
CAPACITACIÓN
DATOS ABIERTOS EN LA WEB
¡PURA VIDA!
NEWTON CALEGARI
BERNADETTE LOSCIO
CEWEB.BR

NEWTON CALEGARI

CEWEB.BR
NEWTONCALEGARI.COM.BR

AUGUST/2018

WEB SEMÁNTICA Y DATOS ENLAZADOS

Gobierno Abierto

Participación universal

Reutilización y redistribución

Datos Abiertos

No poner información personal

Disponibilidad y acceso

Licencia abierta

GOBIERNO ABIERTO

Hay diferentes maneras de hacer un **Gobierno Abierto**:

convocatórias, proyectos con la comunidad, datos...

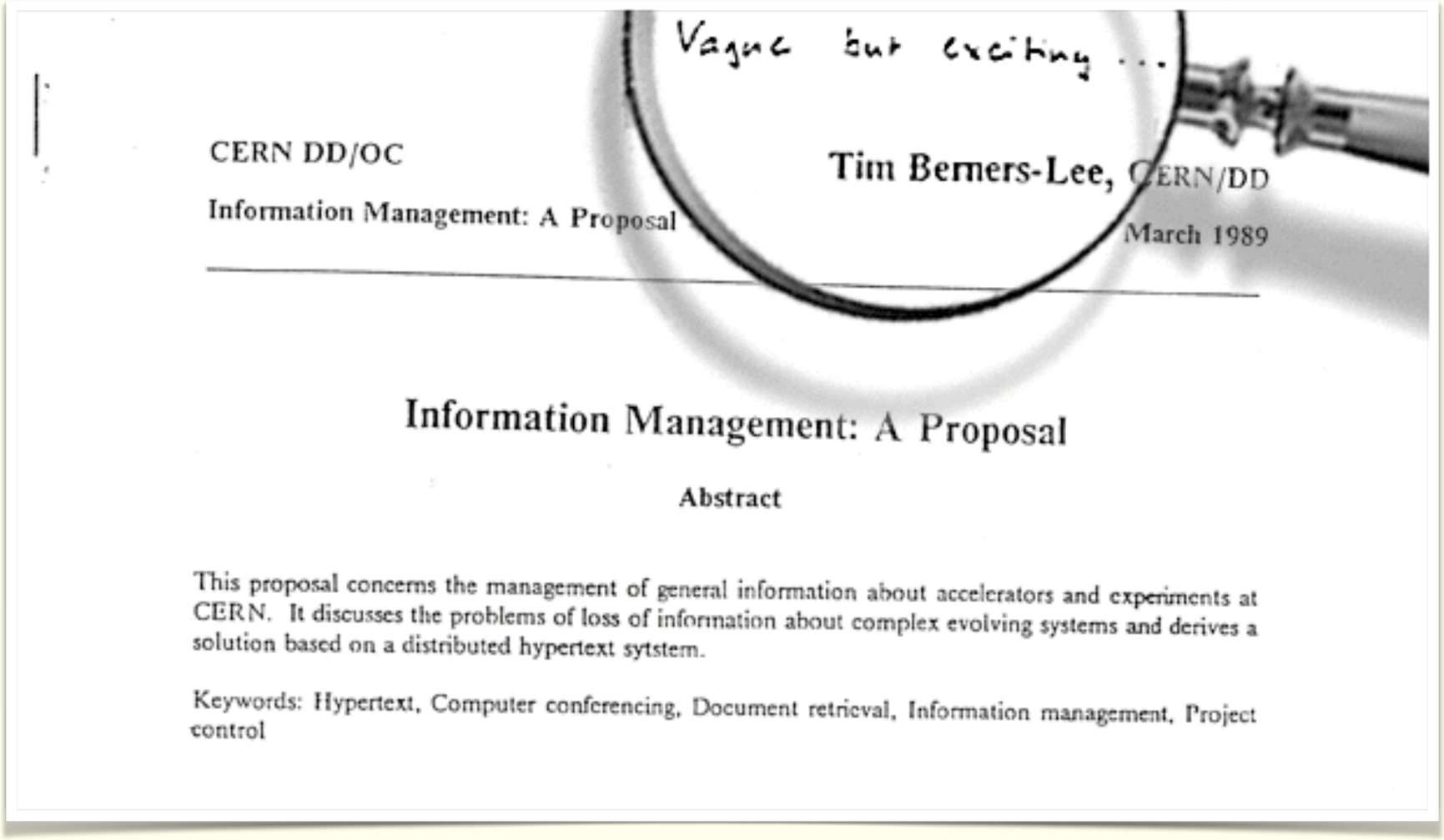
GOBIERNO ABIERTO

La importancia de la **Web**
para hacer **Gobierno Abierto**

La Web es perfecta para eso!

World Wide Web

WORLD WIDE WEB



Vague but exciting ...

CERN DD/OC

Information Management: A Proposal

Tim Berners-Lee, CERN/DD

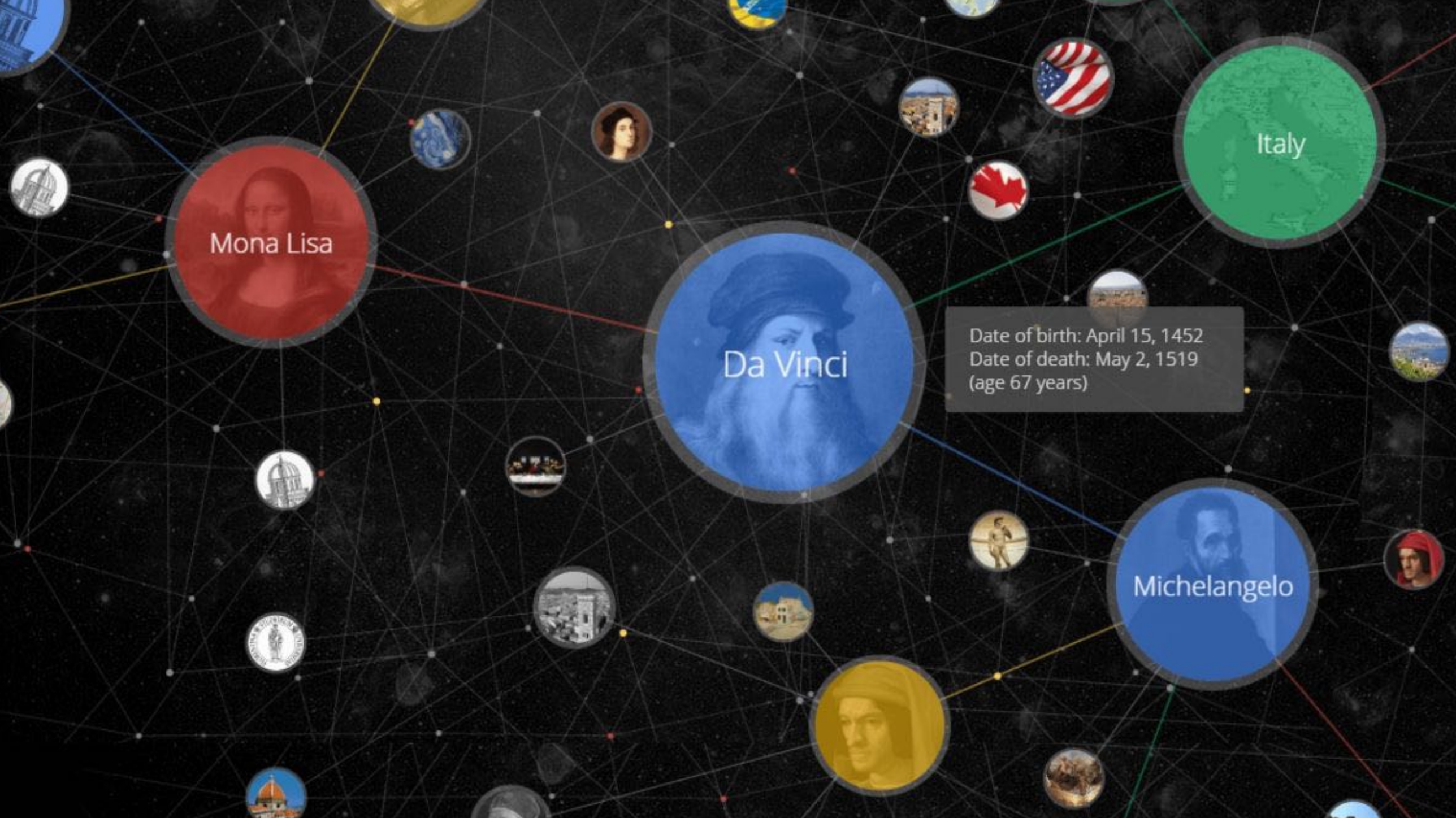
March 1989

Information Management: A Proposal

Abstract

This proposal concerns the management of general information about accelerators and experiments at CERN. It discusses the problems of loss of information about complex evolving systems and derives a solution based on a distributed hypertext sytstem.

Keywords: Hypertext, Computer conferencing, Document retrieval, Information management, Project control


Mona Lisa
Da Vinci
Italy
Michelangelo
Date of birth: April 15, 1452
Date of death: May 2, 1519
(age 67 years)

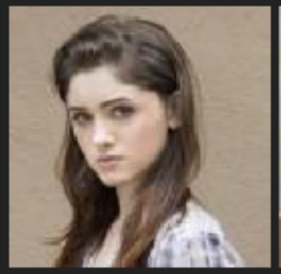
elenco stranger things

Todas | Notícias | Vídeos | Imagens | Shopping | Mais | Ferramentas de pesquisa

Stranger Things / Elenco


Winona Ryder
Joyce


Millie Brown
Eleven


Natalia Dyer
Nancy


Charlie Heaton
Jonathan


David Harbour
Chief Hopper


Gaten Matarazzo
Dustin


Caleb McLaughlin
Lucas


Noah Schnapp
Will


Finn Wolfhard
Mike

Matthe
Dr. Mart

Stranger Things - Série 2016 - AdoroCinema
www.adorocinema.com › Séries › Melhores séries › Todas as séries › Séries Drama
Stranger Things, uma série criada por Matt Duffer, Ross Duffer com Winona Ryder, **David Harbour**: Ambientada em Montauk, Long Island, conta a história de um garoto que desaparece misteriosamente. Enquanto a ... **Elenco Stranger Things.**

Stranger Things: Elenco da 1ª temporada - AdoroCinema
www.adorocinema.com/series/serie-19156/temporada-26101/**elenco**/
David Harbour · Millie Brown Personagem: Eleven. **Finn Wolfhard** Personagem: Mike. Caleb McLaughlin. Personagem: Lucas. **Gaten Matarazzo** Personagem: ...

Stranger Things – Wikipédia, a enciclopédia livre
https://pt.wikipedia.org/wiki/**Stranger_Things**
Ir para **Elenco** - Divorciada de seu marido Lonnie, Joyce depende fortemente de Jonathan para ajudá-la. **David Harbour** como o Delegado Jim Hopper.

Stranger Things
Seriado de ficção científica

Stranger Things é uma websérie americana dos gêneros suspense, ficção científica e terror criada pelos irmãos Matt e Ross Duffer e distribuída pela Netflix. Wikipédia

Emissora original: Netflix

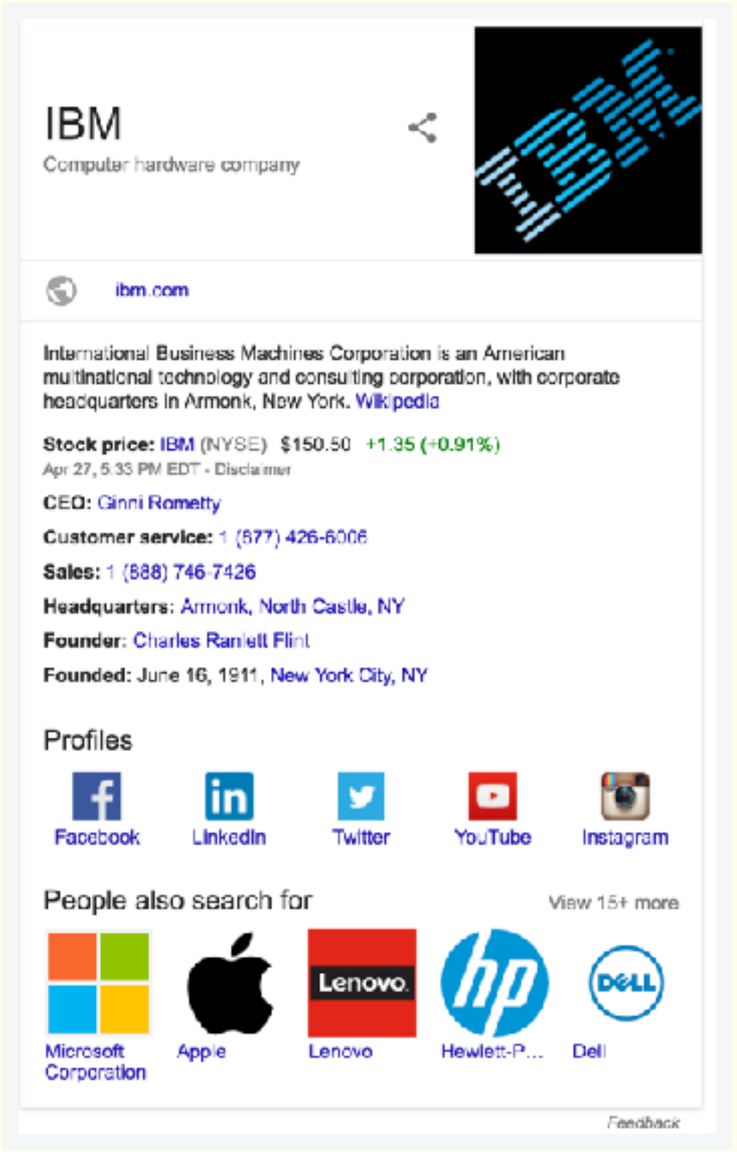
Número De Episódios: 8

EJEMPLOS DE USO DE WEB SEMÁNTICA

Rich Snippets (Reviews)

