

BRUSSELS COMIC BOOK ROUTE

Application of the Local Heritage Quick App methodology

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About this document

This document shows an step-by-step example of how the [Local Heritage Quick App methodology](#) was applied to the Comic Book Route in Brussels.

The [Local Heritage Quick App](#) project provides a **methodology** and a **set of tools** for towns to promote their most precious assets, enabling citizens and institutions to launch new projects focused on local art, culture, history, nature, or whatever is engaging in a place.

Background

- Objective:
 - > Something intuitive visitors and citizens can use
 - > Quick, simple and ready to use
 - > Multilingual
 - > Enriched by third-party data sources (Wikipedia, comic journals, etc.)

- Context
 - > What is Belgium famous for? Waffles, Chocolate, Beer, Comic books...
 - > Brussels has an open data initiative
 - > We have Quick App templates

Brussels' Comic Book Route: Since the early 90s, Brussels pays tribute to characters and authors of the Franco-Belgian comics on the walls in the city center



Process

Step 1. clone and configure the project

Step 2. populate the database

Step 3. publish the database

Step 4. customize the app

Step 5. run (and publish) the app

Clone the open source project (basic *git* skills needed)

About

Points of Interest Quick App: represent local cultural heritage assets, artworks... using this template

espinr Fixing broken link · 9f2bbfa on May 23 · 7 commits

Code main 2 branches 0 tags Go to file Add file Code Use this template

Commits

- .github First Commit 3 months ago
- docs Fixing broken link 3 months ago
- quick-app Updated repositories and dependencies 3 months ago
- .gitignore First commit 3 months ago
- LICENSE First Commit 3 months ago
- LICENSE-CODE First Commit 3 months ago

README.md

Local Cultural Heritage Quick App

The Local Cultural Heritage Quick App promotes cultural heritage collections in small and medium cities through open data and crowdsourcing.

It's free, open-source, and collaborative

Any city can implement its own application in a few hours. They only need one or more experts to feed the first version of the database.

Currently, we have the following proofs of concept:

Create a new repository from local-cultural-heritage

The new repository will start with the same files and folders as [espinr/local-cultural-heritage](#).

Owner * espinr

Repository name * comic-book-route

Great repository names are short and memorable. Need inspiration? How about [congenial-broccoli](#)?

Description (optional) Quick App for the Brussels Comic Book Route

Public Anyone on the internet can see this repository. You choose who can commit.

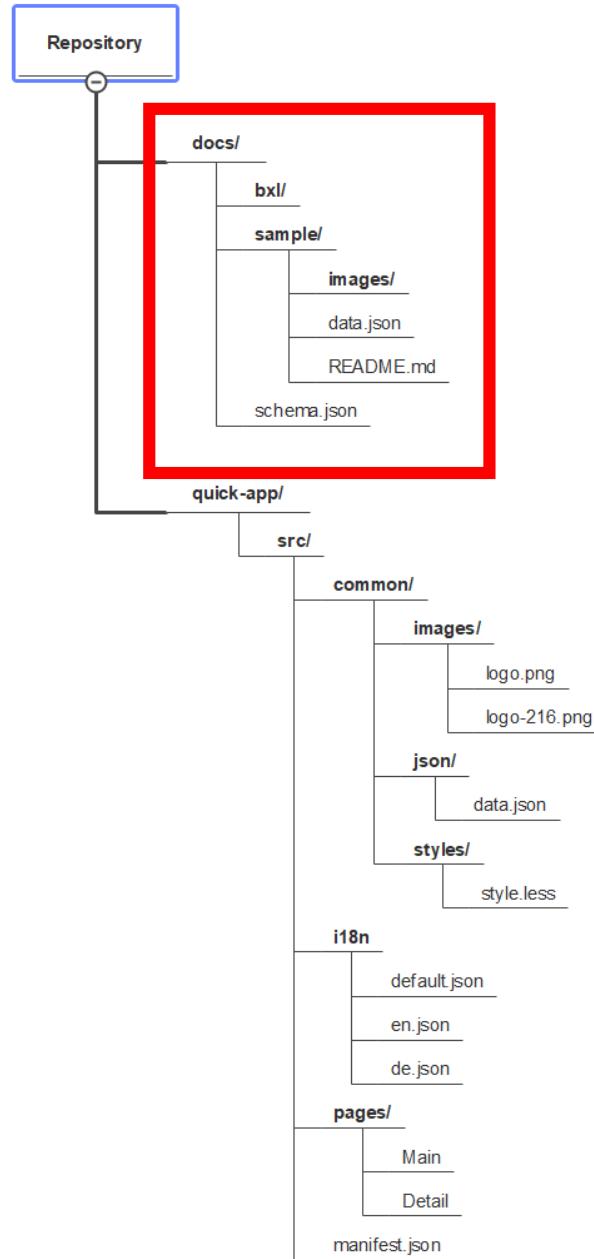
Private You choose who can see and commit to this repository.

Include all branches Copy all branches from [espinr/local-cultural-heritage](#) and not just `main`.

(i) You are creating a public repository in your personal account.

Create repository from template

Structure of the code



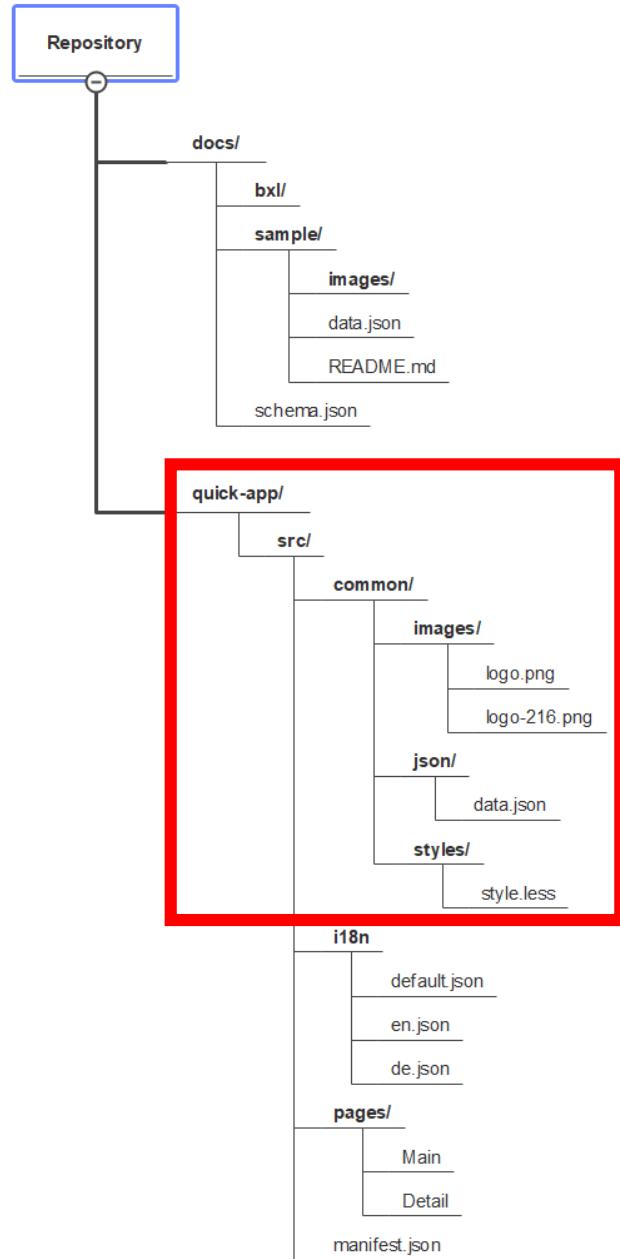
Database and images, publicly accessible
(also on the Web)

sample/ → example to rename and reuse

schema.json → JSON schema to validate the database once it's updated.

data.json → database

Structure of the code

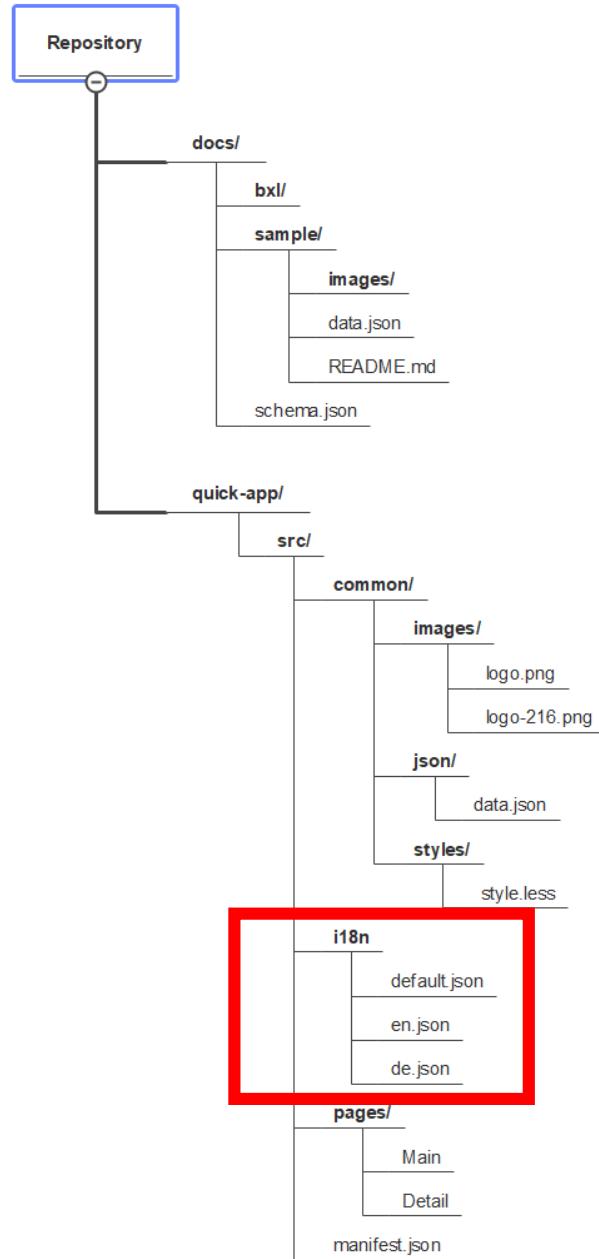


Quick App source code (need to compile before run)

