan Djokovic

Siblings: Marko Đoković, Djordje Djokovic

People also search for



Roger Federer



Rafael Nadal



Andrew Murray



Juan Martin Del Potro



David Ferrer

[Feedback](#) / [More info](#)

OSNOVNA IDEJA IZA
LINKOVANIH OTVORENIH PODATAKA

Transformisati
World Wide Web (WWW)
u
Gigantic Global Graph (GGG)

OSNOVNI PRINCIPI LINKOVANJA PODATAKA NA WEB-U

1) Koristiti URI za jedinstvenu identifikaciju entiteta/objekata/pojava/...

ISBN: 9781775411840

2) Koristiti HTTP URI tako da se informacije o entitetima učine dostupnim posredstvom Web-a

```
<http://www.worldcat.org/title/north-and-south/oclc/606818482>
```

3) Opisati entitete korisnim podacima primenom RDF modela; u te svrhe, preporučuje se korišćenje postojećih RDF vokabulara

```
<http://www.worldcat.org/title/north-and-south/oclc/606818482>  
rdf:type schema:Book
```

4) Uspostaviti imenovane linkove ka drugim entitetima/objektima/pojavama...

```
<http://www.worldcat.org/title/north-and-south/oclc/606818482>  
schema:author <http://viaf.org/viaf/39377536/>
```

LINKED OPEN VOCABULARIES

- RDF vokabulari / ontologije kojima su opisani podaci iz LOD Cloud-a
- Pregled vokabulara i njihovih relacija:
<http://lov.okfn.org/dataset/lov/index.html>

DODATNI PRIMERI OTVORENIH LINKOVANIH PODATAKA

- Open Government Data
 - USA government data: <http://data.gov>
 - UK government data: <http://data.gov.uk>
 - [World Map of Open Government Data Initiatives](#)
- Linked Clean Energy Data: <http://data.reegle.info/>

DODATNI PRIMERI OTVORENIH LINKOVANIH PODATAKA

- Europeana (evropska kulturna baština):
<http://pro.europeana.eu/linked-open-data>
- Ugledne svetske biblioteke
 - [Library of Congress](#)
 - [British Library](#)
 - [ZBW German National Library of Economics](#)
- [World Catalog](#)
 - najveći svetski online katalog knjiga i rukopisa iz preko 72,000 biblioteka iz celog sveta

PUBLIKOVANJE LINKOVANIH (OTVORENIH) PODATAKA

Različiti oblici publikovanja podataka :

- Umetanje podataka u Web stranice
- Pristup podacima preko SPARQL tačkaka pristupa (SPARQL endpoints)
- Pristup preko [Linked Data APIs](#)

PREPORUKE

Uvodni materijali (slides, webcasts, e-books,..) na temu Linked Data (fokus na praktičnu primenu):

<http://euclid-project.eu/resources/learning-materials>

Linked Data Glossary

<http://www.w3.org/TR/ld-glossary/>

Hello Open Data World – tutorial na temu Linked Data, Web of Data, i relevantnih tehnologija

<http://www.slideshare.net/terraces/hello-open-world-semtech-2009>