EJEMPLOS DE USO DE WEB SEMÁNTICA

Knowlede Graph Cards

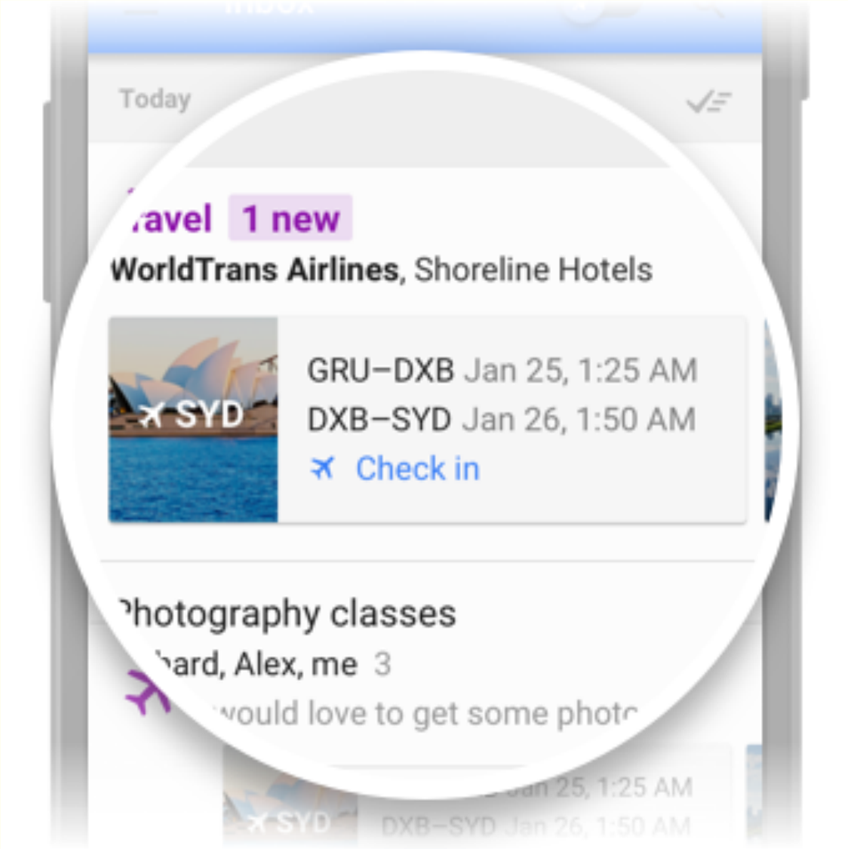


EJEMPLOS DE USO DE WEB SEMÁNTICA

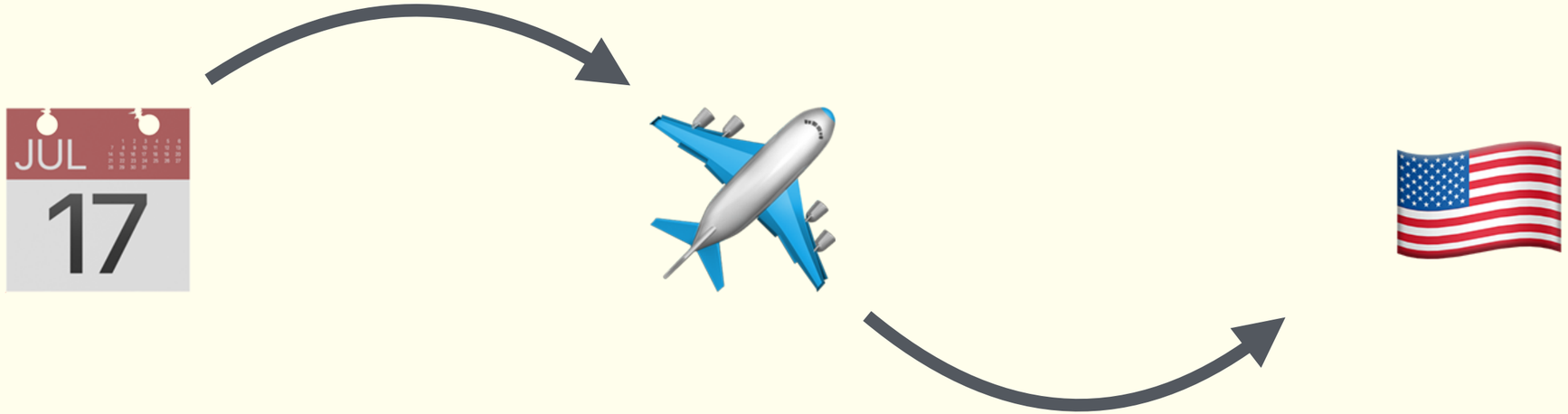
GMail Actions

EJEMPLOS DE USO DE WEB SEMÁNTICA

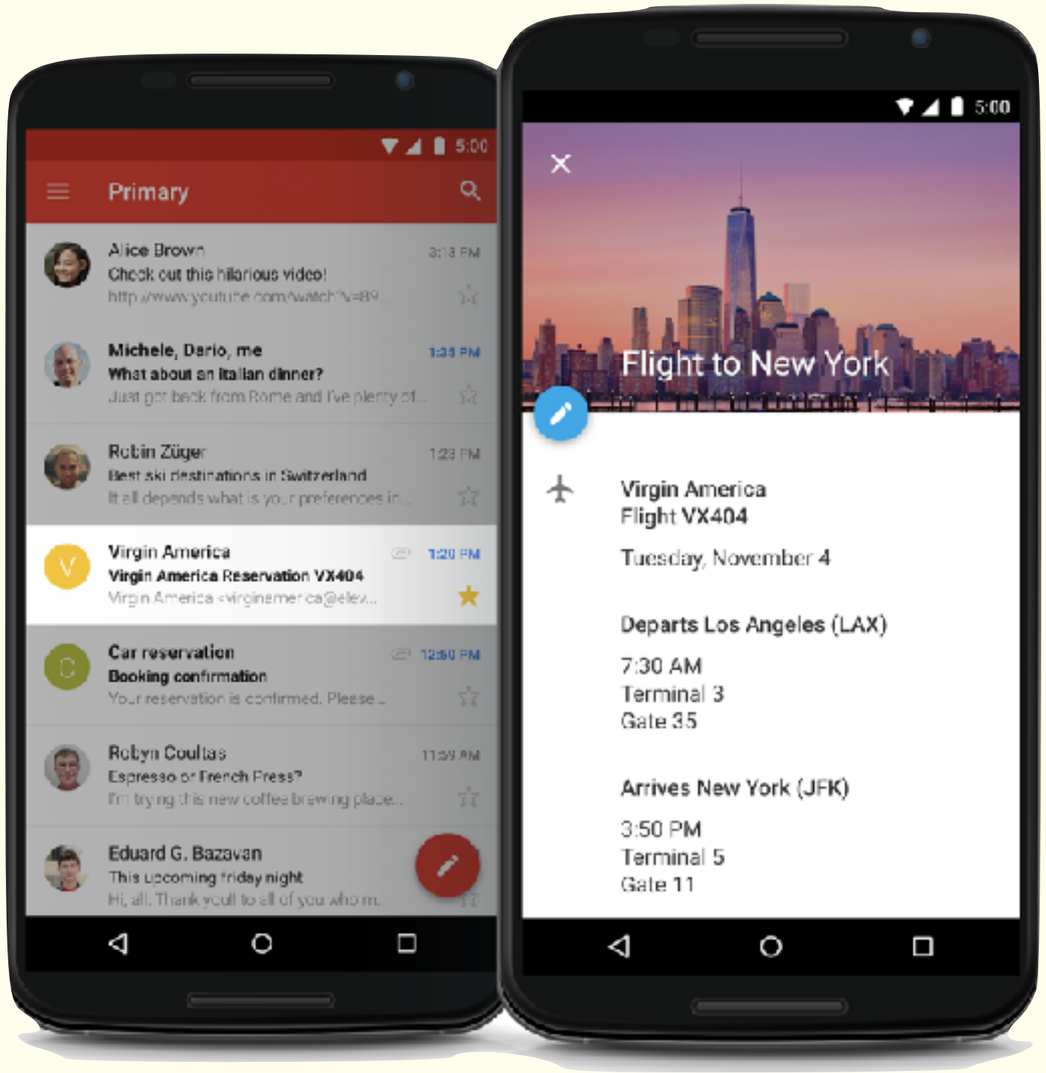
GMail Highlights



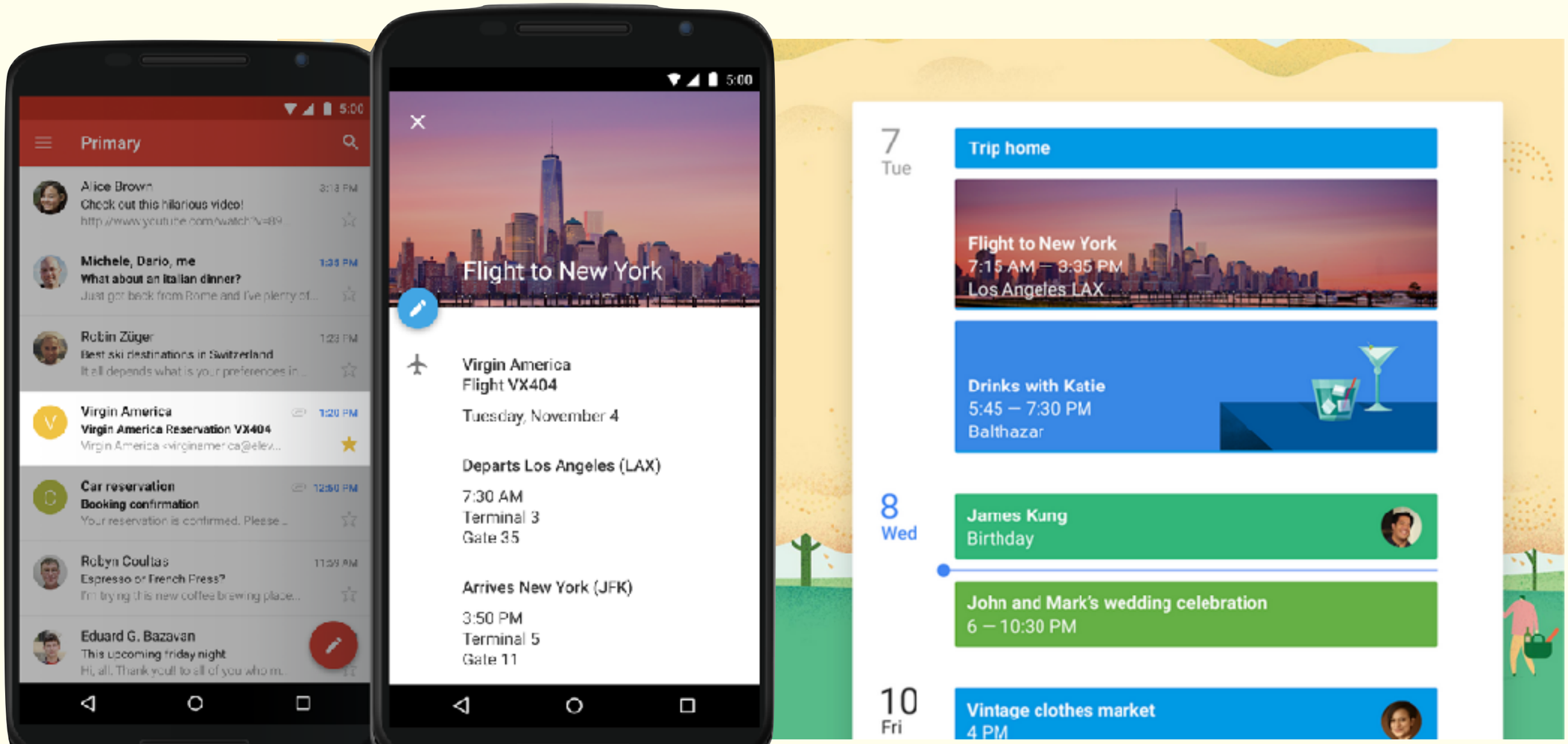
EJEMPLOS DE USO DE WEB SEMÁNTICA



EJEMPLOS DE USO DE WEB SEMÁNTICA



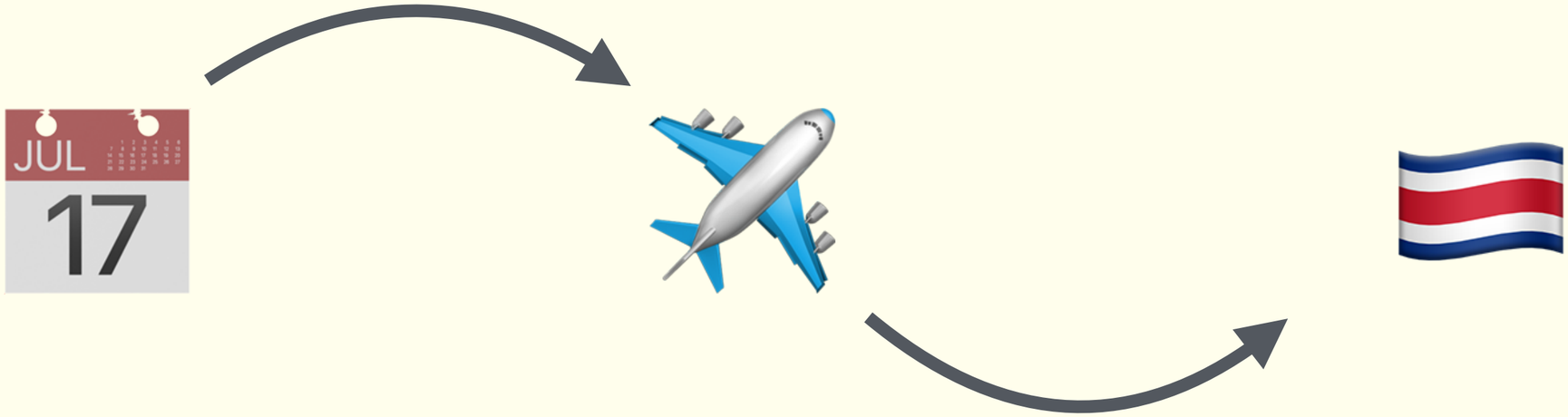
EJEMPLOS DE USO DE WEB SEMÁNTICA



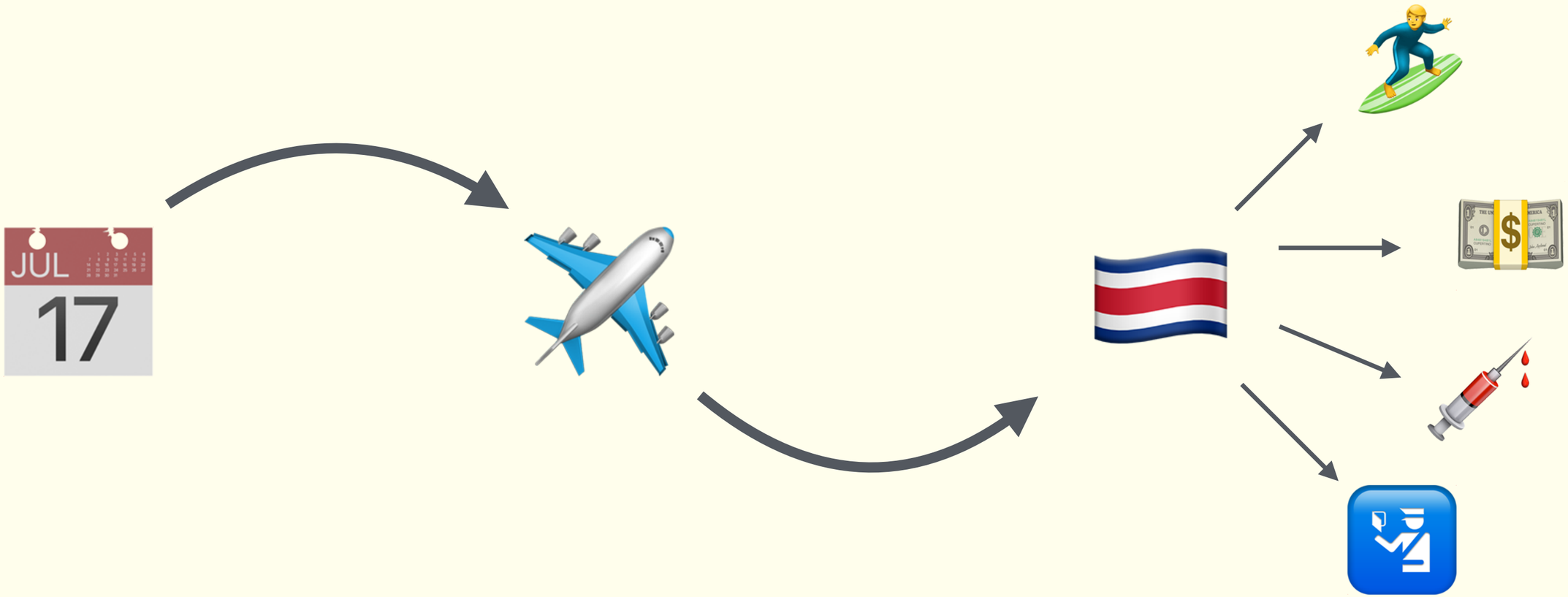
EJEMPLOS DE USO DE WEB SEMÁNTICA

```
<script type="application/ld+json">
{
  "@context": "http://schema.org",
  "@type": "FlightReservation",
  "reservationNumber": "RXJ34P",
  "reservationStatus": "http://schema.org/Confirmed",
  "underName": {
    "@type": "Person",
    "name": "Eva Green"
  },
  "reservationFor": {
    "@type": "Flight",
    "flightNumber": "110",
    "airline": {
      "@type": "Airline",
      "name": "United",
      "iataCode": "UA"
    },
    "departureAirport": {
      "@type": "Airport",
      "name": "San Francisco Airport",
```

EJEMPLOS DE USO DE WEB SEMÁNTICA



EJEMPLOS DE USO DE WEB SEMÁNTICA



EJEMPLOS DE USO DE WEB SEMÁNTICA

OMEGA WORLD TRAVEL

Omega Travel.com
Corporate Services
Fairfax, VA 22001
Phone:(866)912-5179

Tuesday, 1NOV 2016 04:49 PM EDT
Passengers: NEWTON JUNIANO CALEGARI
Agency Record Locator: 6Y2JTX

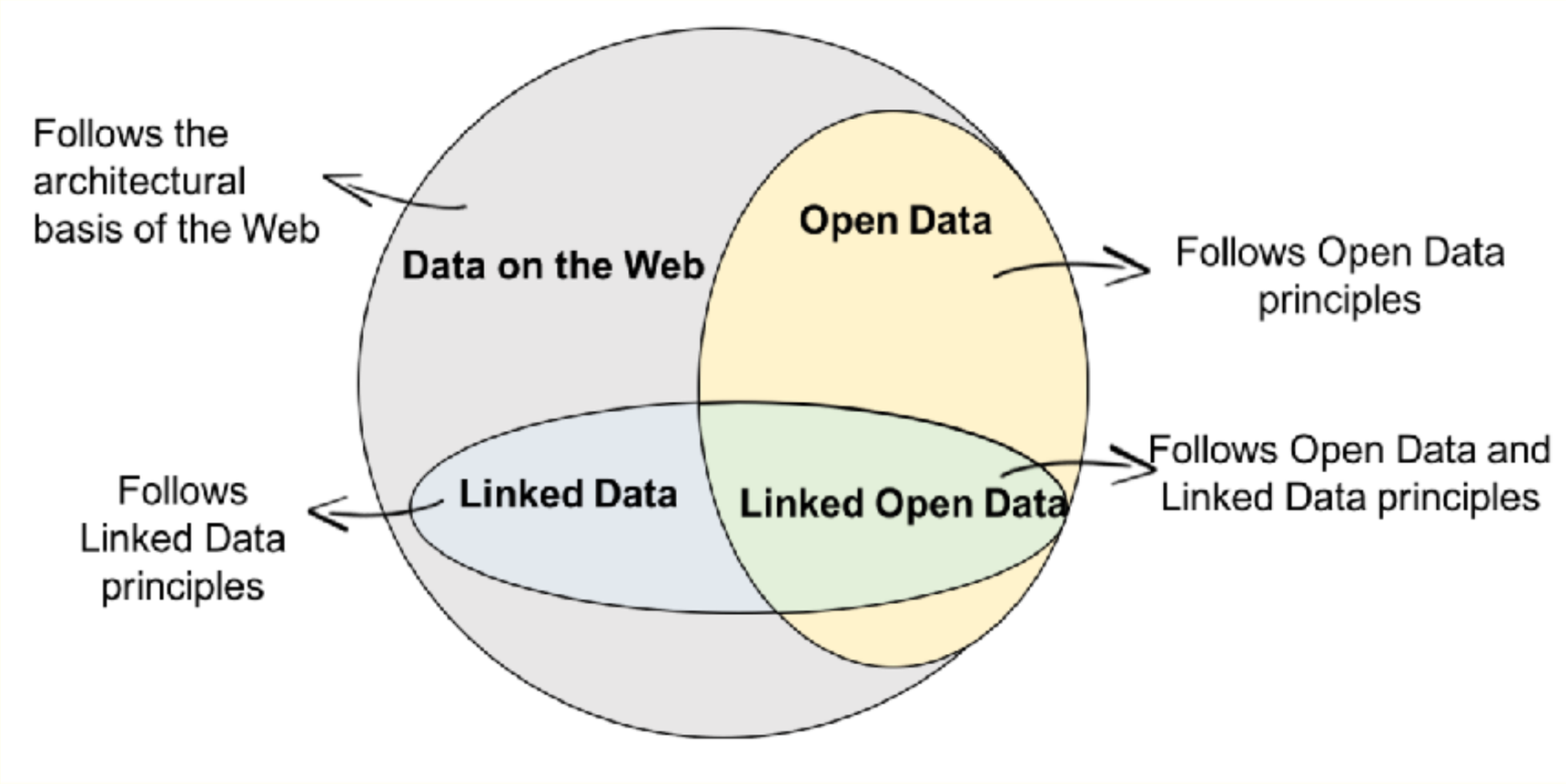
Please do not reply to this email. This is an unattended email box.
Omega World Travel must be notified within 24 hours regarding corrections. Thank you.