common/ → media, images, resources

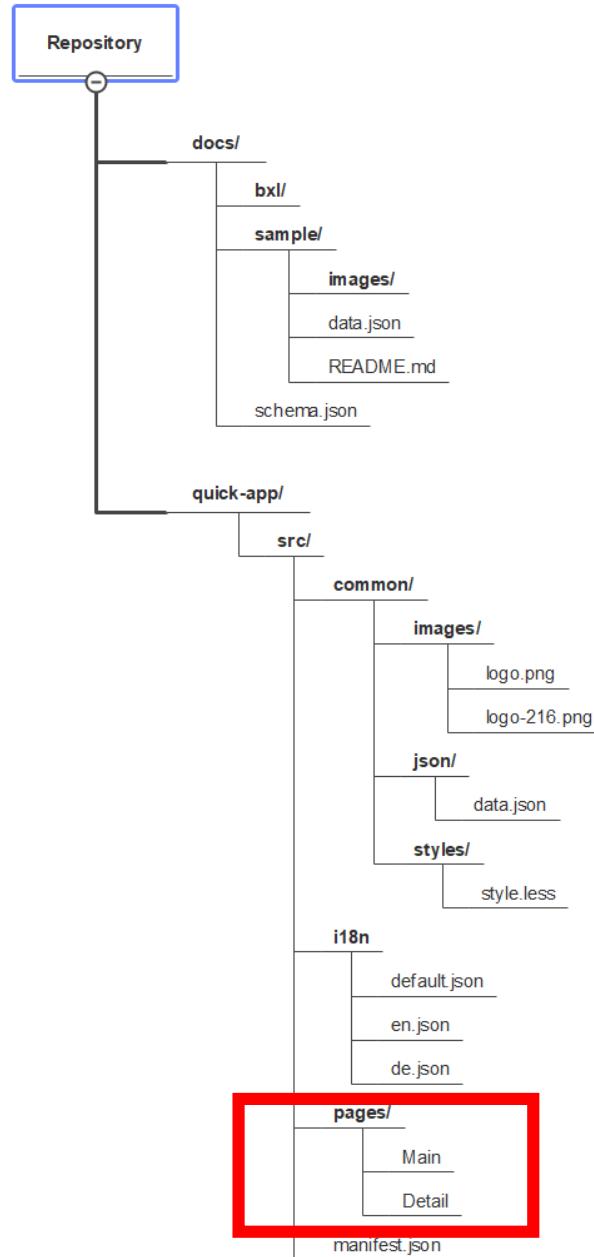
data.json → local version of the database
(it will be replaced in case the app finds a more recent update on the Web.)

Structure of the code



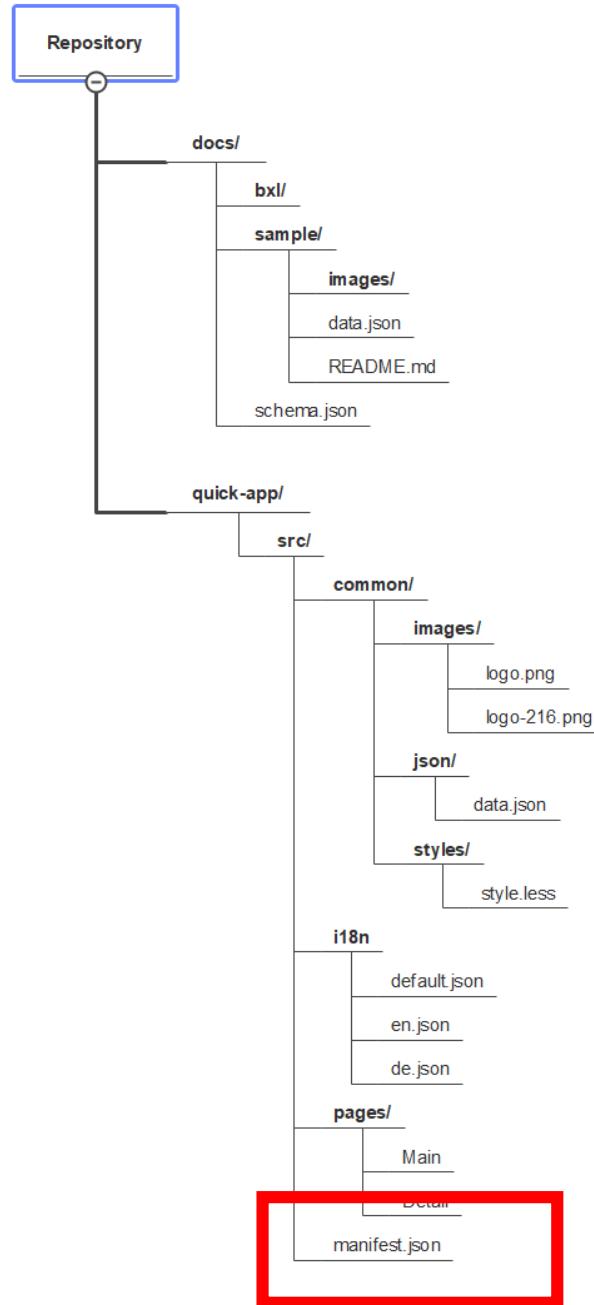
i18n/ → localization of the user interface

Structure of the code



pages/ → main components of the app

Structure of the code



manifest.json/ → app metadata and setup

Process

Step 1. clone and configure the project

Step 2. populate the database

Step 3. publish the database

Step 4. customize the app

Step 5. run (and publish) the app

Brussels Open Data provides a dataset

The screenshot shows the Brussels Open Data website interface. At the top, there's a red header bar with the 'Open Data' logo and the city name 'Brussels'. Below the header, a navigation menu includes 'Home', 'Explore' (which is highlighted in blue), 'Cartograph', 'API', 'License', 'FAQ', 'News', 'Links', 'Suggestions', and 'Contact'. A language selector 'FR | NL | EN' is in the top right corner. The main content area features a banner image of a stone relief depicting a figure's face. On the left, a sidebar has a '64 records' summary and a 'Filters' section with a search bar. The main content area is titled 'Comic book route' and describes the location of comic book walls in Brussels. It includes tabs for 'Information' (which is selected), 'Table', 'Map', 'Images', 'Export', and 'API'. The dataset identifier is 'comic-book-route'. Key metadata listed includes: Downloads: 1,175; Themes: Culture, Heritage; Keywords: culture, tourisme, comic, strip; License: Licence Ouverte (Etablab) (highlighted with a red box); Language: English; Modified: December 15, 2021 1:56 PM; Publisher: VisitBrussels; Reference: <http://www.brussels.be/5316>; Territory: Bruxelles; Last processing: December 15, 2021 1:56 PM (metadata) / December 15, 2021 1:56 PM (data). Below this is a 'DCAT' section with entries for Created (February 24, 2012), Issued (October 1, 2013), and Spatial (City of Brussels). At the bottom, there's a 'Dataset schema' section and a link to the dataset's schema page: <https://bruxellesdata.opendatasoft.com/explore/dataset/comic-book-route/table/>.

... in open **format** (CSV), by the way 😊

The screenshot shows the Bruxelles Open Data website interface. At the top, there's a red header bar with the text "FR | NL | EN". Below it is a navigation bar with links: Home, Explore (which is highlighted in blue), Cartograph, API, License, FAQ, News, Links, Suggestions, and Contact. To the right of the navigation bar is a decorative image of a stone relief of a face. The main content area has a title "Comic book route" and a subtitle "64 records". Below this, there's a "No active filters" message and a "Filters" section with a search bar. The main data view is a table with the following columns: Character(s), Author(s), Geocoordinates, Year, and Photo. The table contains 19 rows of data, each with a unique identifier (1-19) and details about a specific comic book route location. The "Photo" column shows small thumbnail images corresponding to each entry.

	Character(s)	Author(s)	Geocoordinates	Year	Photo
1	Cori	Bob de Moor	50.8482909956, 4.3421959877	1998	cori_le_mousailler
2	Passe-moi l'ciel - Oh! Lieve Hemel	Stuff & Janny	50.8387322, 4.3520306	2002	passe_moi_l_ciel.n
3	Froud & Stouf	Jannin & Liberski	50.8440542, 4.3455639	2014	fresque_froudstouf
4	Le Jeune Albert - De Jonge Albert	Yves Chaland	50.8433593148, 4.35011386871	2000	le_jeune_albert.rue
5	Jojo	Geerts	50.8351206193, 4.34547901154	1996	le_petit_jojo.rue_p
6	Parchis	Peter Willems	50.87021, 4.342756	2016	parchis-peterwille
7	Yoko Tsuno	Roger Leloup	50.8425826, 4.3474095	2011	yoko_tsuno_rue_t
8	Gaston Lagaffe - Guust Flater	Franquin	50.8492461098, 4.3537402153	2007	gaston_lagaffe.rue
9	Kiekeboe	Merho	50.8936569, 4.3516674	2009	kiekeboe_av_du_g
10	La patrouille des Castors - De Bever...	Mitacq	50.8356220289, 4.3444275856	2003	
11	Le Petit Spirou - De Kleine Robbedoes	Tome & Janny	50.8942608, 4.34231	1996	petit_spirou_bd_c
12	Titeuf	Zep	50.8700844057, 4.34397697449	2006	titeuf.avenue_boc
13	Tour à Plomb - Hageltoren	Zidrou	50.847841, 4.3395	2018	zidrou_0.PNG
14	Tamara	Zidrou & Christian Darasse	50.882038, 4.344161	2019	tamara.jpg
15	Spirou - Robbedoes	Yoann & Vehlmann	50.8380325, 4.3505493	2014	spirou_rue-notre-d
16	Les rêves de Nick - De dromen van ...	Herman	50.8487651682, 4.3412733078	1999	les_reves_de_nick
17	Lincoln	Jouvray	50.8772608627, 4.35940504074	2006	lincoln_palaisoutre
18	Lucky Luke	Morris	50.8475, 4.341417	1993	luckyluke_rue_de_l
19	Martine - Tinnv	Marcel Marlier	50.876218314, 4.3592775238	2004	martine.avenue_d

<https://bruxellesdata.opendatasoft.com/explore/dataset/comic-book-route/table/>

We need to refine the data

 **OpenRefine** A power tool for working with messy data.

Create Project « Start Over | Configure Parsing Options Project name: comic book route csv Tags: Create Project »

	Character(s)	Author(s)	Geocoordinates	Year	Photo
1.	Billy the Cat	Colman & Desberg	50.8534930829,4.34524297714	2000	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/0c23baaaad4ec7e0a9febe61e0633047
2.	Blondin & Cirage - Blondin & Blinkie	Jijé	50.8382916052,4.34736728668	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/3b8b7b02b73d4559a210ed2f2732cb2
3.	La Vache - De Koe	Johan de Moor	50.8528725,4.357844	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1863e288e9247fd3f63c93ba0cb629a5
4.	Schtroumpfs - Smurfen (Smurfs)	Peyo	50.845641,4.355886	2018	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e89705bfe2b80e6e73f42c1dfda1c16c
5.	Après-midi place Bockstaél - 's Namiddags aan het Bockstaëlein	Elodie Shanta	50.877108,4.346971	2021	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/d7244fa78a65e9bc49ac482343340200
6.	Benoit Brisefer - Steven Sterk	Peyo	50.8391525,4.3504241	2015	
7.	Corto Maltese	Pratt	50.8605342,4.3485253	2009	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/21a653087012d0a110d8ea37b66a549a
8.	LGBT	Ralf König	50.846751,4.349346	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/fbd8432358b23177561a68366b4312e
9.	Quick & Flupke	Herg??	50.840422,4.350264	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/19e870cfd99c38bc1435021617a8388
10.	Le Chat - De Kat	Philippe Geluck	50.8378444279,4.34198141098	1993	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/5f100cb9735ad5e3a7c76eb2ae883be1
11.	L'Ange de Sambre - De Aartsengel	Yslaire	50.8489412883,4.34687376022	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b0c9a62962686c954fab8c00b971fc
12.	Solastalgie	Eva Roussel	50.8807067871,4.34292840958	2021	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/f172cca2444f7d0276a71cbde762877b
13.	Marsupilami	Franquin	50.8907142,4.3371644	2013	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-

Parse data as: CSV / TSV / separator-based files
Character encoding: UTF-8 Update Preview

Columns are separated by: commas (CSV) Trim leading & trailing whitespace from strings
Line-based text files Discard initial 0 row(s) of data
Fixed-width field text files Load at most 0 row(s) of data
PC-Axis text files Use character " to enclose cells containing column separators
JSON files Column names (comma separated):
MARC files Attempt to parse cell text into numbers
JSON-LD files Store blank rows
RDF/N3 files Store blank cells as nulls
RDF/N-Triples files Store file source
RDF/Turtle files Store archive file

Version 3.5.2 [e3efd4e] Preferences Help About

Adaptation to our templates

Using own scripts or
Open Refine 😊

<https://openrefine.org>

High-quality dataset with 64 Points of Interest

OpenRefine Comic Book Route BXL Permalink

Facet / Filter Undo / Redo 0 / 0 <

Photo
2 choices Sort by: name count
false 61
true 3
Facet by choice counts

Geocoordinates
1 choice Sort by: name count
false 64
Facet by choice counts

Character(s)
1 choice Sort by: name count
false 64
Facet by choice counts

64 rows

Show as: rows records Show: 5 10 25 50 100 500 1000 rows

Extensions: Wikidata ▾

All	Character(s)	Author(s)	Geocoordinates	Year	Photo
1.	Billy the Cat	Colman & Desberg	50.8534930829,4.34524297714	2000	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/0c23baaaead4ec7e0a9febe61e0633047
2.	Blondin & Cirage - Blondie & Blinkie	Jijé	50.8382916052,4.34736728668	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e3bb87b02b73d4559a210ed22732cb2
3.	La Vache - De Koe	Johan de Moor	50.8528725,4.357844	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1863e288e9247fd3f63c93ba0c6b29a5
4.	Schtroumpfs - Smurfen (Smurfs)	Peyo	50.845641,4.355886	2018	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e89705bfe2b80e6e73f42c1dfda1c16c
5.	Après-midi place Bockstaél - 's Namiddags aan het Bockstaelplein	Elodie Shanta	50.877108,4.346971	2021	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/d7244fa78a65e9bc49ac482343340200
6.	Benoit Brisefer - Steven Sterk	Peyo	50.8391525,4.3504241	2015	
7.	Corfo Maltese	Pratt	50.8605342,4.3485253	2009	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/21a653087012d0a110d8ea37b66a549a
8.	LGBT	Ralf König	50.846751,4.349346	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/f1bd8432358b23177561a68366b4312e
9.	Quick & Flupke	Herg??	50.840422,4.350264	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/19e870c2fd99c38bc1435021617a8389
10.	Le Chat - De Kat	Philippe Geluck	50.837844279,4.34198141098	1993	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/5f00a0b9735ad5e3ac76deb2ae863be0
11.	L'Ange de Sambre - De Aartsengel	Yslaire	50.8489412883,4.34687376022	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b0c9a629962686c954fafb8c00971f1c
12.	Solastalgie	Eva Roussel	50.8807067871,4.34292840958	2021	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/f172cca2444f7d0276a71cbde762877b
13.	Marsupilami	Franquin	50.8907142,4.3371644	2013	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/4d909466e3164c0ef0e0d5ae4a21a1d0
14.	La Voie lactée	Mathilde Van Gheluwe	50.8394619195,4.34260158861	2019	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1f66cb113cd88bb60405f77a4c13fc73
15.	Boule & Bill - Bollie & Billie	Roba	50.8376411641,4.3455862999	1992	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/4e84973d8a839c63fb15edbe02671c7
16.	Le roi des mouches	Mezzo	50.87640787,4.35762405396	2007	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b5cffaab8e2e4a0a93c1579632d32a
17.	Blake & Mortimer	Jacobs	50.8398908,4.3513569	2005	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/5082678d8893671de023f9157caa227fa
18.	Le monde ... l'envers - De omgekeerde wereld	Atak	50.87798328811941,4.348827242299489	2021	
19.	Martine - Tinny	Marcel Marlier	50.876218314,4.35929775238	2004	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/928129a147e577c70480d4f905254d31
20.	Broussaille - Ragebol	Frank Pé	50.8467465143,4.34942722321	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b17dacbf026ff22035464e3d0f12b51
21.	Caroline Baldwin	Taymans & Wesel	50.8487380728,4.33895587921	2003	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/310a0910ca6fc0d6eb6845f8b1fca476

3 with no picture

All had name,
and coordinates 

Data cleansing: split coordinate components

The screenshot illustrates a data cleansing process for splitting coordinate components. On the left, a table view shows a single column named "Geocoordinates". A context menu is open over this column, with the option "Split column Geocoordinates into several columns" highlighted. This leads to a configuration dialog.

How to Split Column:

- by separator
- by field lengths

Separator: regular expression

Split into columns at most (leave blank for no limit)

After Splitting:

Guess cell type
 Remove this column

OK Cancel

The dialog is overlaid on a larger table view on the right. This table contains four rows of data, each consisting of two columns labeled "Geocoordinates 1" and "Geocoordinates 2". The data is as follows:

Geocoordinates 1	Geocoordinates 2
50.8534930829	4.34524297714
50.8382916052	4.34736728668
50.8528725	4.357844
50.845641	4.355886

Data cleansing: split several authors

The screenshot shows a data processing interface with a table and a dialog box.

Table Headers: Row numbers (5, 10, 25, 50, 100, 500, 1000), 'rowid', 'Author(s)', 'lat', 'lon'.

Table Data:

	Author(s)	lat	lon
	Colman & Desberg		
linkie	Jijé		
	Johan de Moor		

Dialog Box: Split column Author(s) 1 into several columns

How to Split Column:

- by separator
Separator: & regular expression
- by field lengths
List of integers separated by commas, e.g., 5, 7, 15

After Splitting:

- Guess cell type
- Remove this column

OK Cancel

Resulting Table:

	Author(s) 1	Author(s) 2	
	Colman	Desberg	
linkie	Jijé		
	Johan de Moor		
	Peyo		

Original dataset properly formatted

OpenRefine Comic Book Route BXL Permalink

Facet / Filter Undo / Redo 9 / 9

Refresh Reset All Remove All

64 rows Show as: rows records Show: 5 10 25 50 100 500 1000 rows. Extensions: Wikidata

All name author1 author2 latitude longitude year photo

	1.	Billy the Cat	Colman	Desberg	50.8534930829	4.34524297714	2000	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/0c23baaeaad4ec7e0a9febe61e0633047
	2.	Blondin & Cirage - Blondie & Blinkie	Jijé		50.8382916052	4.34736728668	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e3b8b7b02b73d4559a210ed2f2732cb2
	3.	La Vache - De Koe	Johan de Moor		50.8528725	4.357844	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1863e288e9247fd3f63c93ba0cb629a5
	4.	Schtroumpfs - Smurfen (Smurfs)	Peyo		50.845641	4.355886	2018	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e89705bf2b80e6e73f42c1fdfda1c16c
	5.	Après-midi place Bockstaél - 's Namiddags aan het Bockstaëlein	Elodie Shanta		50.877108	4.346971	2021	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/d7244fa78a65e9bc49ac482343340200
	6.	Benoit Brisefer - Steven Sterk	Peyo		50.8391525	4.3504241	2015	
	7.	Corto Maltese	Pratt		50.8605342	4.3485253	2009	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/21a653087012d0a110d8ea37b66a549a
	8.	LGBT	Ralf König		50.846751	4.349346	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/fbd8432358b23177561a68366b4312e
	9.	Quick & Flupke	Herg??		50.840422	4.350264	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/19e870c2fd99c38bc1435021617a8389
	10.	Le Chat - De Kat	Philippe Geluck		50.8378444279	4.34198141098	1993	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/55000cb9735ad5e3ac76deb2ae863be0
	11.	L'Ange de Sambre - De Aartsengel	Yslaire		50.8489412883	4.34687376022	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b0c9a62962686c954fa0c00b971fc
	12.	Solastalgie	Eva Roussel		50.8807067871	4.34292840958	2021	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/f172cca24447d0276a71cbde762877b
	13.	Marsupilami	Franquin		50.8907142	4.3371644	2013	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/4d909466e3164c0f0e0d5ae4a21a1d0
	14.	La Voie lactée	Mathilde Van Gheluwe		50.8394619195	4.34260158861	2019	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1f86cb113cd88b6b0405f77a4c13fc73
	15.	Boule & Bill - Bollie & Billie	Roba		50.8376411641	4.3455862999	1992	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/4e84973ddaa8839c63fb15edbe02871c7
	16.	Le roi des mouches	Mezzo		50.87640787	4.35762405396	2007	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b5cfaab92e32e4a0a93c1579632d32a
	17.	Blake & Mortimer	Jacobs		50.8398908	4.3513569	2005	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/5082678d893671de023f9157caa227fa
	18.	Le monde ... l'envers - De omgekeerde wereld	Atak		50.87798328811941	4.348827242299489	2021	
	19.	Martine - Tinny	Marcel Marlier		50.876218314	4.35929775238	2004	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/928f29a147e577c0480d4f90525d31
	20.	Broussaille - Ragebol	Frank Pé		50.8467465143	4.34942722321	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b17dacbf026ff22035464e3d0f12b51
	21.	Caroline Baldwin	Taymans	Wesel	50.8487380728	4.33895587921	2003	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/310a910ca6fc0d6eb6845f801fc4f76
	22.	Le grand Jour qui n'a pas lieu	Dominique		50.8555905	4.354617	2019	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/10a555905

One author/column

Geo. coordinates

Minor editorial changes

Okay... but...