AIR	**Sunday, 6NOV 2016**		
	Avianca OPERATED BY TRANS AMERICAN AIRLINES F TA 918	**Flight Number:** 8646	Class: A-Coach/Economy
	From: (GRU) Sao Paulo - Guarulhos International Airport	**Depart:** 06:55 AM	
	To: (LIM) Lima, Peru	**Arrive:** 09:04 AM	
	Stops: Nonstop	Duration: 5 hour(s) 9 minute(s)	
	Seats: 39D	Status: CONFIRMED	Miles: 2160 / 3456 KM
	Equipment: Airbus A321 Jet	MEAL: BREAKFAST	
	DEPARTS GRU TERMINAL 2		
	Avianca Confirmation number is 6Y2JTX		
AIR	**Sunday, 6NOV 2016**		
	Avianca OPERATED BY LINEAS AEREAS COSTARRICEN	**Flight Number:** 824	Class: A-Coach/Economy
	From: (LIM) Lima, Peru	**Depart:** 10:50 AM	
	To: (SJO) San Jose, Costa Rica	**Arrive:** 01:50 PM	
	Stops: Nonstop	Duration: 4 hour(s) 0 minute(s)	
	Seats: 12D	Status: CONFIRMED	Miles: 1583 / 2533 KM
	Equipment: Airbus A320 Jet	MEAL: LUNCH	
	ARRIVES SJO TERMINAL M		
	Avianca Confirmation number is 6Y2JTX		

pdf

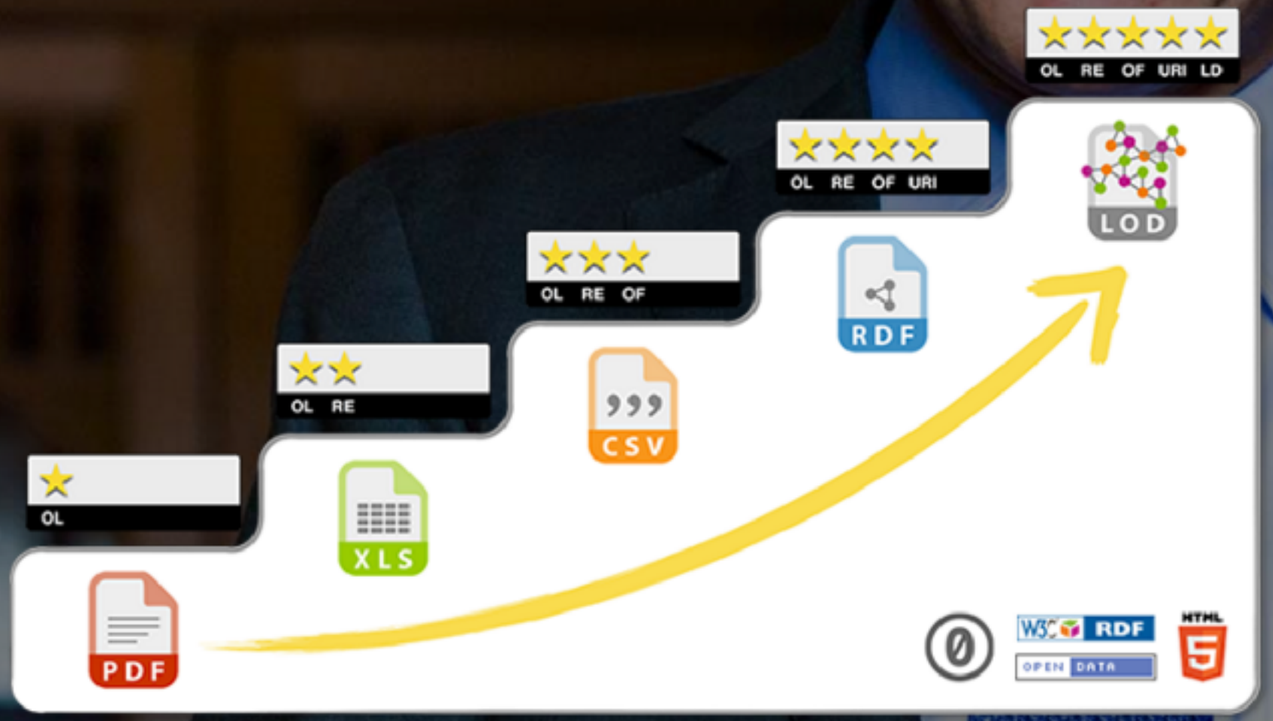
😢 😢 😢

DATOS ABIERTOS ENLAZADOS



5 ★ DATOS ABIERTOS

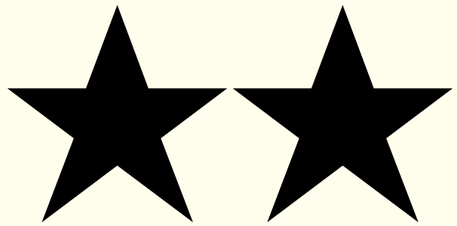
Tim Berners-Lee, el inventor de la Web e iniciador de los Datos Enlazados (Linked Data), sugirió un esquema de desarrollo de 5 estrellas para Datos Abiertos. A continuación te mostramos ejemplos para cada escalón o nivel de estrellas y te explicamos los costos y beneficios involucrados en cada caso.



5 ★ DOS DATOS ABIERTOS

licencia abierta

5 ★ DOS DATOS ABIERTOS

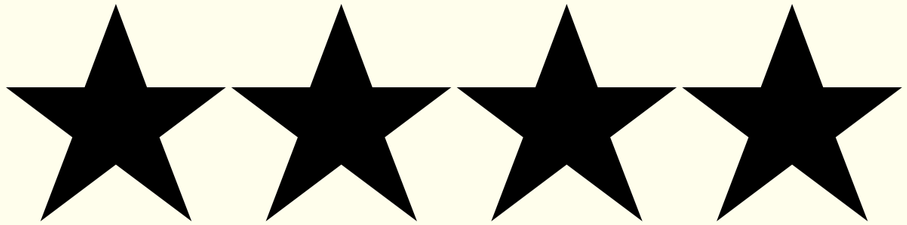


datos en forma estructurada

5 ★ DOS DATOS ABIERTOS

datos estructurados y en formato abierto

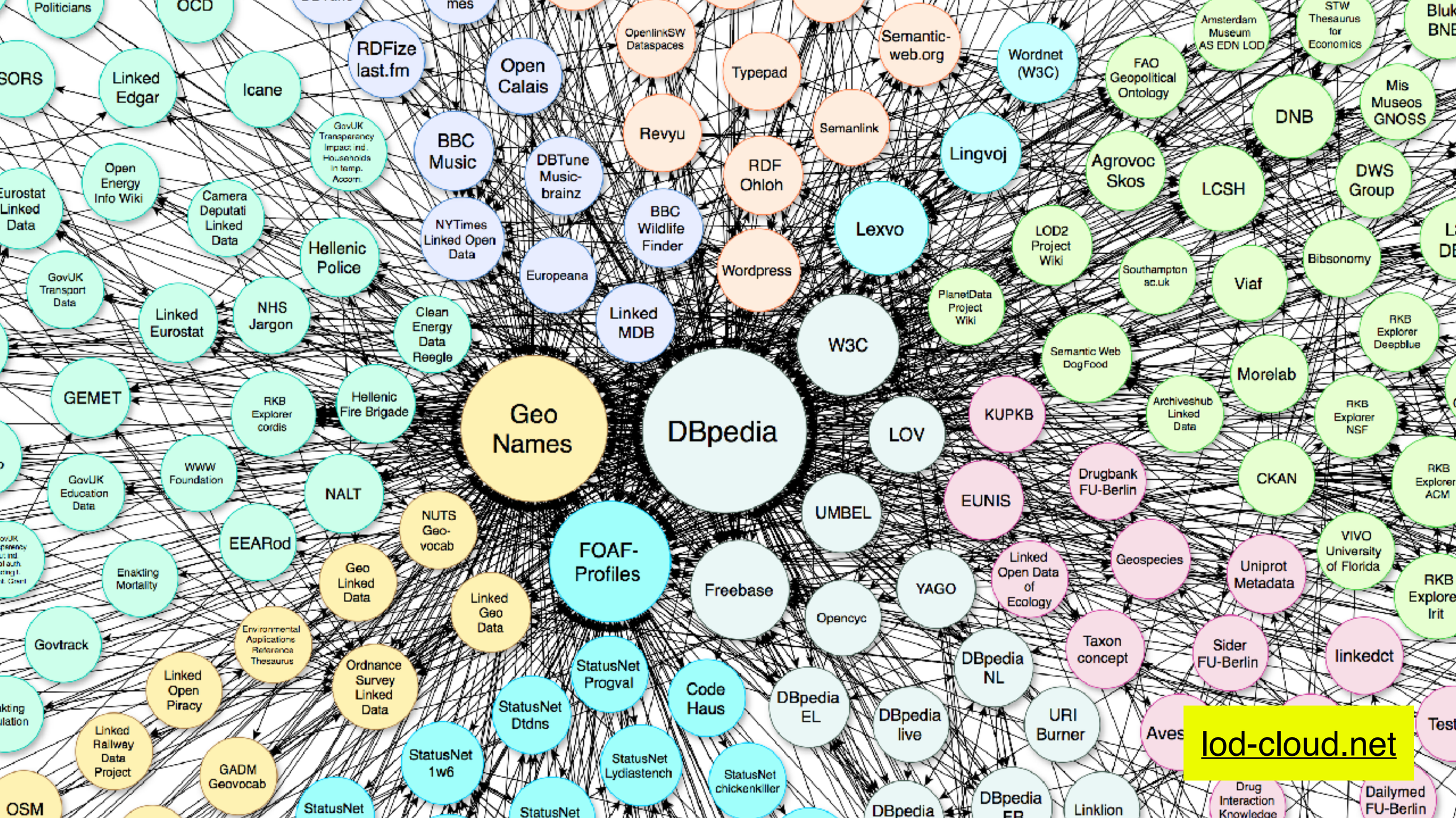
5 ★ DOS DATOS ABIERTOS



tener URIs
pueden ser compartidos en la Web

5 ★ DOS DATOS ABIERTOS

integrar y enlazar
con otros datos en la Web


Geo Names
DBpedia
FOAF-Profiles
W3C
LOV
UMBEL
Freebase
Opencyc
YAGO
Lexvo
Linked MDB
Europeana
BBC Wildlife Finder
Wordpress
Revyu
RDF Ohloh
Typepad
Semanlink
Open Calais
BBC Music
DBTune Music-brainz
NYTimes Linked Open Data
RDFize last.fm
OpenlinkSW Dataspaces
Semantic-web.org
Wordnet (W3C)
Lingvoj
FAO Geopolitical Ontology
Amsterdam Museum AS EDN LOD
STW Thesaurus for Economics
DNB
Mis Museos GNOSS
Agrovoc Skos
LCSH
DWS Group
LOD2 Project Wiki
Bibsonomy
Viaf
Southampton ac.uk
PlanetData Project Wiki
Semantic Web DogFood
Morelab
RKB Explorer Deepblue
Archiveshub Linked Data
RKB Explorer NSF
CKAN
RKB Explorer ACM
KUPKB
EUNIS
Drugbank FU-Berlin
Linked Open Data of Ecology
Geospecies
Uniprot Metadata
VIVO University of Florida
RKB Explorer Irit
Taxon concept
Sider FU-Berlin
linkedct
DBpedia NL
DBpedia live
DBpedia EL
URI Burner
Code Haus
StatusNet Progval
StatusNet Dtdns
StatusNet 1w6
StatusNet Lydiastench
StatusNet chickenkiller
Linklion
Drug Interaction Knowledge
Dailymed FU-Berlin
NUTS Geo-vocab
Geo Linked Data
Linked Geo Data
Ordnance Survey Linked Data
Environmental Applications Reference Thesaurus
Linked Open Piracy
Linked Railway Data Project
GADM Geovocab
Govtrack
Enakting Mortality
EEARod
NALT
WWW Foundation
GovUK Education Data
GEMET
RKB Explorer cordis
Hellenic Fire Brigade
Clean Energy Data Reegle
NHS Jargon
Linked Eurostat
GovUK Transport Data
Hellenic Police
Camera Deputati Linked Data
Open Energy Info Wiki
Eurostat Linked Data
Linked Edgar
Icane
GovUK Transparency Impact ind. Households in temp. Accom.
OCD
Politicians
lod-cloud.net

Web Semántica

Berners-Lee et al., 2001

WEB SEMÁNTICA

machine-readable vs. **human-readable**

WEB SEMÁNTICA

datos, agentes de software, aplicaciones

contenido para **maquinas y humanos**

LONG READ | SECRETS OF THE MOST PRODUCTIVE PEOPLE

At Sundar Pichai's Google, AI Is Everything—And Everywhere

A year into his tenure as CEO of Google, the low-key
company is, where it's going, and how it gets thing

his competitive battles. But his key ambitions are bound by a core prediction:
that the world is moving from the smartphone age into, in Pichai's phrase, an
"AI-first" era, in which Google products will **help people accomplish tasks in
increasingly sophisticated, even anticipatory ways.** The Pixel phones and Google
Home, for instance, are the first devices with embedded support for Google
Assistant, a rival to Apple's Siri and Amazon's Alexa that is designed not only to
handle straightforward commands but also fuzzier requests such as "Play that

WEB SEMÁNTICA

"The Semantic Web is an extension of the current web in which **information is given well-defined meaning**, better enabling computers and people to work in cooperation."

Tim Berners-Lee, James Hendler, Ora Lassila
The Semantic Web, Scientific American, May 2001

EXCLUSIVE: WARP DRIVE UNDERWATER • ARCTIC OIL VS. WILD

SCIENTIFIC AMERICAN

MAY 2001 $4.95
WWW.SCIAM.COM

Get the Idea?

(TOMORROW'S WEB WILL)

PLUS:

Antibiotics' Dim Future

Rorschach: A Waste of Ink

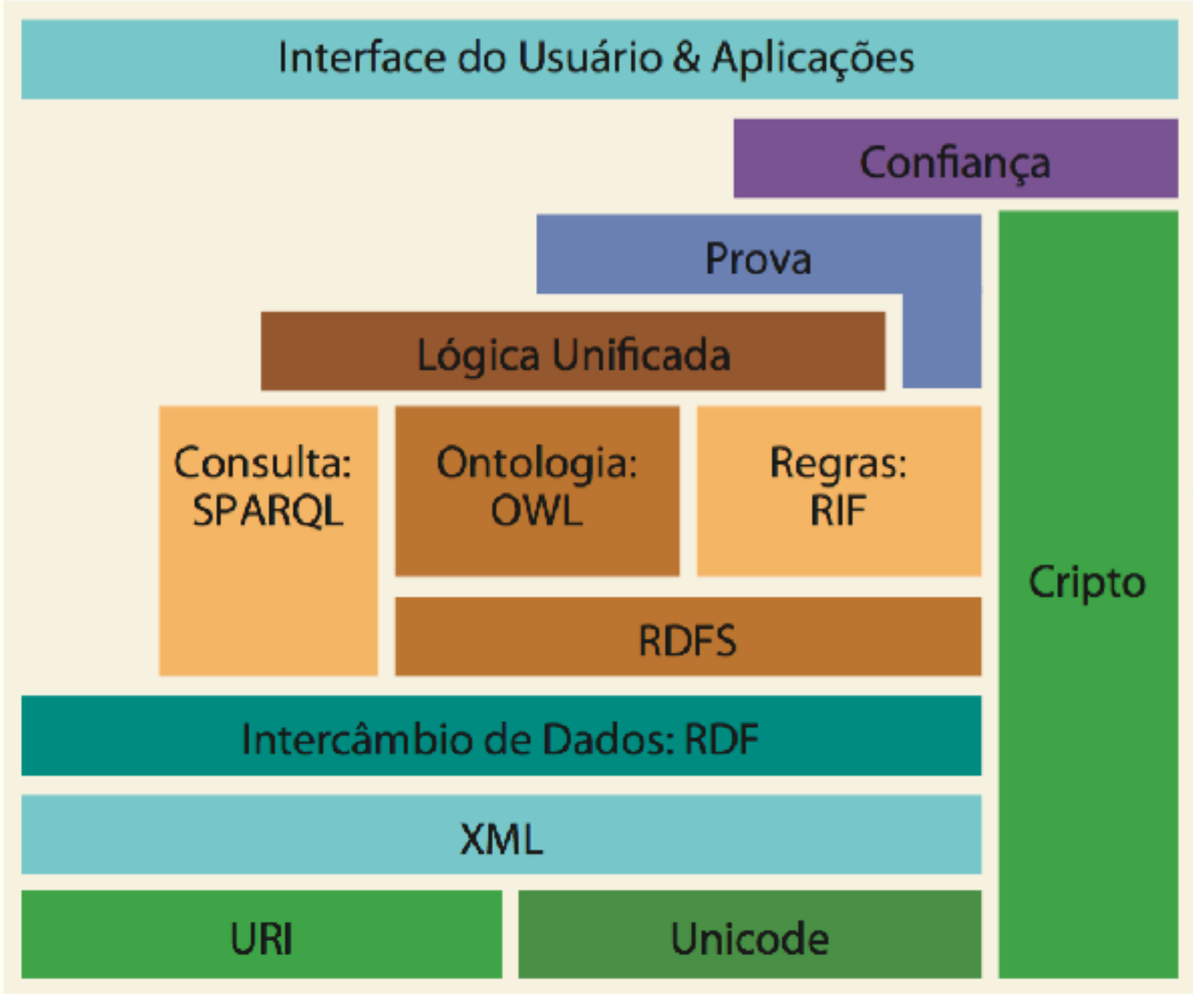
The Oldest Stars

WEB SEMÁNTICA

10 años

tiempo para surgir grandes aplicaciones.
período de estandarización.