OpenRefine Comic Book Route BXL [Permalink](#)

Facet / Filter Undo / Redo 9 / 9

Refresh Reset All Remove All

64 rows Show as: rows records Show: 5 10 25 50 100 500 1000 rows Extensions: Wikidata ▾

	name	author1	author2	latitude	longitude	year	photo
1.	Billy the Cat	Colman	Desberg	50.8534930829	4.34524297714	2000	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/0c23baeaaed4ec7e0a9febe61e0633047
2.	Blondin & Cirage - Blondie & Blinkie	Jije		50.8382916052	4.34736728668	1998	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/e3b8b7b02b73d4559a210ed2f273cb2
3.	La Vache - De Koe	Johan de Moor		50.8528725	4.357844	1999	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/1863e288e9247fd3f63c93ba0c6b29a5
4.	Schtroumpfs - Smurfen (Smurfs)	Peyo		50.845641	4.355886	2018	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/e89705bfe2b80e6e73f42c1fdfda1c16c
5.	Après-midi place Bockstaél - 's Namiddags aan het Bockstaéplein	Elodie Shanta		50.877108	4.346971	2021	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/d7244fa78a65e9bc49ac482343340200
6.	Benoit Brisefer - Steven Sterk	Peyo		50.8391525	4.3504241	2015	
7.	Corto Maltese	Pratt		50.8605342	4.3485253	2009	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/21a653087012d0a110d8ea37b66a549a
8.	LGBT	Ralf König		50.846751	4.349346	2015	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/fbd8432358b23177561a68366b4312e
9.	Quick & Flupke	Herg??		50.840422	4.350264	2015	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/19e870c2fd998c38bc1435021617a8389
10.	Le Chat - De Kat	Philippe Geluck		50.8378444279	4.34198141098	1993	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/55000cb9735ad5e3ac76deb2ae863be0
11.	L'Ange de Sambre - De Aartsengel	Yslaire		50.8489412883	4.34687376022	1998	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/b0c9a62962686c954faf0b00b971fc1
12.	Solastalgie	Eva Roussel		50.8807067871	4.34292840958	2021	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/f172cca24447d0276a71cbde762877b
13.	Marsupilami	Franquin		50.8907142	4.3371644	2013	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/4d909466e3164c0f0e0d5ae4a21a1d0
14.	La Voie lactée	Mathilde Van Gheluwe		50.8394619195	4.34260158861	2019	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/1f86cb113cd88b6b0405f77a4c13fc73
15.	Boule & Bill - Bollie & Billie	Roba		50.8376411641	4.3455862999	1992	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/e84973ddaa8839c63fb15edbe02871c7
16.	Le roi des mouches	Mezzo		50.87640787	4.35762405396	2007	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/b5cfab92e32e4a093c1579632d32a
17.	Blake & Mortimer	Jacobs		50.8398908	4.3513569	2005	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/5082678d893671de023f9157caa227fa
18.	Le monde ... l'envers - De omgekeerde wereld	Atak		50.87798328811941	4.348827242299489	2021	
19.	Martine - Tinny	Marcel Marlier		50.876218314	4.35929775238	2004	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/928f29a147e577c0480d4f90525d31
20.	Broussaille - Ragebol	Frank Pé		50.8467465143	4.34942722321	1999	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/b17dacbf026ff22035464e3d0f12b51
21.	Caroline Baldwin	Taymans	Wesel	50.8487380728	4.33895587921	2003	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/310a0910ca6fc0d6beb6845f801fc476
22.	Le grand Jour qui n'a pas lieu	Dominique		50.855595	4.354617	2019	https://opendata.brussels.be/api/v2/catalog/datasets/comic-book-route/files/0c23baeaaed4ec7e0a9febe61e0633047

Who is *Billy the Cat?*
...and *Colman*?
...and *Desberg*?



<https://www.parcoursbd.brussels/en/fresques/billy-the-cat/>

Looking for the semantics

Reconcile column "name"

Access Service API [🔗](#)

Reconcile each cell to an entity of one of these types:

- comic book series Q14406742
- comic book album Q2831984
- community Q177634
- silent film Q226730
- media franchise Q196600
- gag cartoon Q3543088
- version, edition, or translation Q3331189
- social movement Q49773
- magazine

Also use relevant details from other columns:

Column	Include? As Property
author1	<input checked="" type="checkbox"/>
author2	<input checked="" type="checkbox"/>
latitude	<input type="checkbox"/>
longitude	<input type="checkbox"/>
year	<input type="checkbox"/>
photo	<input type="checkbox"/>

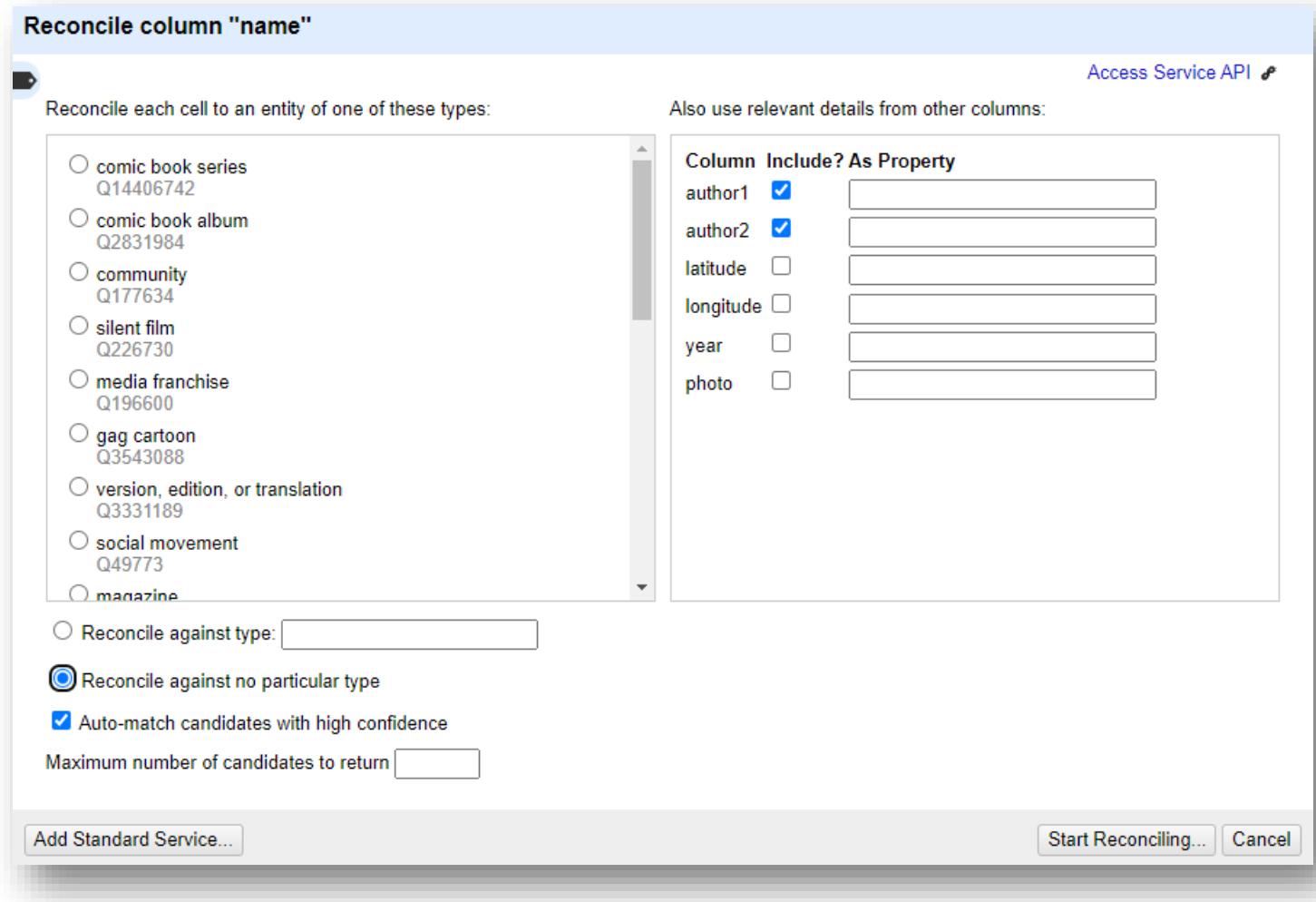
Reconcile against type:

Reconcile against no particular type

Auto-match candidates with high confidence

Maximum number of candidates to return

Add Standard Service... Start Reconciling... Cancel



Reconciliation of
painting title to
external semantic
entities (Wikidata)

We could use official
(trusted) endpoints

30" later, we have semantics in our spreadsheet

The screenshot shows the OpenRefine interface with a dataset titled "Comic Book Route BXL". The main view displays 64 rows of data, including columns for name, author1, author2, latitude, longitude, year, and photo. A row for "Billy the Cat" is selected, and a black arrow points from this row to a detailed view of the same item on Wikidata.

OpenRefine Comic Book Route BXL Permalink

Facet / Filter Undo / Redo 10 / 10

Refresh Reset All Remove All

62 choices Sort by: name count Cluster

name: judgment change

2 choices Sort by: name count

matched 5

none 59

Facet by choice counts

name: best candidate's score

59 — 101

Numeric Non-numeric Blank Error

53 0 11 0

64 rows

Show as: rows records Show: 5 10 25 50 100 500 1000 rows

Extensions: Wikidata

All name author1 author2 latitude longitude year photo

1. Billy the Cat Colman Desberg 50.8534930829 4.34524297714 2000 https://opendata.bruxelles.be/api/v2/catalog/datasets/comicedit book-route/files/0c23baaead4ec7e0a9febe61e0633047

Billy the Cat (Q20198456)

Main page Community portal Project chat Create a new item Recent changes Random item Query Service Nearby Help Donate

French/Belgian animated series

Language Label Description Also known as

English Billy the Cat French/Belgian animated series

Spanish No label defined serie de televisión

Catalan No label defined No description defined

Dutch No label defined televisieserie uit Canada

In more languages

Statements

Instance of television series

+ add reference + add value

<https://www.wikidata.org/wiki/Q863286>

We can reconcile by a specific type

Reconcile column "name"

Access Service API ↗

Reconcile each cell to an entity of one of these types:

- comic book series
Q14406742
- comic book album
Q2831984
- community
Q177634
- silent film
Q226730
- media franchise
Q196600
- gag cartoon
Q3543088
- version, edition, or translation
Q3331189
- social movement
Q49773
- magazine

Also use relevant details from other columns:

Column	Include?	As Property
author1	<input type="checkbox"/>	
author2	<input type="checkbox"/>	
latitude	<input type="checkbox"/>	
longitude	<input type="checkbox"/>	
year	<input type="checkbox"/>	
photo	<input type="checkbox"/>	

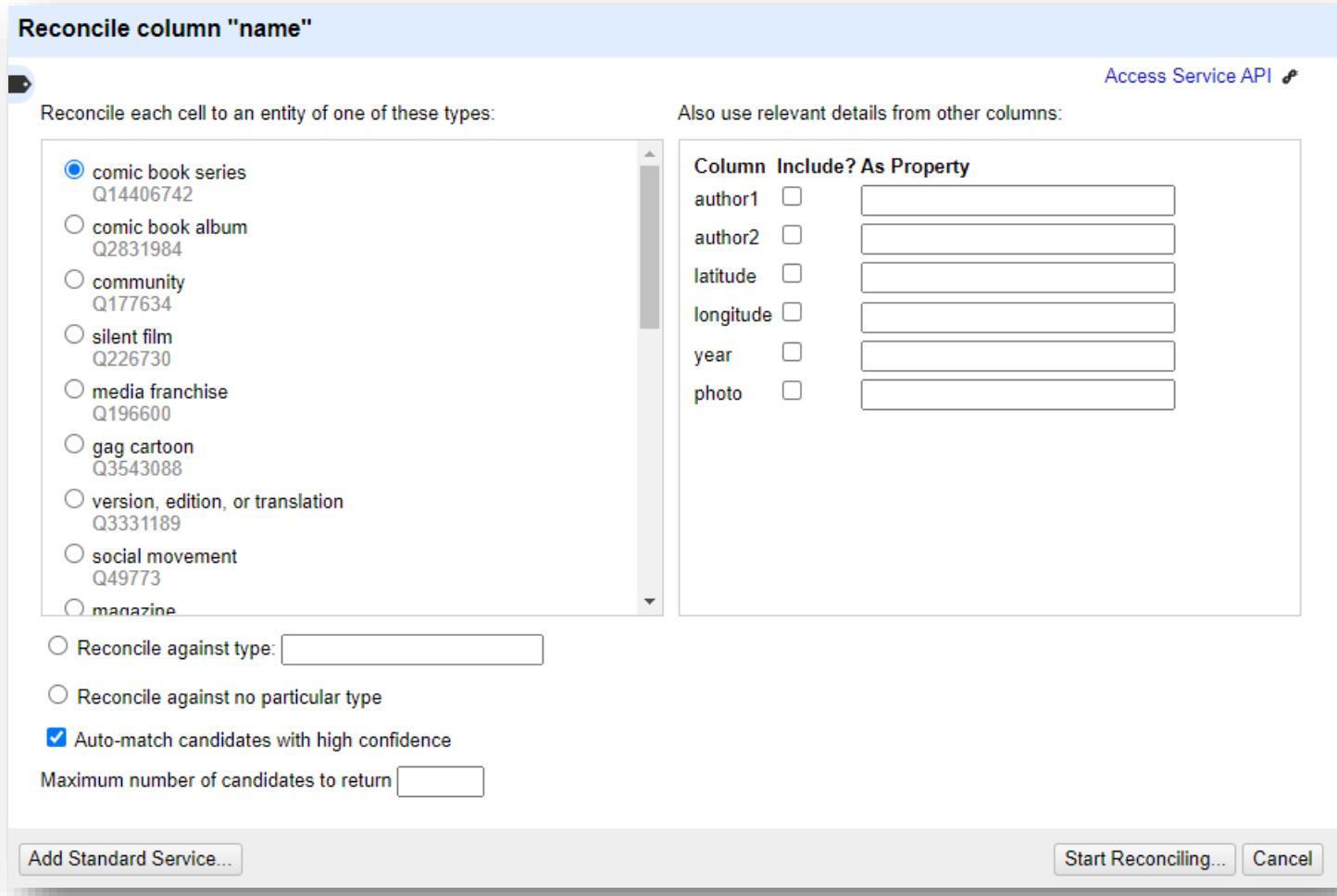
Reconcile against type:

Reconcile against no particular type

Auto-match candidates with high confidence

Maximum number of candidates to return

Add Standard Service... Start Reconciling... Cancel



We are just focused on comic books, so we'll be accurate.

Some perfect, and close matches

OpenRefine Comic Book Route BXL Permalink

Facet / Filter Undo / Redo 11 / 11

Refresh Reset All Remove All

59 matching rows (64 total)

Show as: rows records Show: 5 10 25 50 100 500 1000 rows

All name author1 author2 latitude longitude year photo

Extensions: Wikidata

1. Billy the Cat Colman Desberg 50.8534930829 4.34524297714 2000 https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/0c23baaead4ec7e09febe61e0633047

2. Blondin & Cirage - Blondie & Blinkie Jijé 50.8382916052 4.34736728668 1998 https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e3b8b7b02b73d4559a210ed2f2732cb2

3. La Vache - De Koe Johan de Moor 50.8528725 4.357844 1999

4. Schtroumpfs - Smurfs (Smurfs) Peyo 50.8382916052 4.34736728668 1998

Match this Cell Match All Identical Cells Cancel

Blondin et Cirage (Q611537)
comic book series

5. Après-midi place Bockstael - 's Namiddags aan het Bockstaelplein Elodie Shanta 50.8528725 4.357844 2021 https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/d7244fa78a65e9bc49ac482343340200

57 choices Sort by: name count Cluster

Franquin 2
Peyo 2
Atak 1
Aurélie William Levaux 1
Bob de Moor 1
Carin 1
Céline Fraipont 1
Colman 1
Dany 1
Dominique Goblet 1
Dupa 1
Dumiv 1

name: judgment change

2 choices Sort by: name count

matched 20
none 39

Facet by choice counts

name: best candidate's change reset score

59 — 101

Numeric 47 Non-numeric 0 Blank 17

Error 0

name: judgment change

2 choices Sort by: name count

matched 20
none 39

Finally, 48 matches

OpenRefine Comic Book Route BXL Permalink

Facet / Filter Undo / Redo 58 / 58

Refresh Reset All Remove All

46 choices Sort by: name count Cluster

author1

Franquin 2
Peyo 2
Bob de Moor 1
Carin 1
Céline Fraipont 1
Colman 1
Dany 1
Dupa 1
Dupuy 1
François Walthéry 1
Frank Pé 1
Geerts 1

name: judgment change invert reset

2 choices Sort by: name count

matched 48 exclude
new 16
Facet by choice counts

48 matching rows (64 total)