LA ARQUITECTURA DE LA WEB SEMÁNTICA



LA ARQUITECTURA DE LA WEB SEMÁNTICA

UNICODE y URI

LA ARQUITECTURA DE LA WEB SEMÁNTICA

URI É uma sequência de caracteres que identifica um recurso físico ou abstrato. Teve sua sintaxe genérica definida na RFC 2396 (1998).

IRI (URI + internationalization)

URL É um subconjunto do conjunto de URI. As URL fornecem a localização dos recursos descrevendo seu mecanismo de acesso primário.

LA ARQUITECTURA DE LA WEB SEMÁNTICA

http://google.com

https://newtoncalegari.com.br/about

https://twitter.com/newtoncalegari

https://www.w3.org/People/Berners-Lee/

https://www.w3.org/People/Berners-Lee/#Bio

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

XML (Linguagens de serialização)

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

XML *(Extensible Markup Language)*
linguagem de marcação para criação de documentos compostos de dados estruturados.

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

```
<Books>
    <Book ISBN="0553212419">
        <title>Sherlock Holmes: Complete Novels...
        <author>Sir Arthur Conan Doyle</author>
    </Book>
    <Book ISBN="0743273567">
        <title>The Great Gatsby</title>
        <author>F. Scott Fitzgerald</author>
    </Book>
    <Book ISBN="0684826976">
        <title>Undaunted Courage</title>
        <author>Stephen E. Ambrose</author>
    </Book>
    <Book ISBN="0743203178">
        <title>Nothing Like It In the World</title>
        <author>Stephen E. Ambrose</author>
    </Book>
</Books>
```

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

```
<Books>
    <Book ISBN="0553212419">
        <title>Sherlock Holmes: Complete Novels...
        <author>Sir Arthur Conan Doyle</author>
    </Book>
    <Book ISBN="0743273567">
        <title>The Great Gatsby</title>
        <author>F. Scott Fitzgerald</author>
    </Book>
    <Book ISBN="0684826976">
        <title>Undaunted Courage</title>
        <author>Stephen E. Ambrose</author>
    </Book>
    <Book ISBN="0743203178">
        <title>Nothing Like It In the World</title>
        <author>Stephen E. Ambrose</author>
    </Book>
</Books>
```

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

```
<Books>
    <Book ISBN="0553212419">
        <title>Sherlock Holmes: Complete Novels...
        <author>Sir Arthur Conan Doyle</author>
    </Book>
    <Book ISBN="0743273567">
        <title>The Great Gatsby</title>
        <author>F. Scott Fitzgerald</author>
    </Book>
    <Book ISBN="0684826976">
        <title>Undaunted Courage</title>
        <author>Stephen E. Ambrose</author>
    </Book>
    <Book ISBN="0743203178">
        <title>Nothing Like It In the World</title>
        <author>Stephen E. Ambrose</author>
    </Book>
</Books>
```

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

Linguagens de serialização:

- XML
- JSON-LD
- TURTLE
- N3
- RDFa

WEB SEMÁNTICA: LENGUAJES DE SERIALIZACIÓN

JSON-LD

```
{
   "@context": "http://schema.org/",
   "@type": "Person",
   "name": "Jane Doe",
   "jobTitle": "Professor",
   "telephone": "(425) 123-4567",
   "url": "http://www.janedoe.com"
}
```

WEB SEMÁNTICA: RDF

RDF (Resource Description Framework)

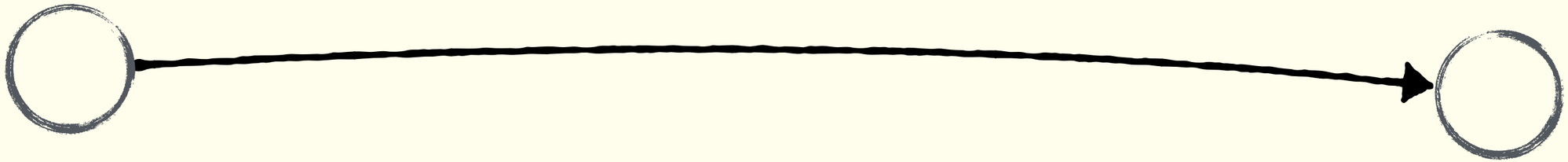
WEB SEMÁNTICA: RDF

estrutura más básica: **triple**

sujeto, predicado, objecto

WEB SEMÁNTICA: RDF

sujeito	predicado	objeto
Demi Getschko	conhece	Vint Cerf

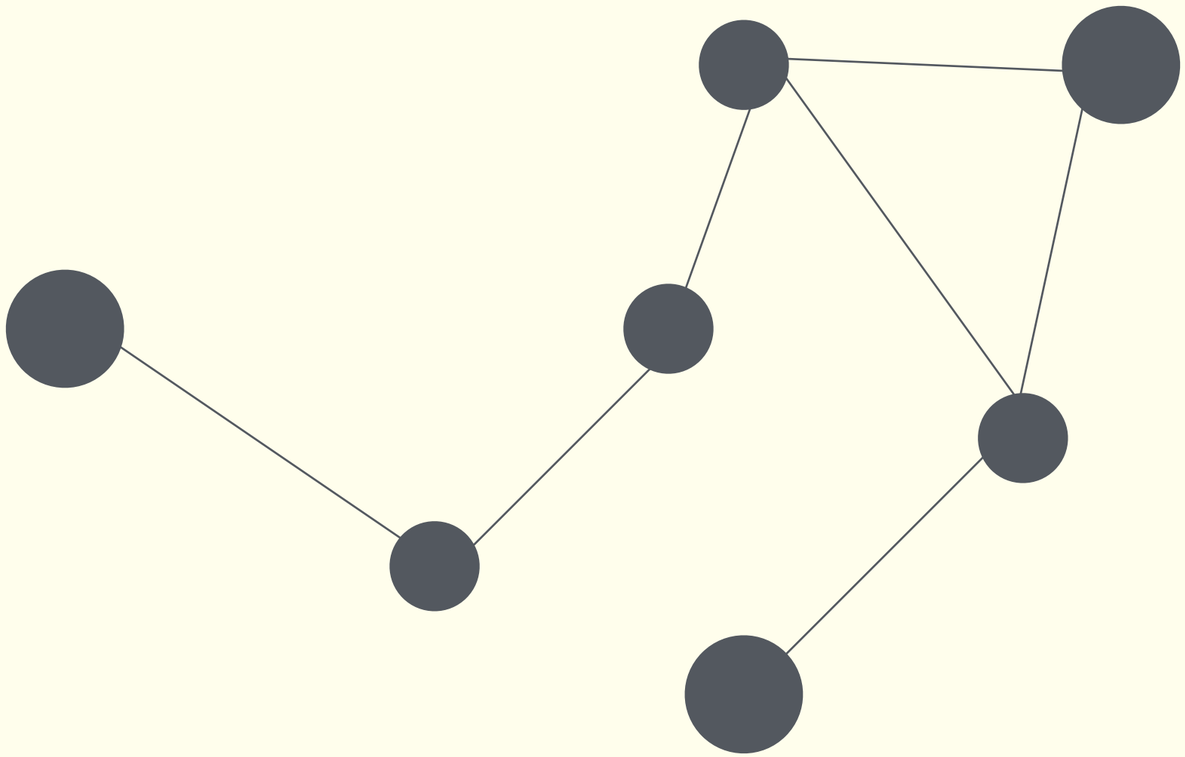


WEB SEMÁNTICA: RDF

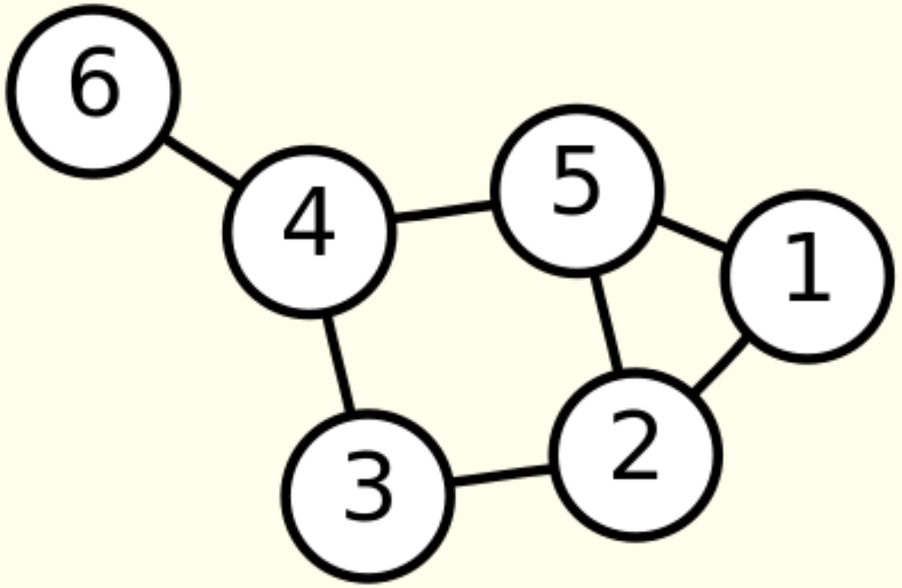
estrutura más básica: **triple**

<http://newtoncalegari.com.br>, *nombre*, “Newton”

WEB SEMÁNTICA: RDF

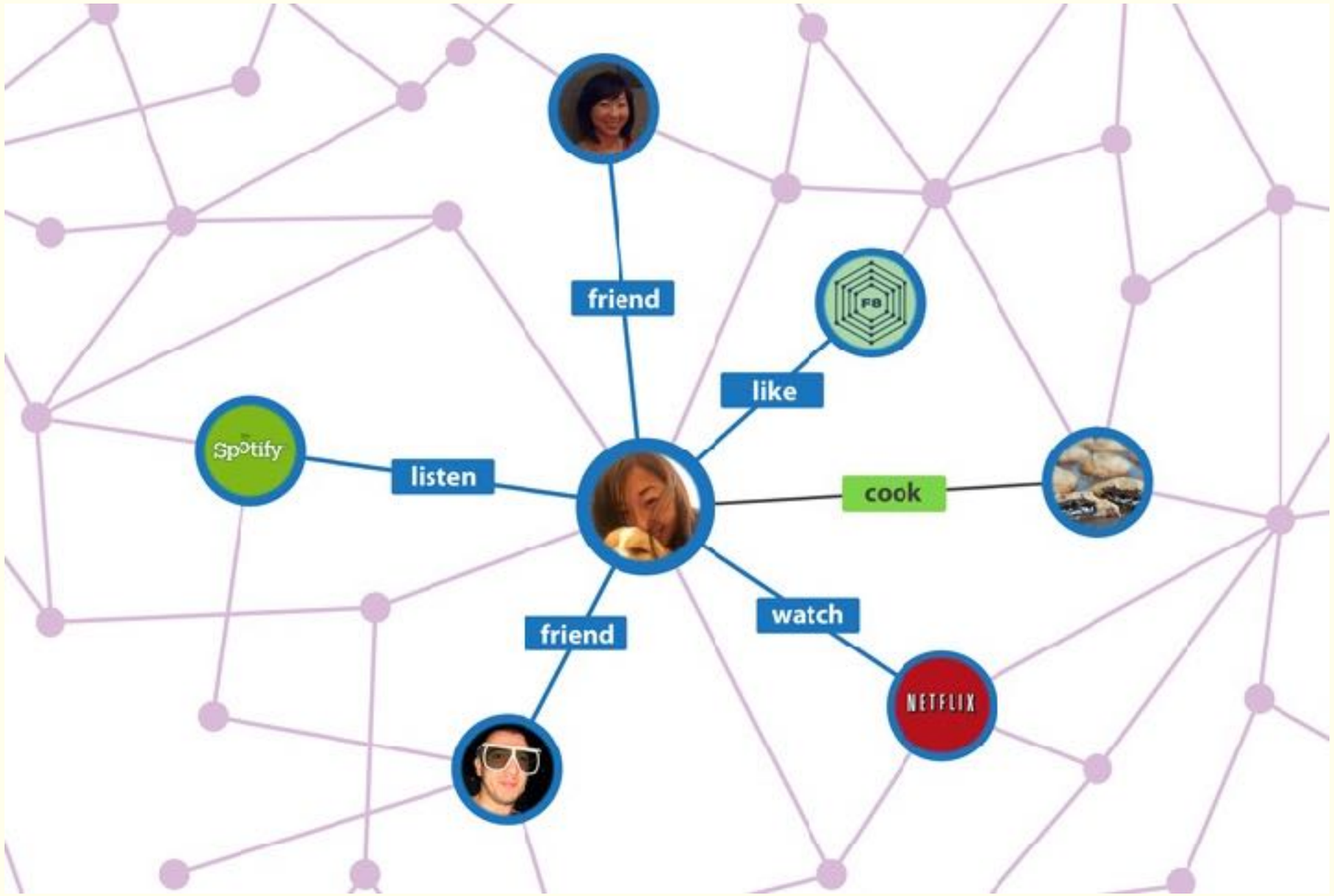


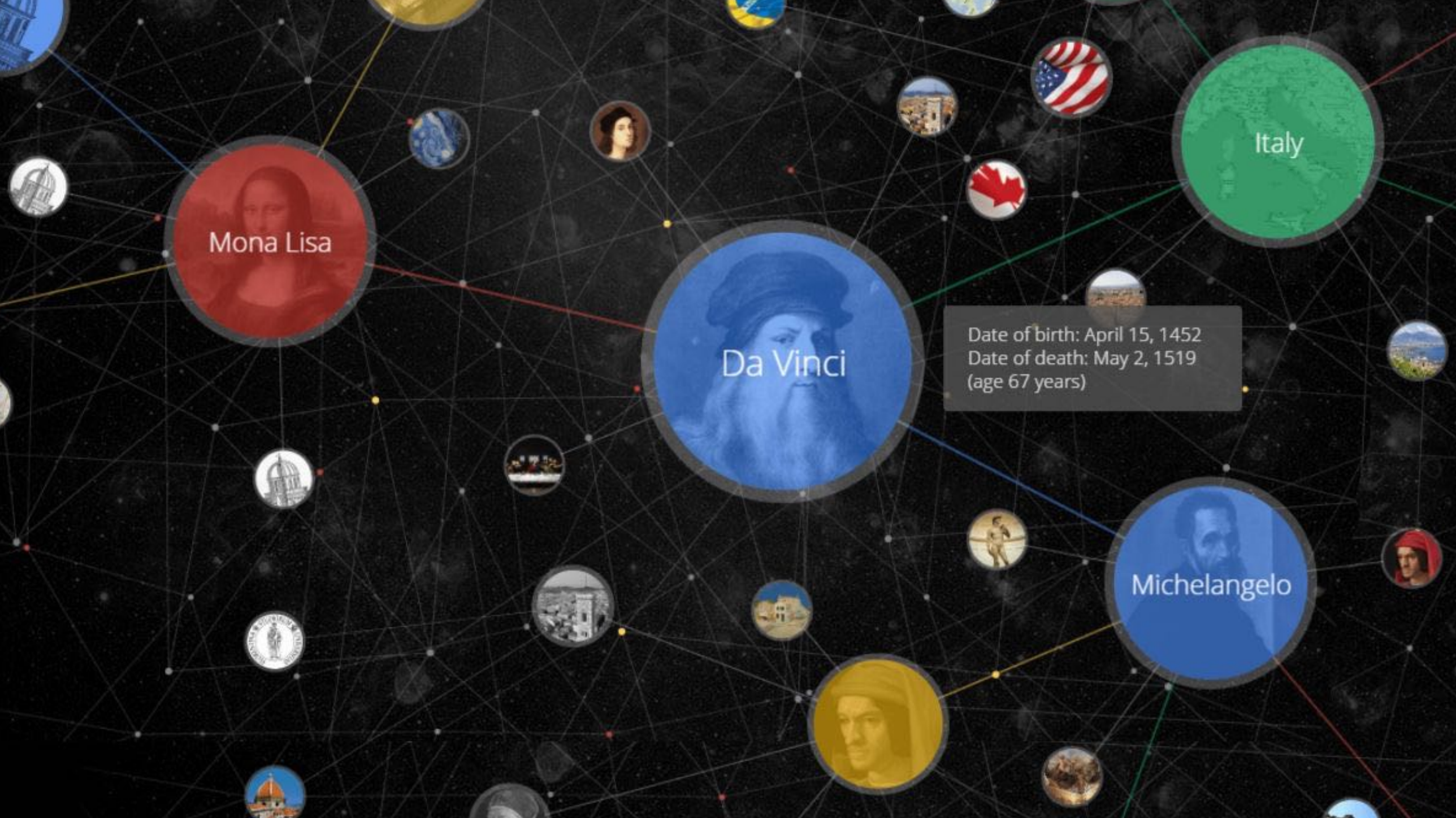
WEB SEMÁNTICA: RDF



WEB SEMÁNTICA: RDF

WEB SEMÁNTICA: RDF




Mona Lisa
Da Vinci
Italy
Michelangelo
Date of birth: April 15, 1452
Date of death: May 2, 1519
(age 67 years)

WEB SEMÁNTICA: RDF

Newton	trabaja	W3C
W3C	es una	Organización
Tim Berners-Lee	creou	W3C

ONTOLOGÍAS y VOCABULARIOS

WEB SEMÁNTICA: ONTOLOGÍAS Y VOCABULARIOS

machine-readable

modelo abstracto

Una ontología es una **especificación explícita** y **formal** de una **conceptualización compartida**

expresada en términos (conceptos, propiedades)

basada en el consenso

WEB SEMÁNTICA: ONTOLOGÍAS Y VOCABULARIOS

Utilizamos ontologías y vocabularios para **describir los datos** publicados en la Web

Full Hierarchy

Schema.org is defined as two hierarchies: one for textual property values, and one for the things that they describe.