Show as: rows records Show: 5 10 25 50 100 500 1000 rows

Extensions: Wikidata ▾

	All	name	original-name	author1	author2	latitude	longitude	year	photo
1.	Billy the Cat Choose new match	Billy the Cat	Colman	Desberg	50.8534930829	4.34524297714	2000	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/0c23baaead4ec7e0a9fbe61e0633047	
2.	Blondin et Cirage - Blondie & Blinkie Choose new match	Blondin & Cirage - Blondie & Blinkie	Jijé		50.8382916052	4.34736728668	1998	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e3b8b7b02b73d4559a210ed2f2732cb2	
3.	La Vache - De Koe Choose new match	La Vache - De Koe	Johan de Moor		50.8528725	4.357844	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1863e288e9247fd3f63c93ba0c6b29a5	
4.	The Smurfs Choose new match	Schtroumpfs - Smurfen (Smurfs)	Peyo		50.845641	4.355886	2018	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/e89705bfe2b80e6e7f3f42c1dfda1c16c	
6.	Benoit Brisefer - Steven Sterk Choose new match	Benoit Brisefer - Steven Sterk	Peyo		50.8391525	4.3504241	2015		
7.	Corfo Maltese Choose new match	Corfo Maltese	Pratt		50.8605342	4.3485253	2009	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/21a653087012d0a110d8ea37b6a549a	
8.	LGBT community Choose new match	LGBT	Ralf König		50.846751	4.349346	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/fbd8432358b23177561a68366b4312e	
9.	Quick & Flupke Choose new match	Quick & Flupke	Herg??		50.840422	4.350264	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/19e870c2fd99c38bc14350201617a8389	
10.	Le Chat - De Kat Choose new match	Le Chat - De Kat	Philippe Geluck		50.8378444279	4.34198141098	1993	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/55100cb9735ad5e3ac76deb2ae863be0	
13.	Marsupilami Choose new match	Marsupilami	Franquin		50.8907142	4.3371644	2013	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/4d909466e3164c0e0f005aa421a1d0	
15.	Boule et Bill - Bollie & Billie Choose new match	Boule & Bill - Bollie & Billie	Roba		50.8376411641	4.3455862999	1992	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/4e84973da8839c63fb15edbe02671c7	
17.	Blake and Mortimer Choose new match	Blake & Mortimer	Jacobs		50.8398908	4.3513569	2005	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/5082678d893671de02f9151caa227fa	
20.	Broussaille - Ragebol Choose new match	Broussaille - Ragebol	Frank Pé		50.8467465143	4.34942722321	1999	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/b17dacbf026ff22035464e3d0f12b51	
21.	Caroline Baldwin Choose new match	Caroline Baldwin	Taymans	Wesel	50.8487380728	4.33895587921	2003	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/310a0910cafcd06eb845fb1fc476	
24.	Léonard Choose new match	Léonard	Turk	De Groot	50.8381135	4.3468826	2015	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1a2f0b570fbcc573ae2ef2b761945f	
25.	Odilon Verjus - Govert Suerbier Choose new match	Odilon Verjus - Govert Suerbier	Verron	Yann	50.8386439237	4.34633731842	2004	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/6dbba6f299b0ace70c476a0bca518a0	
26.	Thorgal Choose new match	Thorgal	Grzegorz Rosinski	Jean Van Hamme	50.8436175268	4.34409090675	2013	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/761fb33410c8ee3dcc577a7151eb9af	
28.	Petit Poliu - Stoppeltje Choose new match	Petit Poliu - Stoppeltje	Céline Fraipont	Pierre Baily	50.8929672241	4.42356586456	2020	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/9f7af2d4543c532cb7cede36b5f4822c	
30.	Le Scorpion - De Schorpioen Choose new match	Le Scorpion - De Schorpioen	Marini		50.8477626262	4.3621301651	2002	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/911d3d085d018edc2900ff719e3b755	
31.	Asterix & Obélix Choose new match	Astérix & Obélix	Goscinnny	Uderzo	50.8464078054	4.34236764908	2005	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/8949022f64a09a86fe4774003c14f4	
32.	Gaston Choose new match	Gaston Lagaffe - Guust	Franquin		50.8492461098	4.3537402153	2007	https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-	

We are speaking in terms of Linked Data (for almost humans)

The screenshot shows the Wikidata item page for "Billy the Cat" (Q20198456). The page includes a sidebar with links to Main page, Community portal, Project chat, etc. The main content area displays the title "Billy the Cat" and its description as a "French/Belgian animated series". It lists language labels for English, Spanish, Catalan, and Dutch. Under the "Statements" section, it shows a statement of being an "instance of television series".

<https://www.wikidata.org/wiki/Q863286>

```
wd:Q863286 a wikibase:Item .  
  
<https://fr.wikipedia.org/wiki/Billy_the_Cat> a schema:Article ;  
    schema:about wd:Q863286 ;  
    schema:inLanguage "fr" ;  
    schema:isPartOf <https://fr.wikipedia.org/> ;  
    schema:name "Billy the Cat"@fr .  
  
<https://fr.wikipedia.org/> wikibase:wikiGroup "wikipedia" .  
  
<https://nl.wikipedia.org/wiki/Billy_the_Cat> a schema:Article ;  
    schema:about wd:Q863286 ;  
    schema:inLanguage "nl" ;  
    schema:isPartOf <https://nl.wikipedia.org/> ;  
    schema:name "Billy the Cat"@nl .  
  
<https://nl.wikipedia.org/> wikibase:wikiGroup "wikipedia" .  
  
<https://id.wikipedia.org/wiki/Billy_the_Cat> a schema:Article ;  
    schema:about wd:Q863286 ;  
    schema:inLanguage "id" ;  
    schema:isPartOf <https://id.wikipedia.org/> ;  
    schema:name "Billy the Cat"@id .  
  
<https://id.wikipedia.org/> wikibase:wikiGroup "wikipedia" .  
  
<https://de.wikipedia.org/wiki/Billy_the_Cat> a schema:Article ;  
    schema:about wd:Q863286 ;  
    schema:inLanguage "de" ;  
    schema:isPartOf <https://de.wikipedia.org/> ;  
    schema:name "Billy the Cat"@de .
```

<https://www.wikidata.org/wiki/Special:EntityData/Q863286.ttl>

Enrich the dataset with more information (thanks, KGs 😊)

The screenshot illustrates the process of enriching a dataset using knowledge graphs (KGs). On the left, a screenshot of a data editor shows a context menu open over a row in a table. The menu includes options like "Facet", "Text filter", "Edit cells", "Edit column", "Transpose", "Sort...", "View", "Reconcile", and "LGBT community". A black arrow points from the "Reconcile" option to the right-hand screenshot, which displays a list of 48 matching rows from a KG.

Left Screenshot (Data Editor Context Menu):

- All
- name original-name author1 author2 latitude
- 1. Facet Text filter
- 2. Edit cells
- 3. Edit column Split into several columns...
- 4. Transpose Join columns...
- 5. Sort...
- 6. Add column based on this column...
- 7. View Add column by fetching URLs...
- 8. Reconcile Add columns from reconciled values...
- 9. LGBT community Choose new match
- 10. Quick & Flupke Choose new match
- 11. Le Chat Choose new match
- 12. Marsupilami Choose new match
- 13. Boule et Bill Choose new match
- 14. Blake and Mortimer Choose new match

Right Screenshot (KG Results):

48 matching rows (81 total)

	name	image	GCD series ID	Freebase ID	French Wikidia ID	original-name
1. Billy the Cat Choose new match			9582	/m/079ch0	Billy_the_Cat	Billy the Cat
2. Blondin et Cirage Choose new match	Blondin en Blinkie.JPG					Blondin & Cirage - Blondie & Blinkie
3. La Vache Choose new match						La Vache - De Koe
4. The Smurfs Choose new match			100275	/m/043qx2h		Schtroumpfs - Smurfen (Smurfs)
8. Benoît Brisefer Choose new match	Steven Sterk.jpg	72680	/m/0ffhrd			Benoit Brisefer - Steven Sterk
13. Corto Maltese Choose new match	Dsc (189711025).jpeg		/m/0166jt			Corто Малтийский
14. LGBT community Choose new match	RainbowFlagEdit.jpg		/m/0m8dk		LGBT	Ralf
15. Quick & Flupke Choose new match	Stups und Steppke von Hergé, Brüsseler Wandgemälde.jpg		/m/058qxs		Quick & Flupke	Hergé
16. Le Chat Choose new match			/m/09krc4		Le Chat - De Kat	Philip Gelatt

Polish the dataset: unique identifiers for each row

A screenshot of a dataset grid with five rows labeled 4, 8, 13, 14, and 15. Row 4 has a 'View' context menu open. Row 8 has a 'Reconcile' context menu open, with 'Start reconciling' selected. Row 13 has a 'Brisefer' context menu open, with 'Choose new match' selected. Row 14 has a 'RainbowF' context menu open, with 'Add entity identifiers column' selected. Row 15 has a standard context menu open.

Based on Wikidata IDs

The dialog box shows the following configuration:

- Expression: `cells['author1'].value.toLowerCase().replace(' ', '_')+']'+row.index`
- Language: General Refine Expression Language (GREL)
- Preview table data:

row	value	cells['author1'].value.toLower ...
7.	null	elodie_shanta_6
17.	null	yslaire_16
18.	null	eva_roussel_17
20.	null	mathilde_van_gheluwe_19
24.	null	mezzo_23
30.	null	atak_29

- On error radio buttons: keep original, set to blank, store error
- OK and Cancel buttons

For the rest we create it,
based on author's name

Double check there are no duplicates

The screenshot shows the OpenRefine interface with the title "Comic Book Route BXL". The left sidebar displays facets for "author1", "name: judgment", and "identifier". The main area shows a table with 64 rows, each containing a name, an identifier, and an image column. The first few rows include "Billy the Cat", "Blondin et Cirage", "La Vache", "The Smurfs", and "Après-midi place". The interface includes standard OpenRefine controls like "Facet / Filter", "Undo / Redo", and "Show as: rows records".

name	identifier	image
Billy the Cat	Q863286	
Blondin et Cirage	Q611537	Blondie en Cirage.JP
La Vache	Q25395384	
The Smurfs	Q4537599	
Après-midi place	elodie_shanta_6	
Benoit Brisefer	Q263986	Steven St
Corto Maltese	Q12116	Dsc_18971102
LGBT community	Q51393	RainbowF
Quick & Flupke	Q1195574	Stups und von Hergé
Le Chat	Q2240755	Brüsseler Wandgem
L'Ange de Sambre - De Aartsengel	yslaire_16	
Solastalgie	eva_roussel_17	
Marsupilami	Q18221660	
La Voie lactée	mathilde_van_gheluwe_19	
Boule et Bill	Q59991	Boule-et-Bill
Le roi des mouches	mezzo_23	Wandgem
Blake and Mortimer	Q59990	Comic wa
Le monde ... l'envers - De omgekeerde wereld	atak_29	Jacobs. Bla