Thing

This is the main schema.org hierarchy: a collection of types (or "classes"), each of which has one or more parent types. Although a type may have more than one super-type, here we show each type in one branch of the tree only. There is also a parallel hierarchy for data types.

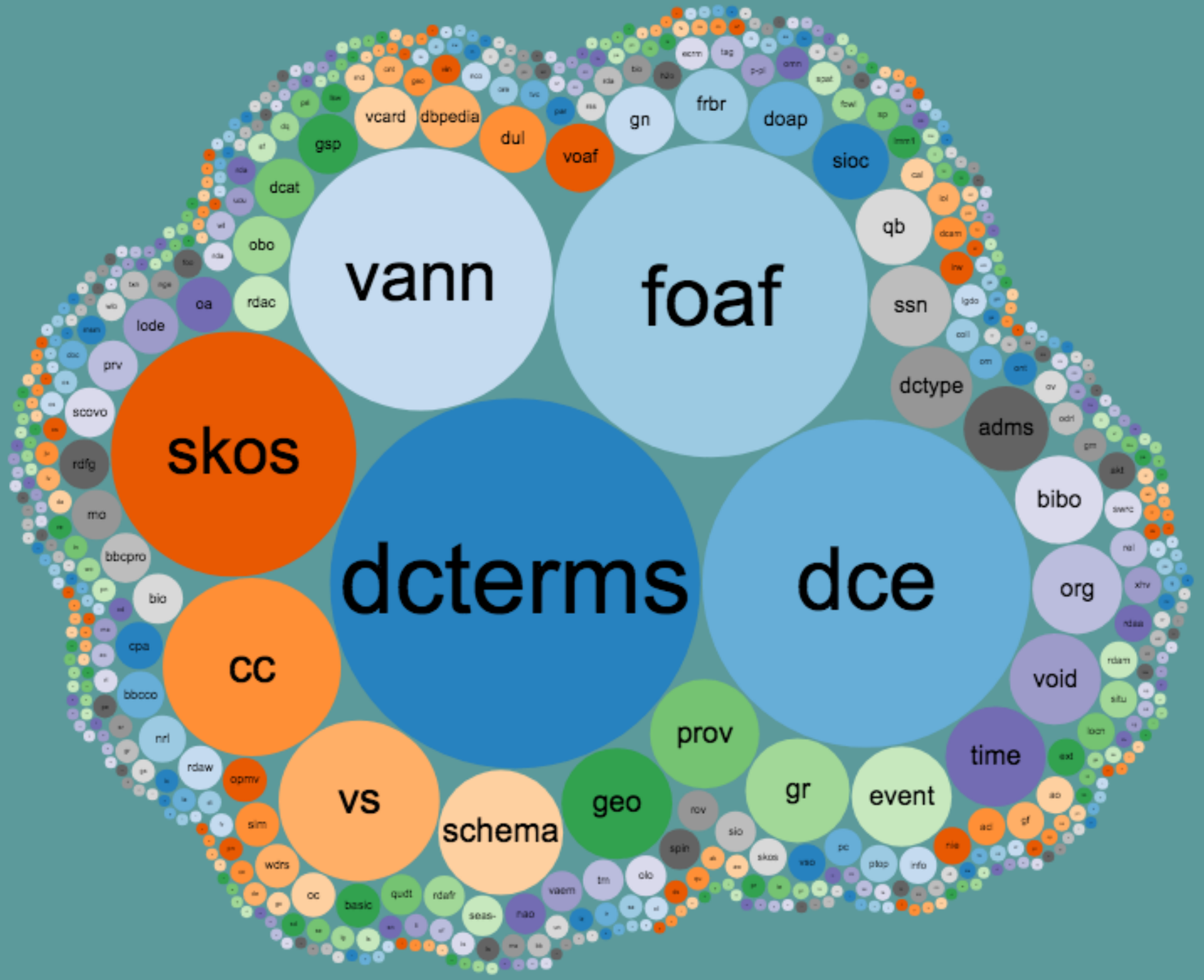
Select vocabulary view:

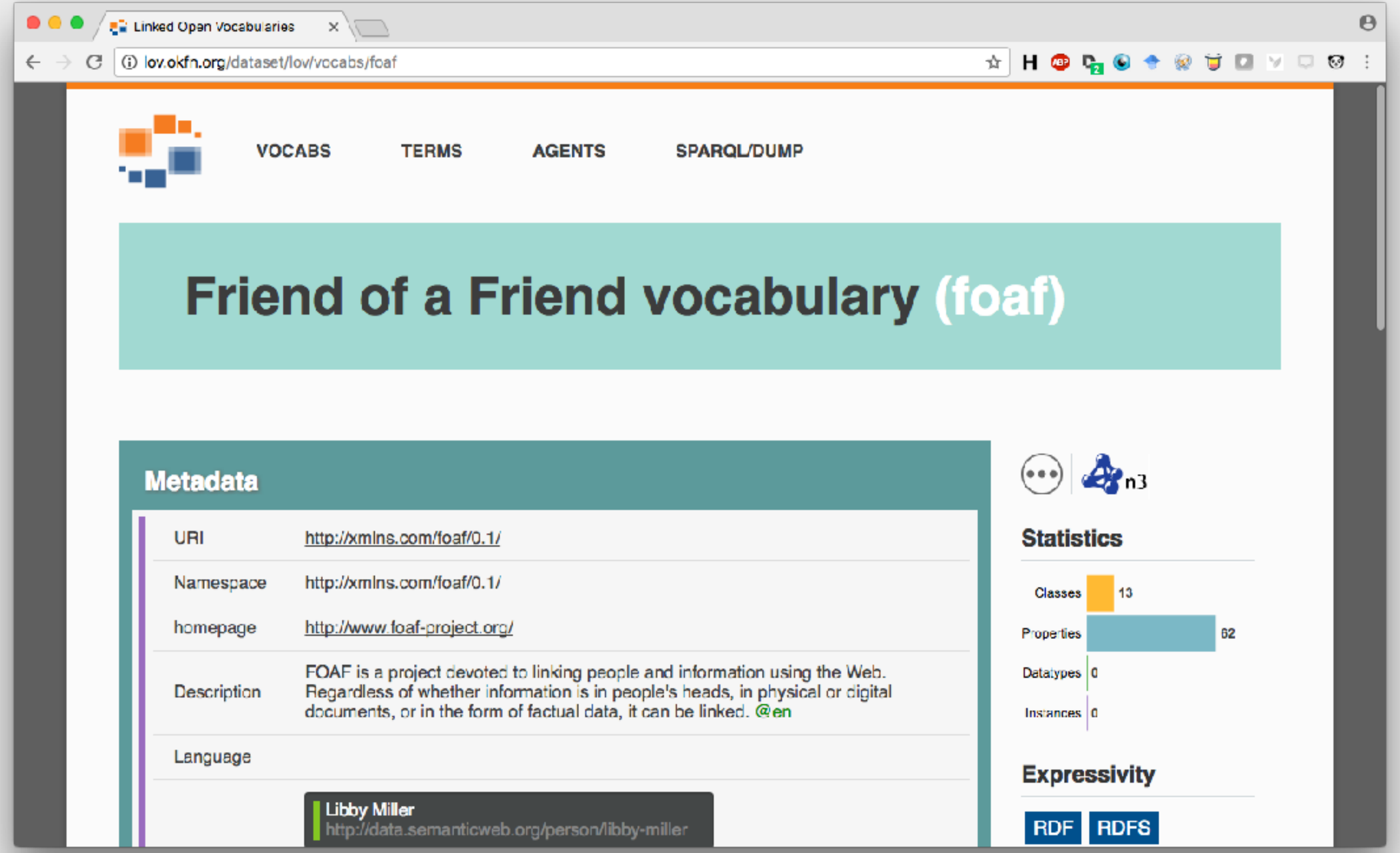
(•) Core vocabulary ( ) Core plus all extensions

Core plus extension vocabularies

- Thing
  - Action
    - AchieveAction
      - LoseAction
      - TieAction
      - WinAction
    - AssessAction

Linked Open Vocabularies (LOV)




Linked Open Vocabularies
lov.okfn.org/dataset/lov/vocabs/foaf
VOCABS
TERMS
AGENTS
SPARQL/DUMP
Friend of a Friend vocabulary (foaf)
Metadata
URI
http://xmlns.com/foaf/0.1/
Namespace
http://xmlns.com/foaf/0.1/
homepage
http://www.foaf-project.org/
Description
FOAF is a project devoted to linking people and information using the Web. Regardless of whether information is in people's heads, in physical or digital documents, or in the form of factual data, it can be linked. @en
Language
Libby Miller
http://data.semanticweb.org/person/libby-miller
n3
Statistics
Classes 13
Properties 62
Datatypes 0
Instances 0
Expressivity
RDF
RDFS

WEB SEMÁNTICA: SPARQL

SPARQL

WEB SEMÁNTICA: SPARQL

SPARQL es un lenguaje de consultas a fuentes de datos en el estándar RDF

WEB SEMÁNTICA: SPARQL

```
SELECT ...
WHERE { ... }
```

WEB SEMÁNTICA: SPARQL

```
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbp: <http://dbpedia.org/property/>
PREFIX dbr: <http://dbpedia.org/resource/>

SELECT ?obra
WHERE {
        ?obra dbp:artist dbr:Vincent_van_Gogh
}
```


INTRODUCCIÓN
A HTML


DOC


PDF


HTML
5

Blog

Government Digital Service

Search blog

Organisations: Government Digital Service, Cabinet Office

Why GOV.UK content should be published in HTML and not PDF

Neil Williams, 16 July 2018 - Accessibility, Content design, GOV.UK

https://gds.blog.gov.uk/2018/07/16/why-gov-uk-content-should-be-published-in-html-and-not-pdf/

Government Digital Service

Government Digital Service (GDS) is leading the digital transformation of government.

Find out more.

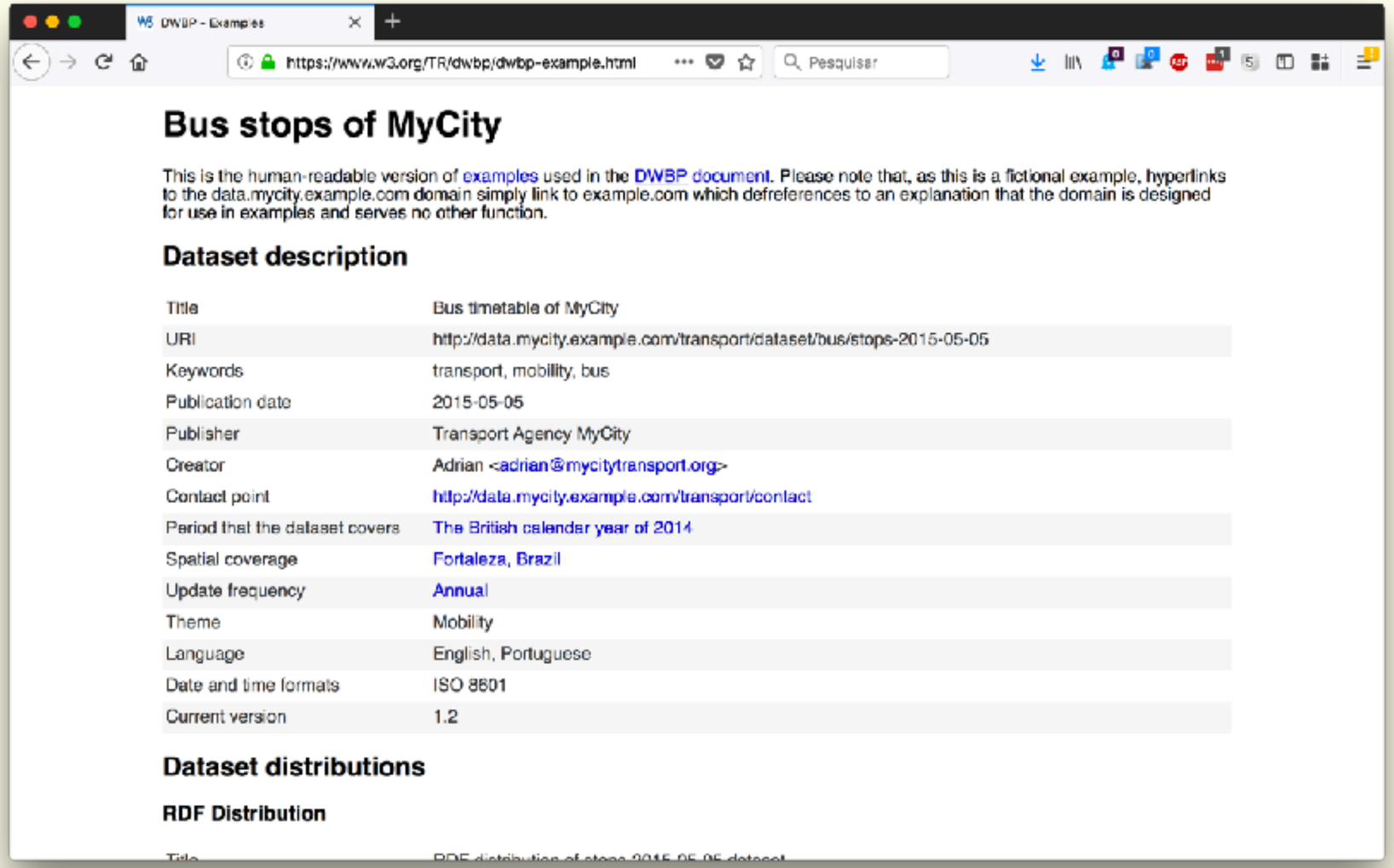
What we do

Select Category

Work for us


HTML

INTRODUCCIÓN A HTML



INTRODUCCIÓN A HTML

https://www.sublimetext.com/3

INTRODUCCIÓN A HTML

```
<!DOCTYPE html>
<html lang="es">
<head>
  <title>Datos en la Web</title>
</head>
<body>
  <p>línea de texto</p>
</body>
</html>
```

INTRODUCCIÓN A HTML

```
<h1>Encabezado nivel 1</h1>
<h2>Encabezado nivel 2</h2>
<h3>Encabezado nivel 3</h3>
<h4>Encabezado nivel 4</h4>
<h5>Encabezado nivel 5</h5>
<h6>Encabezado nivel 6</h6>
```

INTRODUCCIÓN A HTML

```html
<ol>
  <li>Item</li>
  <li>Item</li>
  <li>Item</li>
  <li>Item</li>
</ol>
```

```html
<ul>
  <li>Item</li>
  <li>Item</li>
  <li>Item</li>
  <li>Item</li>
</ul>
```

INTRODUCCIÓN A HTML

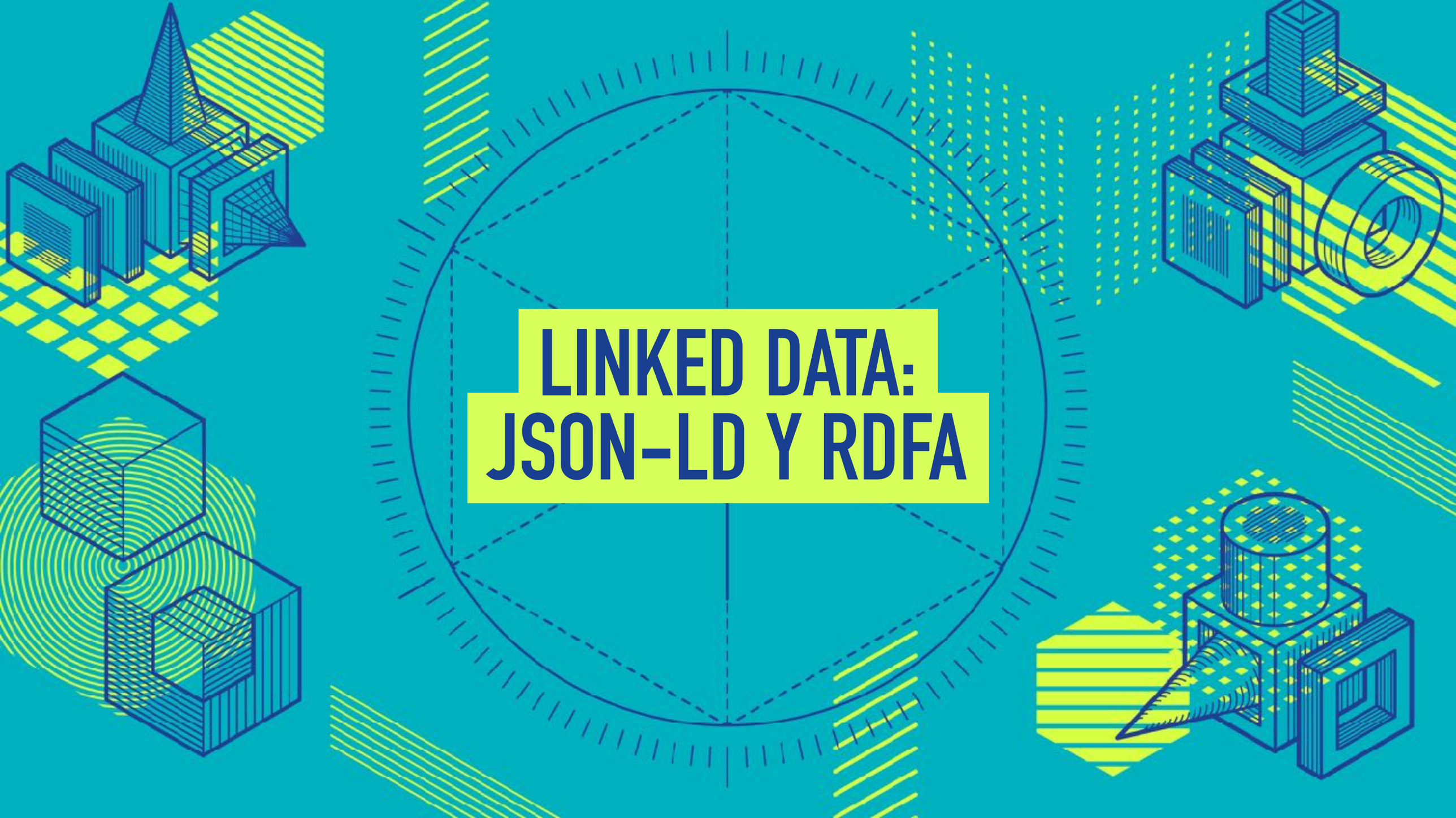
```
<dl>
  <dt>Term</dt>
  <dd>description of the term</dd>

  <dt>Term2</dt>
  <dd>description of the term2</dd>
</dl>
```

INTRODUCCIÓN A HTML

```
<table>
 <thead>
  <tr>
   <th>ID</th>
   <th>Nome</th>
   <th>Email</th>
  </tr>
 </thead>
 <tbody>
  <tr>
   <td>1</td>
   <td>Mary</td>
   <td>mary@foo.com</td>
  </tr>
  <tr>
   <td>2</td>
   <td>John</td>
   <td>john@foo.com<td>
  </tr>
 </tbody>
</table>
```

INTRODUCCIÓN A HTML

```
<form>
<fieldset>
    <legend>Log In</legend>
    <label>Username: <input type="text"></label>
    <label>Password: <input type="password"></label>
    <input type="submit" value="Submit">
</fieldset>
</form>
```


LINKED DATA:
JSON-LD Y RDFA

Linked Data

LINKED DATA

los **datos enlazados** o datos vinculados describe un método de publicación de datos estructurados para que puedan ser interconectados y más útiles

LINKED DATA

RDFA

LINKED DATA: RDFA

RDFA

Permite la utilización de RDF en atributos de las etiquetas HTML

LINKED DATA: RDFA

5 atributos básicos en **RDFa Lite**:

- `about`
- `vocab`
- `typeof`
- `property`
- `content`

LINKED DATA: RDFA

```
<p>La Conferencia Web.br es un evento que tendrá lugar el
dia 04 de Octubre.</p>
```

LINKED DATA: RDFA

Atributo: **about**

```
<p about="http://conferenciaweb.w3c.br/">
La Conferencia Web.br es un evento que tendrá lugar el
dia04 de Octubre.</p>
```

LINKED DATA: RDFA

Atributo: **vocab**

```
<p about="http://conferenciaweb.w3c.br/"
   vocab="http://schema.org/">
La Conferencia Web.br es un evento que tendrá lugar el
dia04 de Octubre.</p>
```

LINKED DATA: RDFA

Atributo: **typeof**

```
<p about="http://conferenciaweb.w3c.br/"
   vocab="http://schema.org/"
   typeof="Event">
La Conferencia Web.br es un evento que tendrá lugar el
dia04 de Octubre.</p>
```

LINKED DATA: RDFA

Atributo: **property**

```
<p about="http://conferenciaweb.w3c.br/"
   vocab="http://schema.org/"
   typeof="Event">
La <span property="name">Conferencia Web.br</span> es un
evento que tendrá lugar el dia 04 de Octubre.</p>
```

LINKED DATA: RDFA

Atributo: **content**

```
<p about="http://conferenciaweb.w3c.br/"
   vocab="http://schema.org/"
   typeof="Event">
La <span property="name">Conferencia Web.br</span> es un
evento que tendrá lugar el dia <span property="startDate"
content="2018-10-04">04 de Octubre</span>.</p>
```

LINKED DATA: JSON-LD

JSON-LD

JSON-LD

Utilización del formato JSON para Linked Data

JSON-LD

Utilización del formato JSON para Linked Data

LINKED DATA: JSON-LD

```
{
  "@context": "http://schema.org",
  "@id": "https://www.wikidata.org/wiki/Q76",
  "@type": "Person",
  "name": "Barack Obama",
  "givenName": "Barack",
  "familyName": "Obama",
  "jobTitle": "44th President of the United States"
}
```

LINKED DATA: JSON-LD

```
{
  "@context": "http://schema.org",
  "@id": "https://www.wikidata.org/wiki/Q76",
  "@type": "Person",
  "name": "Barack Obama",
  "givenName": "Barack",
  "familyName": "Obama",
  "jobTitle": "44th President of the United States"
}
```

LINKED DATA: JSON-LD

```
{
  "@context": "http://schema.org",
  "@id": "https://www.wikidata.org/wiki/Q76",
  "@type": "Person",
  "name": "Barack Obama",
  "givenName": "Barack",
  "familyName": "Obama",
  "jobTitle": "44th President of the United States"
}
```

LINKED DATA: JSON-LD

```
{
  "@context": "http://schema.org",
  "@id": "https://www.wikidata.org/wiki/Q76",
  "@type": "Person",
  "name": "Barack Obama",
  "givenName": "Barack",
  "familyName": "Obama",
  "jobTitle": "44th President of the United States"
}
```

LINKED DATA: JSON-LD

```
<script type="application/ld+json">
    // conteúdo JSON-LD aqui dentro
</script>
```

LINKED DATA: JSON-LD

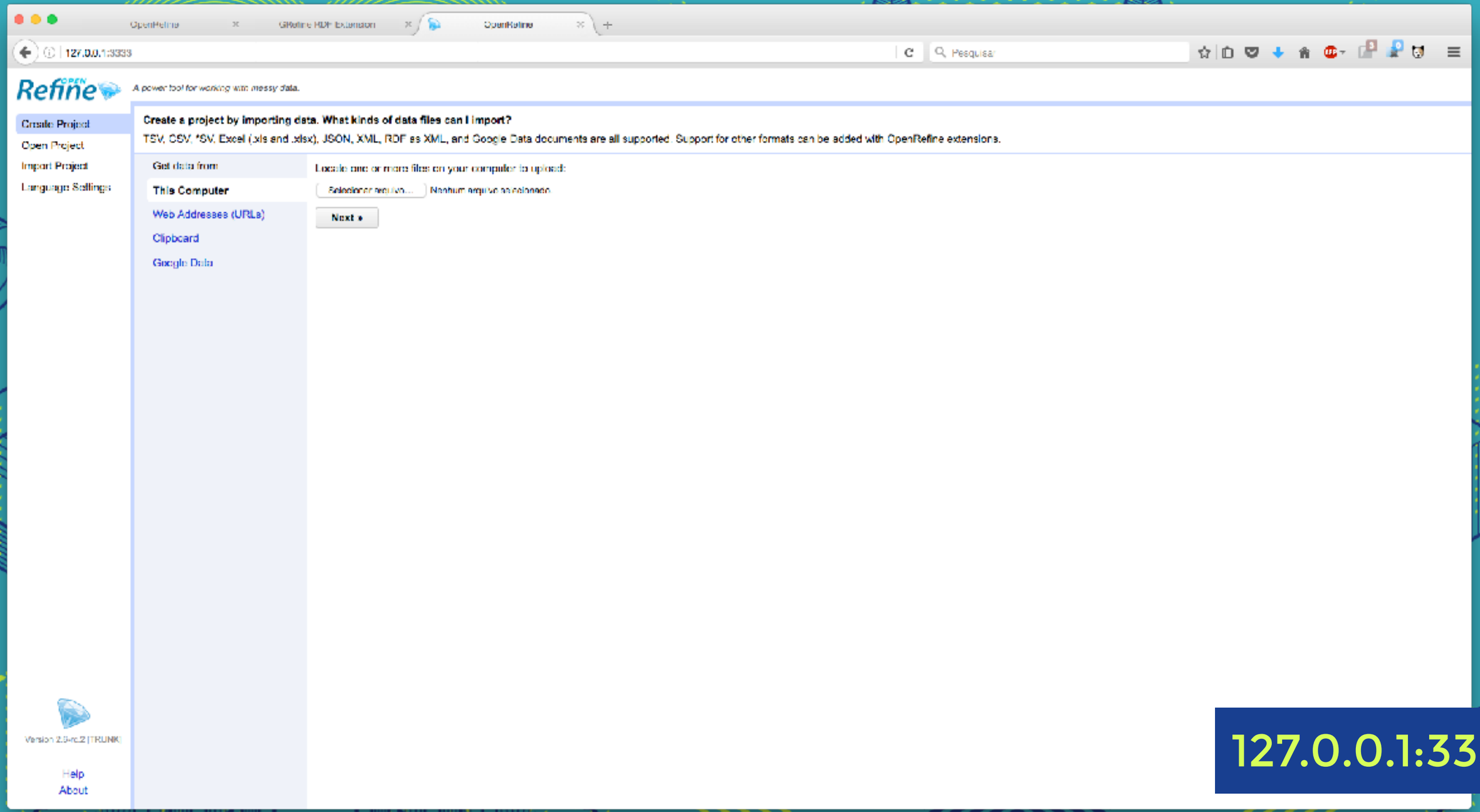
https://developers.google.com/search/docs/guides/

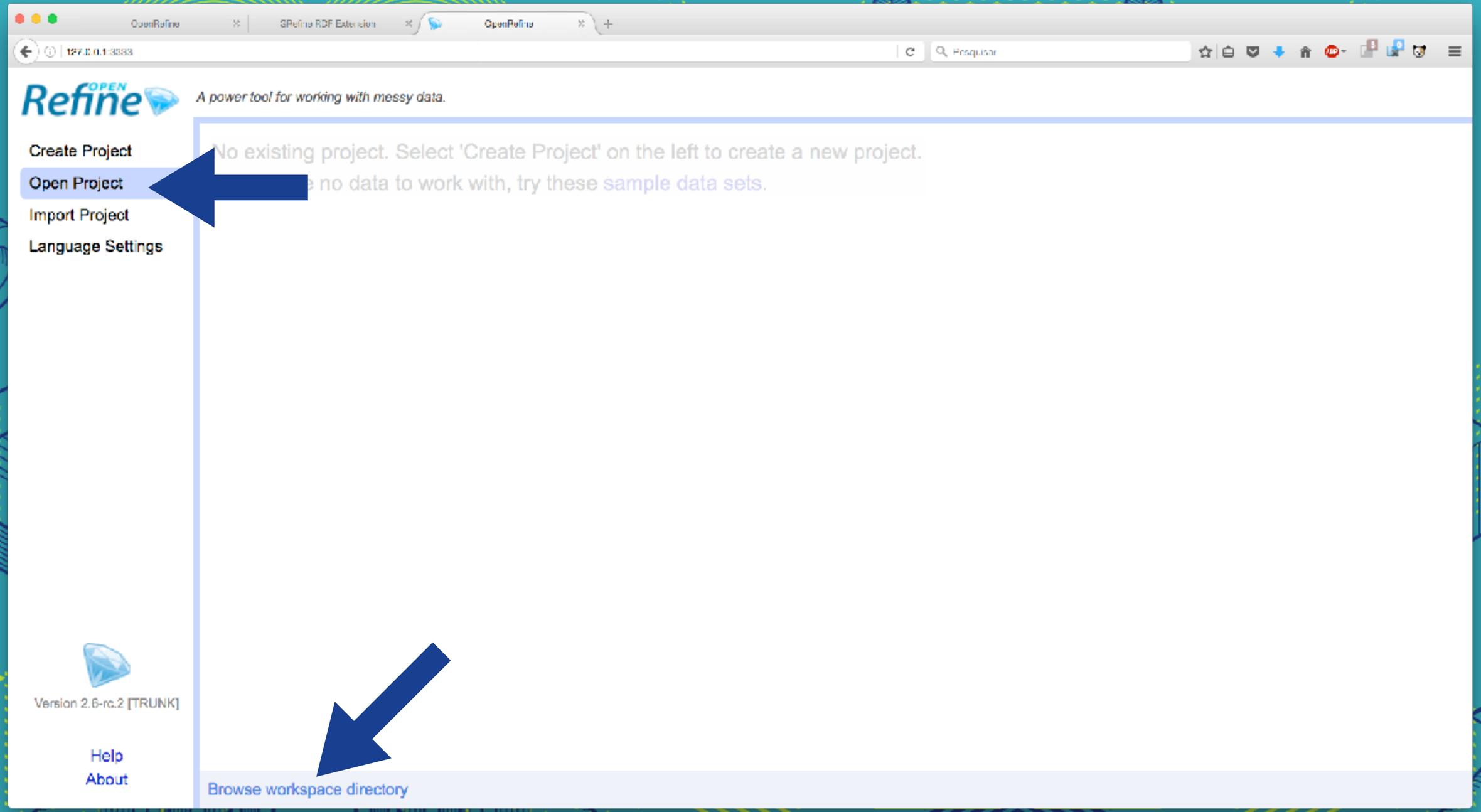
MANIPULACIÓN DE DATOS CON OPEN REFINE

AGENDA

- ¡Pura Vida!
- Introducción OpenRefine
- Creación de base de datos en RDF
- Creación de página com publicación (RDFa)
- Presentación del resultados y projecto del curso
- 

OpenRefine


OpenRefine
GRefine RDF Extension
OpenRefine
127.0.0.1:3333
Pesquisa
OpenRefine
A power tool for working with messy data.
Create Project
Open Project
Import Project
Language Settings
Create a project by importing data. What kinds of data files can I import?
TSV, CSV, *SV, Excel (.xls and .xlsx), JSON, XML, RDF as XML, and Google Data documents are all supported. Support for other formats can be added with OpenRefine extensions.
Get data from
This Computer
Web Addresses (URLs)
Clipboard
Google Data
Locate one or more files on your computer to upload:
Selecionar arquivo...
Nenhum arquivo selecionado
Next »
Version 2.5-rc2 [TRUNK]
Help
About
127.0.0.1:3333


OpenRefine
GRefine RDF Extension
OpenRefine
A power tool for working with messy data.
Create Project
Open Project
Import Project
Language Settings
No existing project. Select 'Create Project' on the left to create a new project.
no data to work with, try these sample data sets.
Version 2.6-rc.2 [TRUNK]
Help
About
Browse workspace directory