We use facets

Data ready to be exported to our templates

OpenRefine Comic Book Route BXL Permalink

Facet / Filter Undo / Redo 79 / 79

Refresh Reset All Remove All

64 rows

Show as: rows records Show: 5 10 25 50 100 500 1000 rows

Extensions: Wikidata

	name	identifier	image	GCD series ID	Freebase ID	French Wikidia ID	original-name	author1	author2	latitude	longitude	year	photo
1.	Billy the Cat	Q863266		9582	/m/079ch0	Billy_the_Cat	Billy the Cat	Colman	Desberg	50.8534930829	4.34524297714	2000	https://openbook-route/fil
2.	Blondin et Cirage	Q611537	Blondie en Blinkie.JPG				Blondin & Cirage - Blondie & Blinkie	Jijé		50.8382916052	4.34736728668	1998	https://openbook-route/fil
3.	La Vache	Q25395384					La Vache - De Koe	Johan de Moor		50.8528725	4.357844	1999	https://openbook-route/fil
4.	The Smurfs	Q4537599		100275	/m/043qx2h		Schtroumpfs - Smurfen (Smurfs)	Peyo		50.845641	4.355886	2018	https://openbook-route/fil
5.	Après-midi place Bockstael - 's Namiddags aan het Bockstaalplein	elodie_shanta_6					Après-midi place Bockstael - 's Namiddags aan het Bockstaalplein	Elodie Shanta		50.877108	4.346971	2021	https://openbook-route/fil
6.	Benoît Brisefer	Q263986	Steven Sterk.jpg	72680	/m/0ffhrd		Benoit Brisefer - Steven Sterk	Peyo		50.8391525	4.3504241	2015	
7.	Corto Maltese	Q12116	Dsc (189711025).jpeg		/m/0166jt		Corto Maltese	Pratt		50.8605342	4.3485253	2009	https://openbook-route/fil
8.	LGBT community	Q51393	RainbowFlagEdit.jpg		/m/0m8dk		LGBT	Ralf König		50.846751	4.349346	2015	https://openbook-route/fil
9.	Quick & Flupke	Q1195574	Stups und Steppke von Hergé, Brüsseler Wandgemälde.jpg		/m/058qxs		Quick & Flupke	Herg??		50.840422	4.350264	2015	https://openbook-route/fil
10.	Le Chat	Q2240755			/m/09krc4		Le Chat - De Kat	Philippe Geluck		50.8378444279	4.34198141098	1993	https://openbook-route/fil
11.	L'Ange de Sambre - De Aartsengel	yslaire_16					L'Ange de Sambre - De Aartsengel	Yslaire		50.8489412883	4.34687376022	1998	https://openbook-route/fil
12.	Solastalgia	eva_roussel_17					Solastalgia	Eva Roussel		50.8807067871	4.34292840958	2021	https://openbook-route/fil
13.	Marsupilami	Q18221660					Marsupilami	Franquin		50.8907142	4.3371644	2013	https://openbook-route/fil
14.	La Voie lactée	mathilde_van_gheluwe_19					La Voie lactée	Mathilde Van Gheluwe		50.8394619195	4.34260158861	2019	https://openbook-route/fil
15.	Boule et Bill	Q59991	Boule-et-Bill-Wandgemälde in Brussel.jpg	28180	/m/0dtfb_	Boule_et_Bill	Boule & Bill - Bollie & Billie	Roba		50.8376411641	4.3455862999	1992	https://openbook-route/fil
16.	Le roi des mouches	mezzo_23					Le roi des mouches	Mezzo		50.87640787	4.35762405396	2007	https://openbook-route/fil
17.	Blake and Mortimer	Q59990	Comic wall Blake & Mortimer 2 Edgar P. Jacobs Brussels.jpg	47645	/m/03vj46	Blake_et_Mortimer	Blake & Mortimer	Jacobs		50.8398908	4.3513569	2005	https://openbook-route/fil
18.	Le monde ... l'envers - De omgekeerde wereld	atak_29					Le monde ... l'envers - De omgekeerde wereld	Atak		50.87798328811941	4.348827242299489	2021	

And we have the database of Pols

The screenshot shows the OpenRefine interface with a project titled "first". The "data" dropdown menu is open, and the "Templating..." option is selected. This opens the "Templating Export" dialog.

Prefix:

```
{ "pois" : [
```

Row Template:

```
{
  "id" : {{jsonize(cells["identifier"].value)}},
  "name" : {{jsonize(cells["original-name"].value)}},
  "description" : {{jsonize("Comic by " + cells["author"]}}},
  "lat" : {{jsonize(cells["latitude"].value)}},
  "lon" : {{jsonize(cells["longitude"].value)}},
  "images" : [{if(cells["photo"].value!=null, jsonize
  "urls" : [ {{if(cells["GCD series ID"].value!=null, jsonize
  "freebase" : {{jsonize(cells["Freebase ID"].value)}}
  "wikimedia" : {{jsonize(cells["identifier"].value)}}} }]
```

Row Separator:,
Suffix:]

Reset Template **Export** **Cancel**

The resulting JSON output is shown on the right, with a red box highlighting the first three items. A red arrow points from the "Export" button in the dialog to the "data.json" file below.

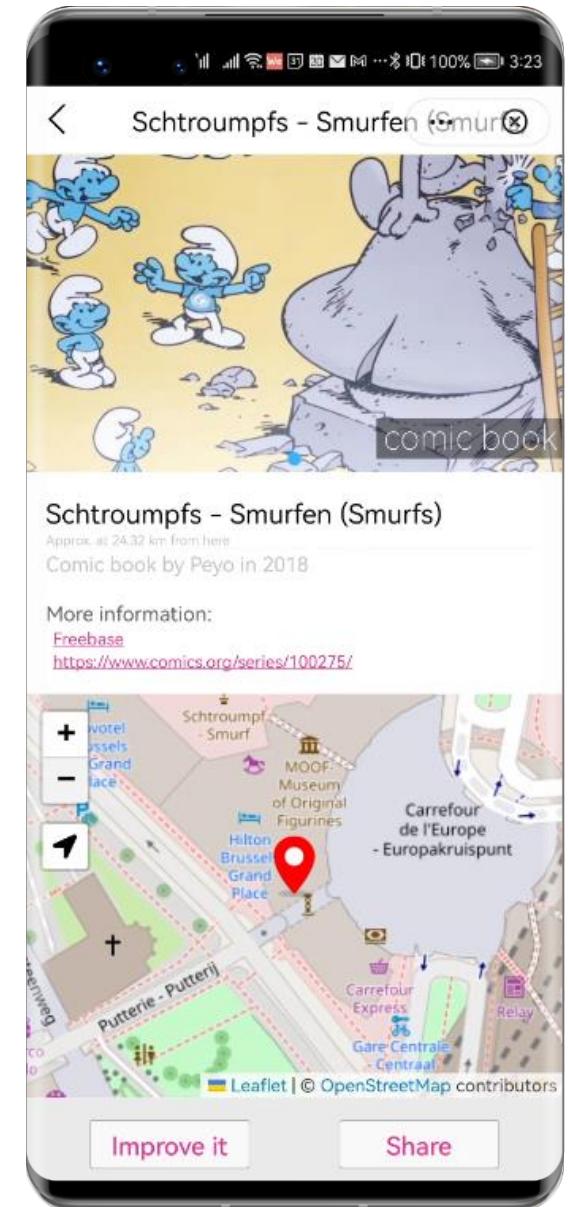
```
{
  "pois" : [
    {
      "id" : "Q863286",
      "name" : "Billy the Cat",
      "description" : "Comic by Colman and Desberg in",
      "lat" : 50.8534930829,
      "lon" : 4.34524297714,
      "images" : ["https://opendata.bruxelles.be/api/v2/"],
      "urls" : [ https://www.comics.org/series/"9582"/ ],
      "freebase" : "/m/079ch0",
      "wikimedia" : "Q863286",
    },
    {
      "id" : "Q611537",
      "name" : "Blondin & Cirage - Blondie & Blinkie",
      "description" : "Comic by Jijé in 1998",
      "lat" : 50.8382916052,
      "lon" : 4.34736728668,
      "images" : ["https://opendata.bruxelles.be/api/v2/"],
      "urls" : [ ],
      "freebase" : null,
      "wikimedia" : "Q611537",
    },
    {
      "id" : "Q25395384",
      "name" : "La Vache - De Koe",
      "description" : "Comic by Johan de Moor in 1999",
      "lat" : 50.8528725,
      "lon" : 4.357844,
      "images" : ["https://opendata.bruxelles.be/api/v2/"],
      "urls" : [ ],
      "freebase" : null,
      "wikimedia" : "Q25395384",
    }
  ]
}
```



Details of a Point of Interest (by default)

```
{  
  "id" : "Q863286",  
  "name" : "Billy the Cat",  
  "description" : "Comic book by Colman and Desberg in 2000",  
  "lat" : 50.8534930829,  
  "lon" : 4.34524297714,  
  "images" : [  
    "https://opendata.bruxelles.be/...",  
    "https://pbesteu.github.io/comics/bxl/images/001.jpg"],  
  "type" : "comic book",  
  "urls" : [ "https://www.comics.org/series/9582/" ],  
  "freebase" : "/m/079ch0",  
  "wikimedia" : "Q863286"  
}
```

Anyone can **upload images to docs/** folder in the repository (they will be public) and link them from the data.json file.