OPEN REFINE

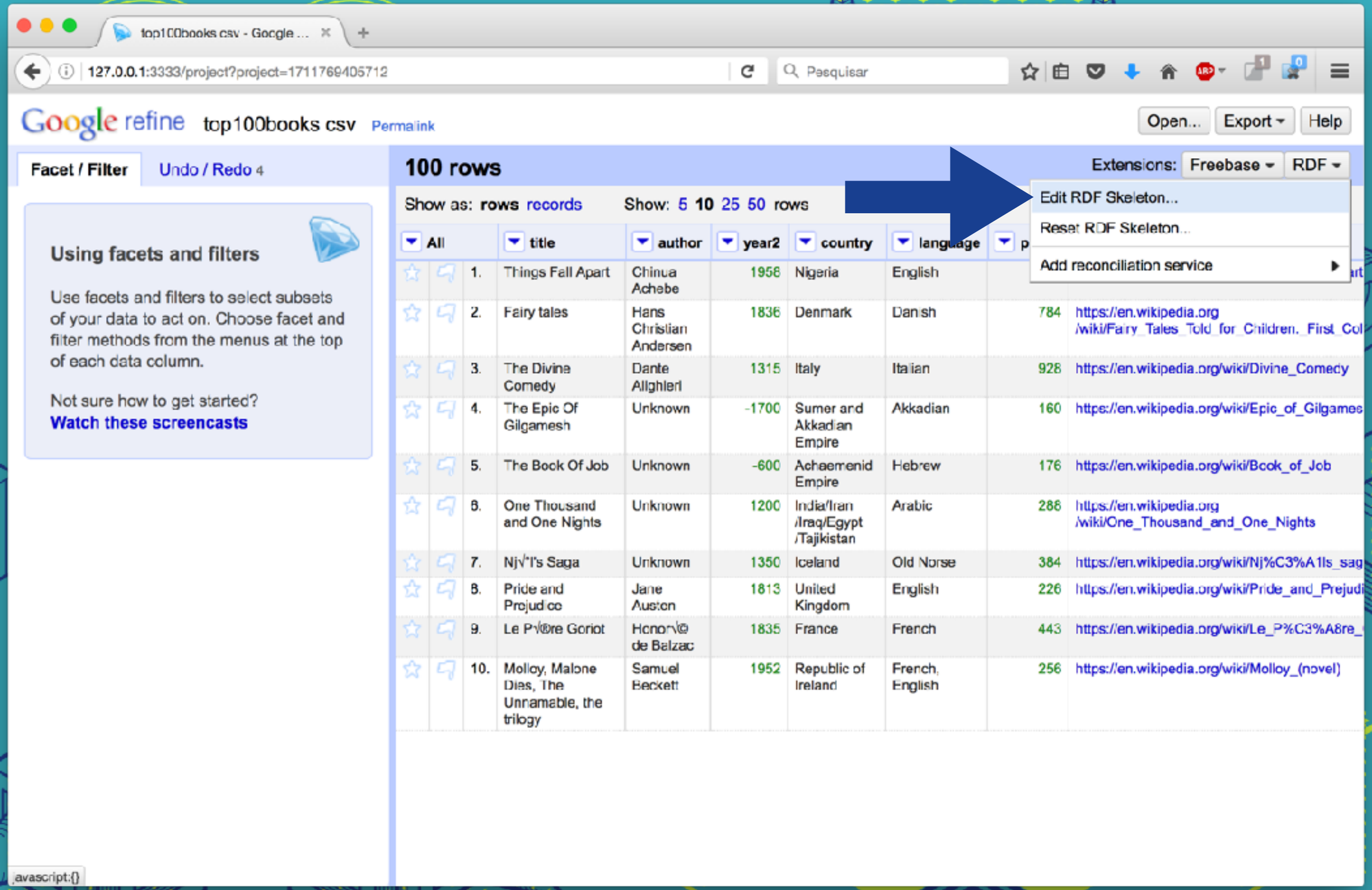
newtoncalegari.com.br/dwbp-costa-rica/

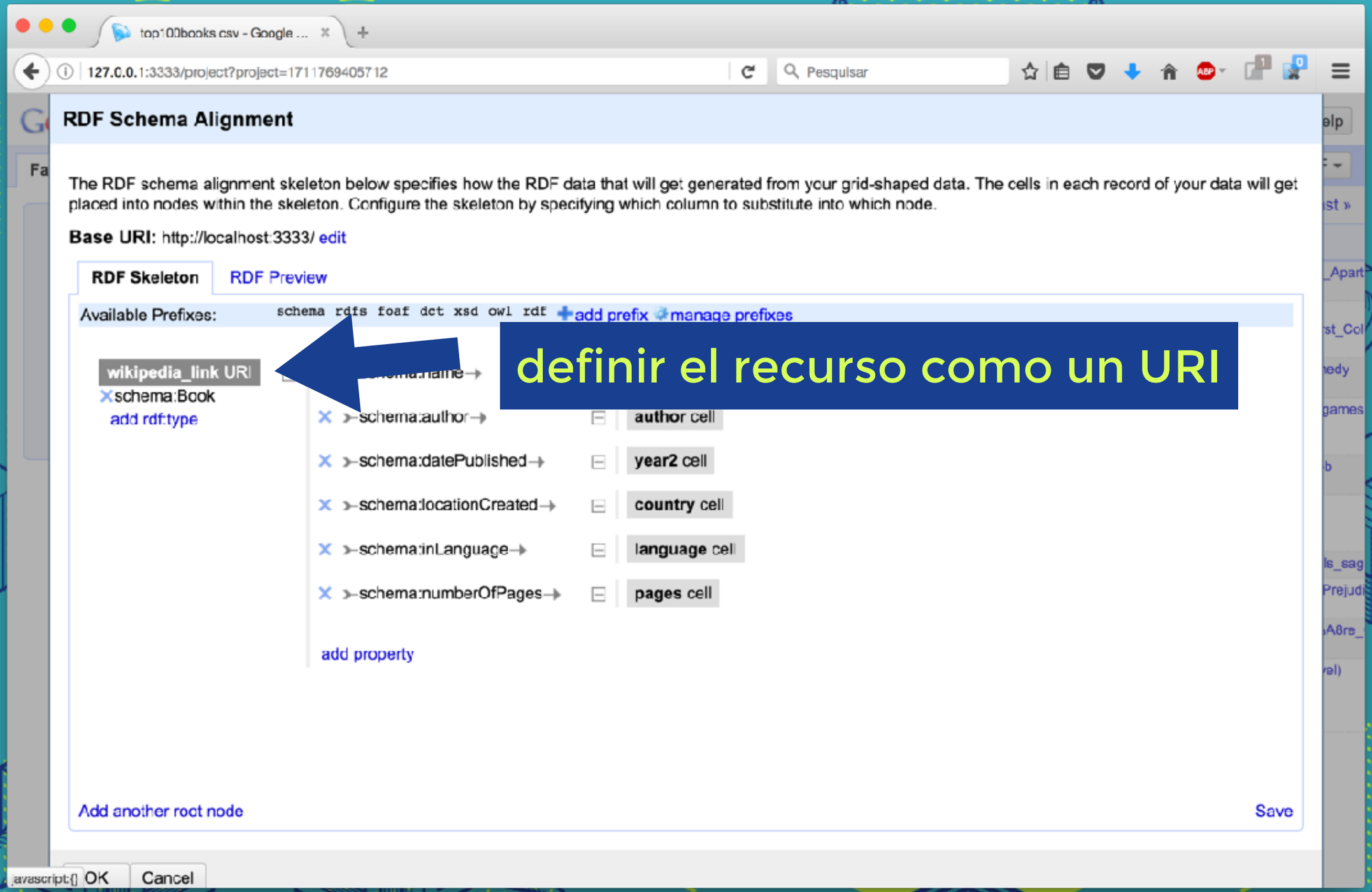
title	author	year
Things Fall Apart	Chinua Achebe	195
Fairy tales	Hans Christian Andersen	1835-37
The Divine Comedy	Dante Alighieri	1308-1321
The Epic Of Gilgamesh	Unknown	18th - 17th century BCE
The Book Of Job	Unknown	7th - 4th century BCE
One Thousand and One Nights	Unknown	700-1500
Njál's Saga	Unknown	13th century
Pride and Prejudice	Jane Austen	181
Le Père Goriot	Honoré de Balzac	183
Molloy	Malone Dies	The Unnamable
The Decameron	Giovanni Boccaccio	1349-53
Ficciones	Jorge Luis Borges	1944-86
Wuthering Heights	Emily Brontë	184
The Stranger	Albert Camus	194
Poems	Paul Celan	195
Journey to the End of the Night	Louis-Ferdinand Céline	193
Don Quijote De La Mancha	Miguel de Cervantes	1605 (part 1)
The Canterbury Tales	Geoffrey Chaucer	14th century
Stories	Anton Chekhov	188
Nostromo	Joseph Conrad	190
Great Expectations	Charles Dickens	186
Jacques the Fatalist	Denis Diderot	179

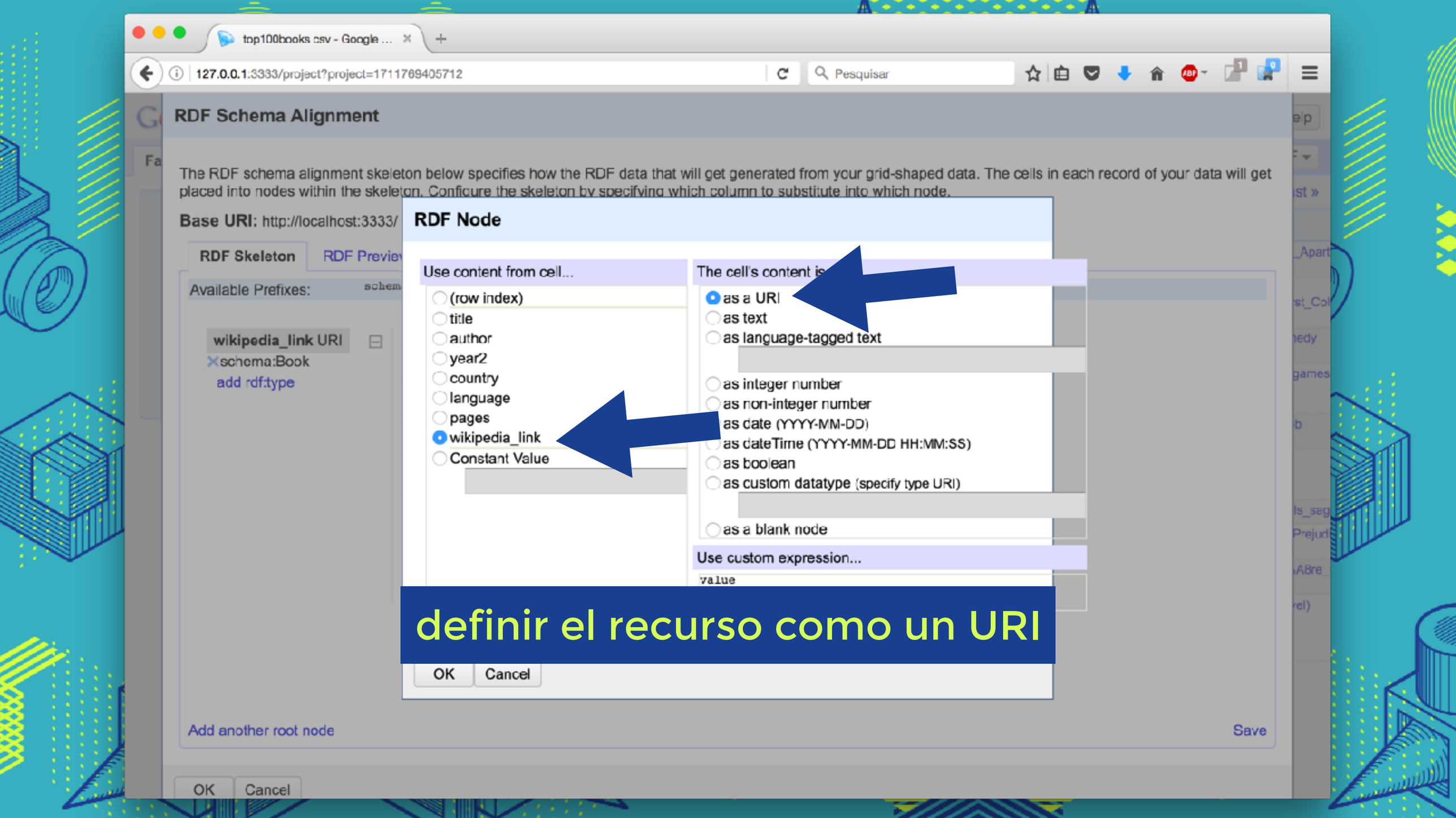
```
@prefix schema: <http://schema.org/> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix dct: <http://purl.org/dc/terms/> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .

<https://en.wikipedia.org/wiki/Things_Fall_Apart> a schema:Book ;
    schema:name "Things Fall Apart"@en ;
    schema:author "Chinua Achebe" ;
    schema:datePublished "1958"^^xsd:date ;
    schema:locationCreated "Nigeria" ;
    schema:inLanguage "English" ;
    schema:numberOfPages "209" .

<https://en.wikipedia.org/wiki/Fairy_Tales_Told_for_Children._First_Collection.> a schema:
    schema:name "Fairy tales"@en ;
    schema:author "Hans Christian Andersen" ;
    schema:datePublished "1836"^^xsd:date ;
    schema:locationCreated "Denmark" ;
    schema:inLanguage "Danish" ;
    schema:numberOfPages "784" .

<https://en.wikipedia.org/wiki/Divine_Comedy> a schema:Book ;
```

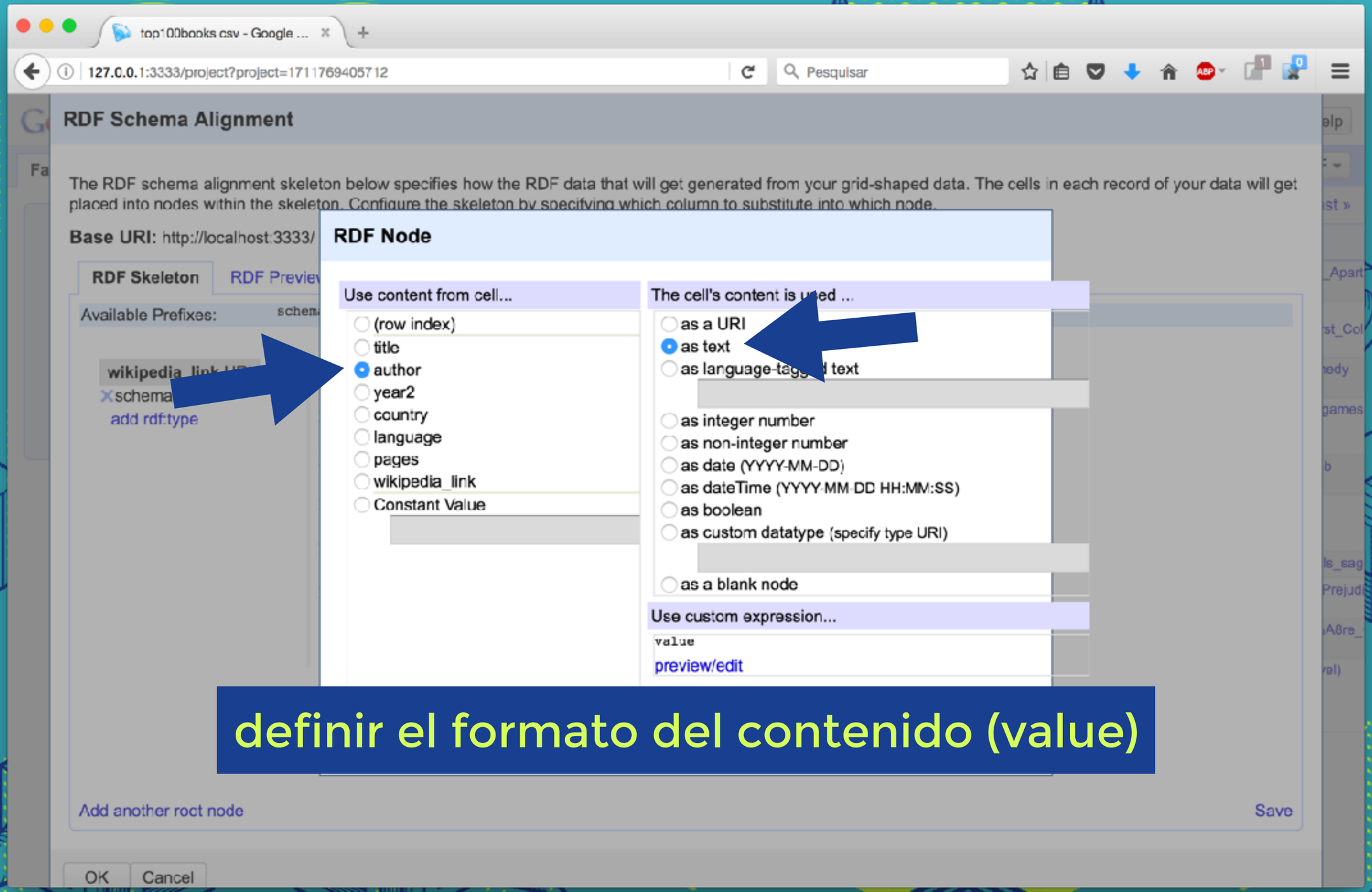
OPEN REFINE

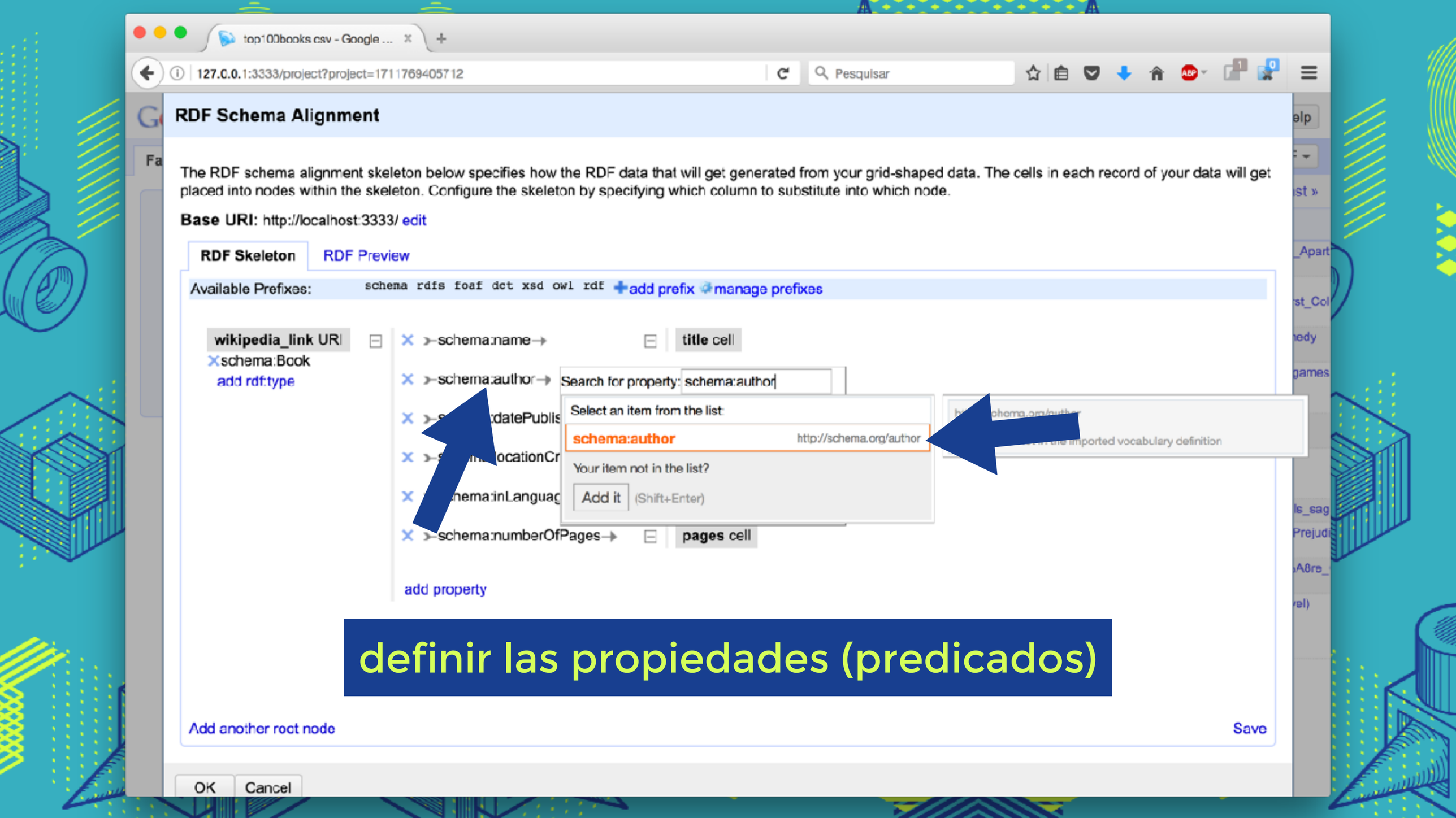
title	schema:name
author	schema:author
year	schema:datePublished
country	schema:locationCreated
language	schema:inLanguage
pages	schema:numberOfPages


top100books csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
Google refine top100books csv Permalink
Open... Export Help
Facet / Filter Undo / Redo 4
Using facets and filters
Use facets and filters to select subsets of your data to act on. Choose facet and filter methods from the menus at the top of each data column.
Not sure how to get started?
Watch these screencasts
100 rows
Extensions: Freebase RDF
Edit RDF Skeleton...
Reset RDF Skeleton...
Add reconciliation service
Show as: rows records
Show: 5 10 25 50 rows
All
title
author
year2
country
language
p
1. Things Fall Apart Chinua Achebe 1958 Nigeria English
2. Fairy tales Hans Christian Andersen 1836 Denmark Danish 784 https://en.wikipedia.org/wiki/Fairy_Tales_Told_for_Children._First_Col
3. The Divine Comedy Dante Alighieri 1315 Italy Italian 928 https://en.wikipedia.org/wiki/Divine_Comedy
4. The Epic Of Gilgamesh Unknown -1700 Sumer and Akkadian Empire Akkadian 160 https://en.wikipedia.org/wiki/Epic_of_Gilgames
5. The Book Of Job Unknown -600 Achaemenid Empire Hebrew 176 https://en.wikipedia.org/wiki/Book_of_Job
6. One Thousand and One Nights Unknown 1200 India/Iran /Iraq/Egypt /Tajikistan Arabic 288 https://en.wikipedia.org/wiki/One_Thousand_and_One_Nights
7. Njv"l's Saga Unknown 1350 Iceland Old Norse 384 https://en.wikipedia.org/wiki/Nj%C3%A1ls_sag
8. Pride and Prejudice Jane Austen 1813 United Kingdom English 226 https://en.wikipedia.org/wiki/Pride_and_Prejudi
9. Le P\®re Goriot Honor\© de Balzac 1835 France French 443 https://en.wikipedia.org/wiki/Le_P%C3%A8re_
10. Molloy, Malone Dies, The Unnamable, the trilogy Samuel Beckett 1952 Republic of Ireland French, English 256 https://en.wikipedia.org/wiki/Molloy_(novel)
avascript:{}

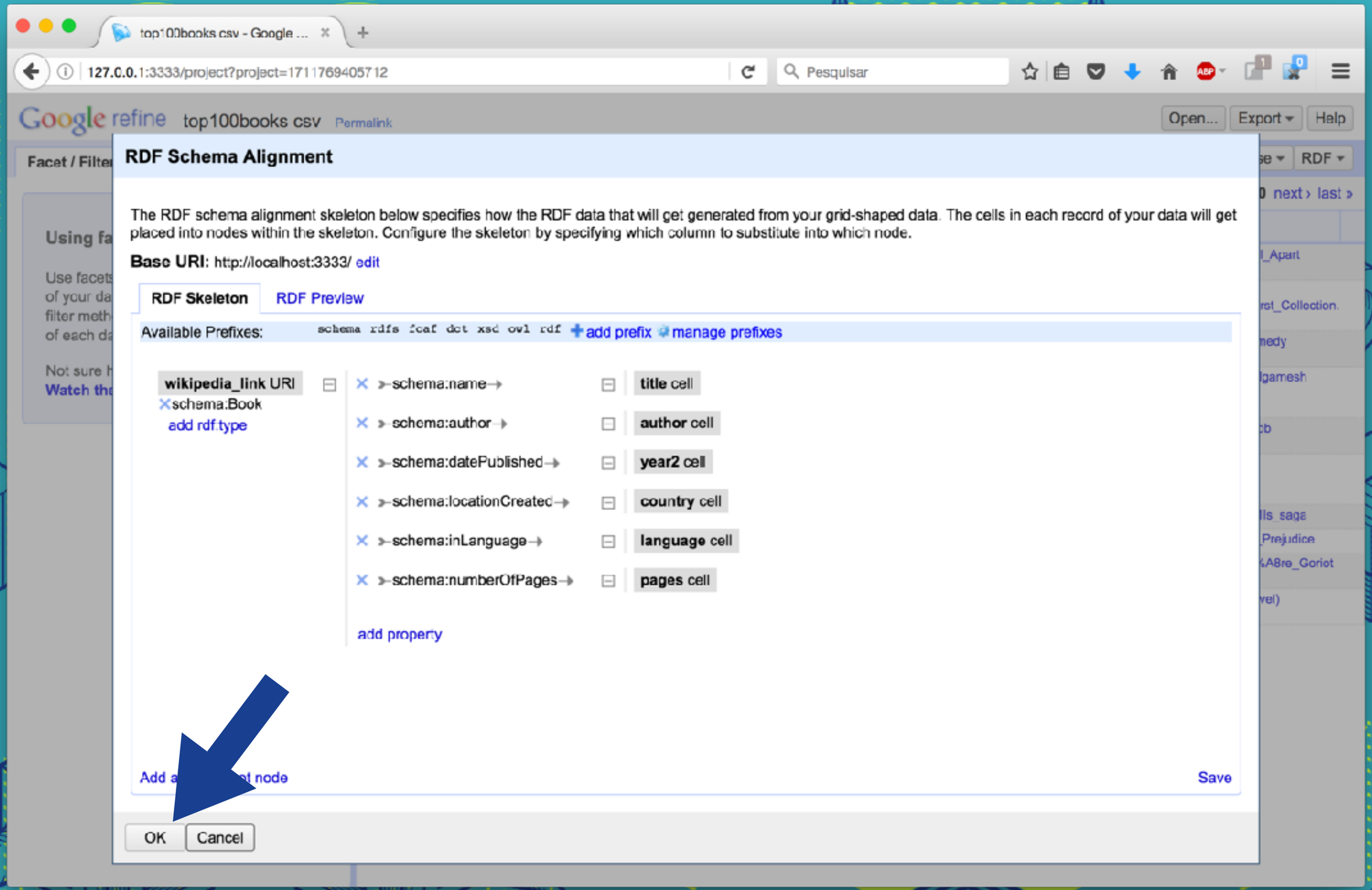

top100books.csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
RDF Schema Alignment
The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.
Base URI: http://localhost:3333/ edit
RDF Skeleton
RDF Preview
Available Prefixes: schema rdfs foaf dct xsd owl rdf add prefix manage prefixes
wikipedia_link URI
schema:Book
add rdf:type
schema:author
author cell
schema:datePublished
year2 cell
schema:locationCreated
country cell
schema:inLanguage
language cell
schema:numberOfPages
pages cell
add property
definir el recurso como un URI
Add another root node
Save
OK
Cancel

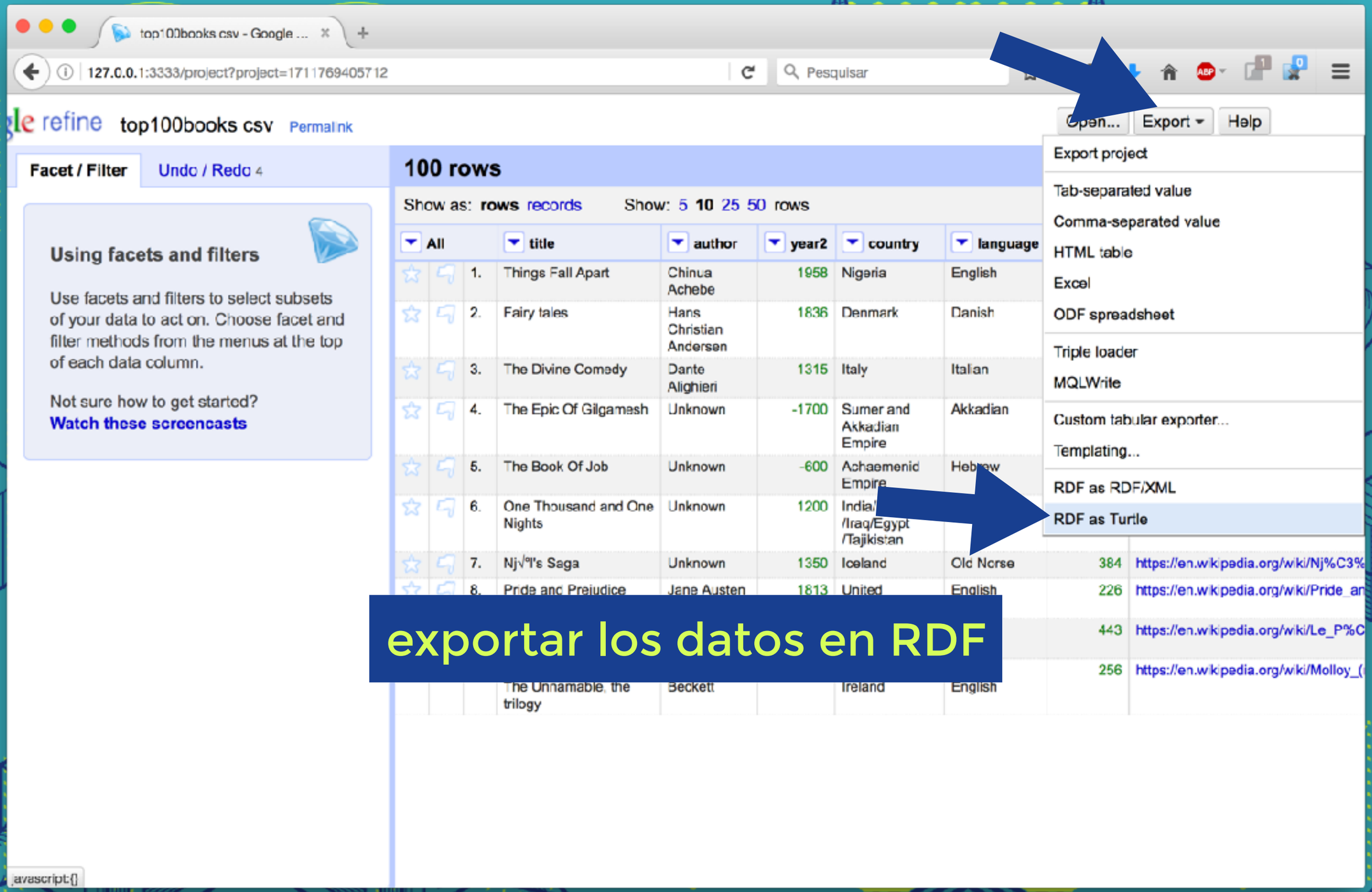

top100books.csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
RDF Schema Alignment
The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.
Base URI: http://localhost:3333/
RDF Skeleton
RDF Preview
Available Prefixes:
wikipedia_link URI
schema:Book
add rdf:type
RDF Node
Use content from cell...
(row index)
title
author
year2
country
language
pages
wikipedia_link
Constant Value
The cell's content is
as a URI
as text
as language-tagged text
as integer number
as non-integer number
as date (YYYY-MM-DD)
as dateTime (YYYY-MM-DD HH:MM:SS)
as boolean
as custom datatype (specify type URI)
as a blank node
Use custom expression...
value
definir el recurso como un URI
OK
Cancel
Add another root node
Save
OK
Cancel


top100books.csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
RDF Schema Alignment
The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.
Base URI: http://localhost:3333/
RDF Skeleton
RDF Previev
Available Prefixes:
wikipedia_link UR
schema
add rdf:type
RDF Node
Use content from cell...
(row index)
title
author
year2
country
language
pages
wikipedia_link
Constant Value
The cell's content is used ...
as a URI
as text
as language-tagged text
as integer number
as non-integer number
as date (YYYY-MM-DD)
as dateTime (YYYY-MM-DD HH:MM:SS)
as boolean
as custom datatype (specify type URI)
as a blank node
Use custom expression...
value
preview/edit
definir el formato del contenido (value)
Add another root node
Save
OK
Cancel


top100books.csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
RDF Schema Alignment
The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.
Base URI: http://localhost:3333/ edit
RDF Skeleton
RDF Preview
Available Prefixes: schema rdfs foaf dct xsd owl rdf add prefix manage prefixes
wikipedia_link URI
schema:Book
add rdf:type
schema:name
title cell
schema:author
Search for property: schema:author
Select an item from the list:
schema:author
http://schema.org/author
Your item not in the list?
Add it
(Shift+Enter)
schema:numberOfPages
pages cell
add property
definir las propiedades (predicados)
Add another root node
Save
OK
Cancel


top100books.csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
RDF Schema Alignment
The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped dat
placed into nodes within the skeleton. Configur the skeleton by specifying which column to substitute into which node.
Base URI: http://localhost:3333/ edit
RDF Skeleton
RDF Preview
This is a sample Turtle representation of (up-to) the first 10 rows
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix dct: <http://purl.org/dc/terms/> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
<https://en.wikipedia.org/wiki/Things_Fall_Apart> a schema:Book ;
schema:name "Things Fall Apart"@en ;
schema:author "Chinua Achebe" ;
schema:
schema:
schema:
schema:numberOfPages "209" .
<https://en.wikipedia.org/wiki/Fairy_Tales_Told_for_Children._First_Collection.> a schema:Book
schema:name "Fairy tales"@en ;
author "Hans Christian Andersen" ;
contenido en formato RDF/Turtle
https://en.wikipedia.org/wiki/Things_Fall_Apart


top100books csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
Google refine top100books csv Permalink
Open... Export Help
Facet / Filter
RDF
RDF Schema Alignment
The RDF schema alignment skeleton below specifies how the RDF data that will get generated from your grid-shaped data. The cells in each record of your data will get placed into nodes within the skeleton. Configure the skeleton by specifying which column to substitute into which node.
Base URI: http://localhost:3333/ edit
RDF Skeleton
RDF Preview
Available Prefixes: schema rdfs foaf dct xsd owl rdf add prefix manage prefixes
wikipedia_link URI
schema:Book
add rdf:type
schema:name
title cell
schema:author
author cell
schema:datePublished
year2 cell
schema:locationCreated
country cell
schema:inLanguage
language cell
schema:numberOfPages
pages cell
add property
Save
OK
Cancel


top100books csv - Google ...
127.0.0.1:3333/project?project=1711769405712
Pesquisar
gle refine top100books csv Permalink
Open... Export Help
Facet / Filter Undo / Redo 4
Using facets and filters
Use facets and filters to select subsets of your data to act on. Choose facet and filter methods from the menus at the top of each data column.
Not sure how to get started?
Watch these screencasts
100 rows
Show as: rows records Show: 5 10 25 50 rows
All title author year2 country language
1. Things Fall Apart Chinua Achebe 1958 Nigeria English
2. Fairy tales Hans Christian Andersen 1836 Denmark Danish
3. The Divine Comedy Dante Alighieri 1315 Italy Italian
4. The Epic Of Gilgamesh Unknown -1700 Sumer and Akkadian Empire Akkadian
5. The Book Of Job Unknown -600 Achaemenid Empire Hebrew
6. One Thousand and One Nights Unknown 1200 India /Iraq/Egypt /Tajikistan
7. Njål's Saga Unknown 1350 Iceland Old Norse 384 https://en.wikipedia.org/wiki/Nj%C3%
8. Pride and Prejudice Jane Austen 1813 United English 226 https://en.wikipedia.org/wiki/Pride_an
443 https://en.wikipedia.org/wiki/Le_P%C
256 https://en.wikipedia.org/wiki/Molloy_(
The Unnamable, the trilogy Beckett Ireland English
Export project
Tab-separated value
Comma-separated value
HTML table
Excel
ODF spreadsheet
Triple loader
MQLWrite
Custom tabular exporter...
Templating...
RDF as RDF/XML
RDF as Turtle
exportar los datos en RDF
javascript:{}

```
@prefix schema: <http://schema.org/> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix dct: <http://purl.org/dc/terms/> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .

<https://en.wikipedia.org/wiki/Things_Fall_Apart> a schema:Book ;
    schema:name "Things Fall Apart"@en ;
    schema:author "Chinua Achebe" ;
    schema:datePublished "1958"^^xsd:date ;
    schema:locationCreated "Nigeria" ;
    schema:inLanguage "English" ;
    schema:numberOfPages "209" .

<https://en.wikipedia.org/wiki/Fairy_Tales_Told_for_Children._First_Collection.> a schema:
    schema:name "Fairy tales"@en ;
    schema:author "Hans Christian Andersen" ;
    schema:datePublished "1836"^^xsd:date ;
    schema:locationCreated "Denmark" ;
    schema:inLanguage "Danish" ;
    schema:numberOfPages "784" .

<https://en.wikipedia.org/wiki/Divine_Comedy> a schema:Book ;
```

datos en formato RDF / Turtle

AGENDA

- ¡Pura Vida!
- Introducción OpenRefine
- Creación de base de datos en RDF
- Creación de página com publicación (RDFa)
- Presentación del resultados y projecto del curso
- 

MODELO DE LA PRESENTACIÓN

- Planificación del projecto de publicación de datos
- Página HTML con metadatos (human & machine readable)
- Bases de datos en más de 1 formato
- Investigación de aplicación de las BPs
- Dificultades

(15 min)