Process

Step 1. clone and configure the project

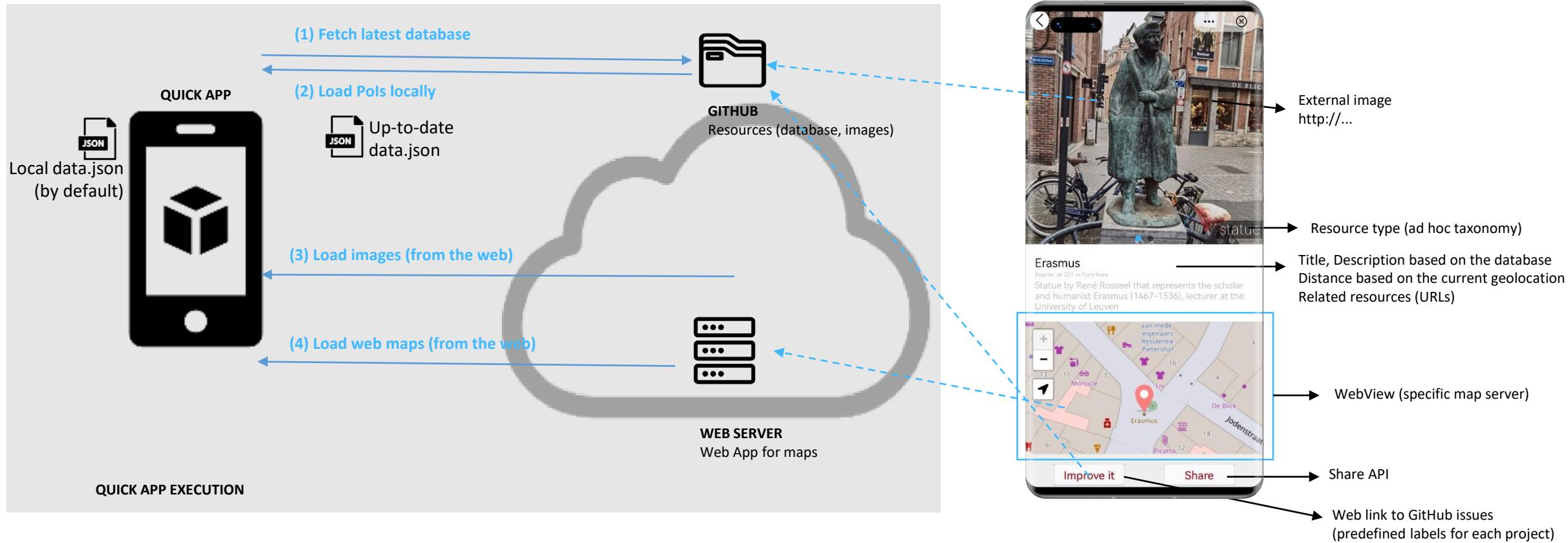
Step 2. populate the database

Step 3. publish the database

Step 4. customize the app

Step 5. run (and publish) the app

Project components and app execution



See [more details](#) about the GitHub configuration

How to update the database

Search or jump to... / Pull requests Issues Marketplace Explore

pbesteu / comic-book-route-quick-app Public generated from pbesteu/poi-quick-app

Code Issues Pull requests Actions Projects Wiki Security

main comic-book-route-quick-app / docs / bxl /

espinr Reduced GIF size

images Reduced GIF size

README.md Reducing size of image

data.json Better documentation and images

README.md

Brussels Comic Book Route - Quick App

This project is based on the City of Brussels Open Data initiative. It uses the data from the official data

```
"meta": {  
    "app_title": "BXL Comic Book Route",  
    "version": 1,  
    "updated": "2022-05-12",  
    "source_url": "https://pbesteu.github.io/comic-book-route/blx/data.json",  
},  
  
"pois": [  
    {  
        "id" : "Q863286",  
        "name" : "Billy the Cat",  
        "description" : "Comic book by Colman and Desberg in 2000",  
        "lat" : 50.8534930829,
```

Update the **data.json** in the repository

Increase the version number

Publication of content on GitHub pages

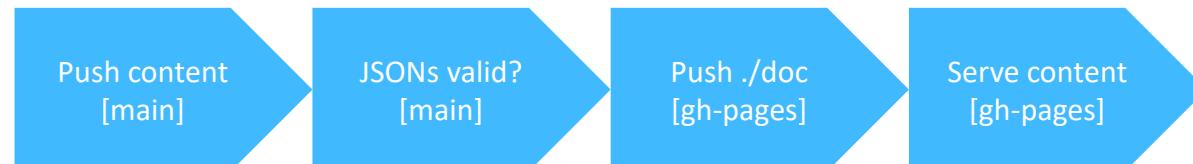
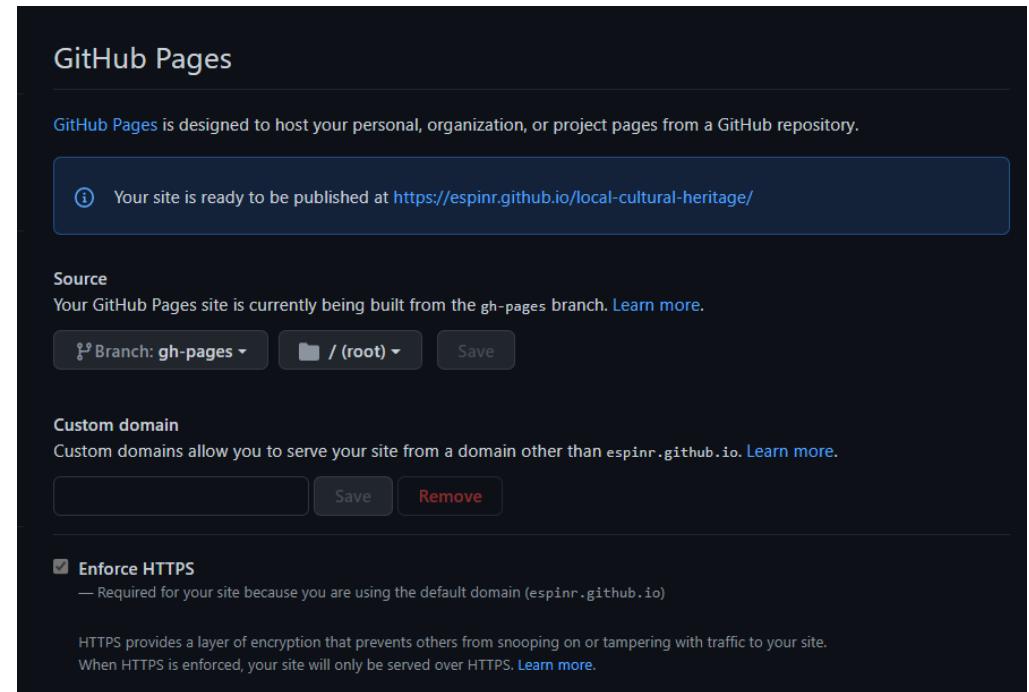
The content of the project (info, database and images) are served as HTML using GitHub pages.

There is a custom action to publish the `./doc` directory of the main repository into the **gh-pages** branch

GitHub is configured to serve the content of the root directory of the **gh-pages** (the last valid copy of the content in the repository).

If the latest version of the database JSON is not valid, the deployment is halted.

GitHub Settings > Pages



Validation of JSON files (continuous integration actions)

After every update, the new JSON files are validated against a JSON Schema

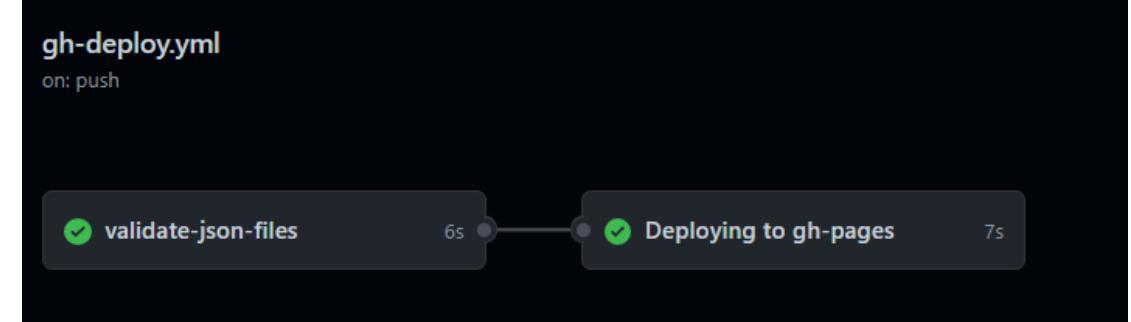
This prevents mistakes and corrupt databases causing failures in the app.

```
name: Validate JSON data and config files
on: [push]
jobs:
  validate-json-files:
    runs-on: ubuntu-latest
    steps:
      - uses: actions/checkout@v3
      - uses: vanekj/validate-json-action@v1.0.0
        with:
          schema: docs/schema.json
          pattern: docs/*/**/*.json
```

Wrong JSONs (deployment halted)



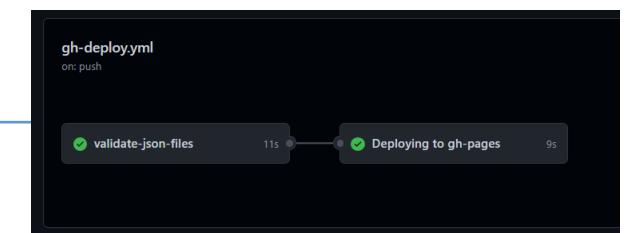
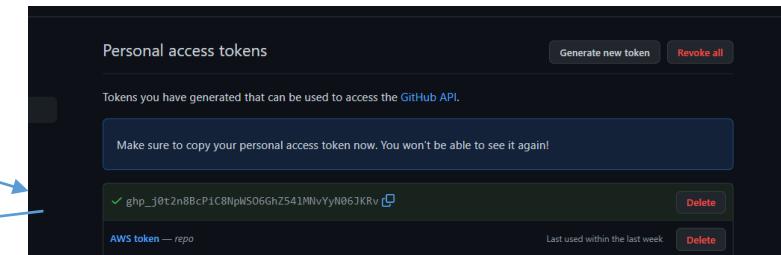
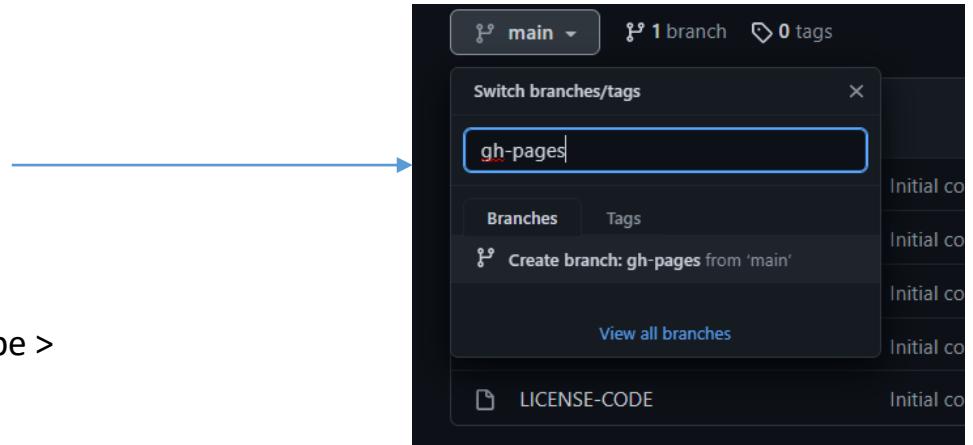
Valid JSONs



Activate GitHub Pages

If you cloned the project, you also have access to all the CI actions and configure these steps:

1. Create a [gh-pages](#) branch that will be used to publish the content.
2. Create a personal token
 - a) (Profile > Settings > Developer Settings > Personal access tokens)
 - b) Generate new token > Add a name + [no expiration] + check “repo” in the scope > Generate token
 - c) Copy the token generated in the clipboard
3. Create a secret with your token
 - a) Project’s Settings > (Security) Secrets > Actions
 - b) New repository secret with
Name: *ACCESS_TOKEN*
Value: the token (in your clipboard)
4. You can verify that the CI Action works properly (Project’s Actions) → re-run the jobs with failure (after that, they must be in green)
5. In project’s Settings > Pages you can see the public URL of your site with the template of the documentation.



Process

Step 1. clone and configure the project

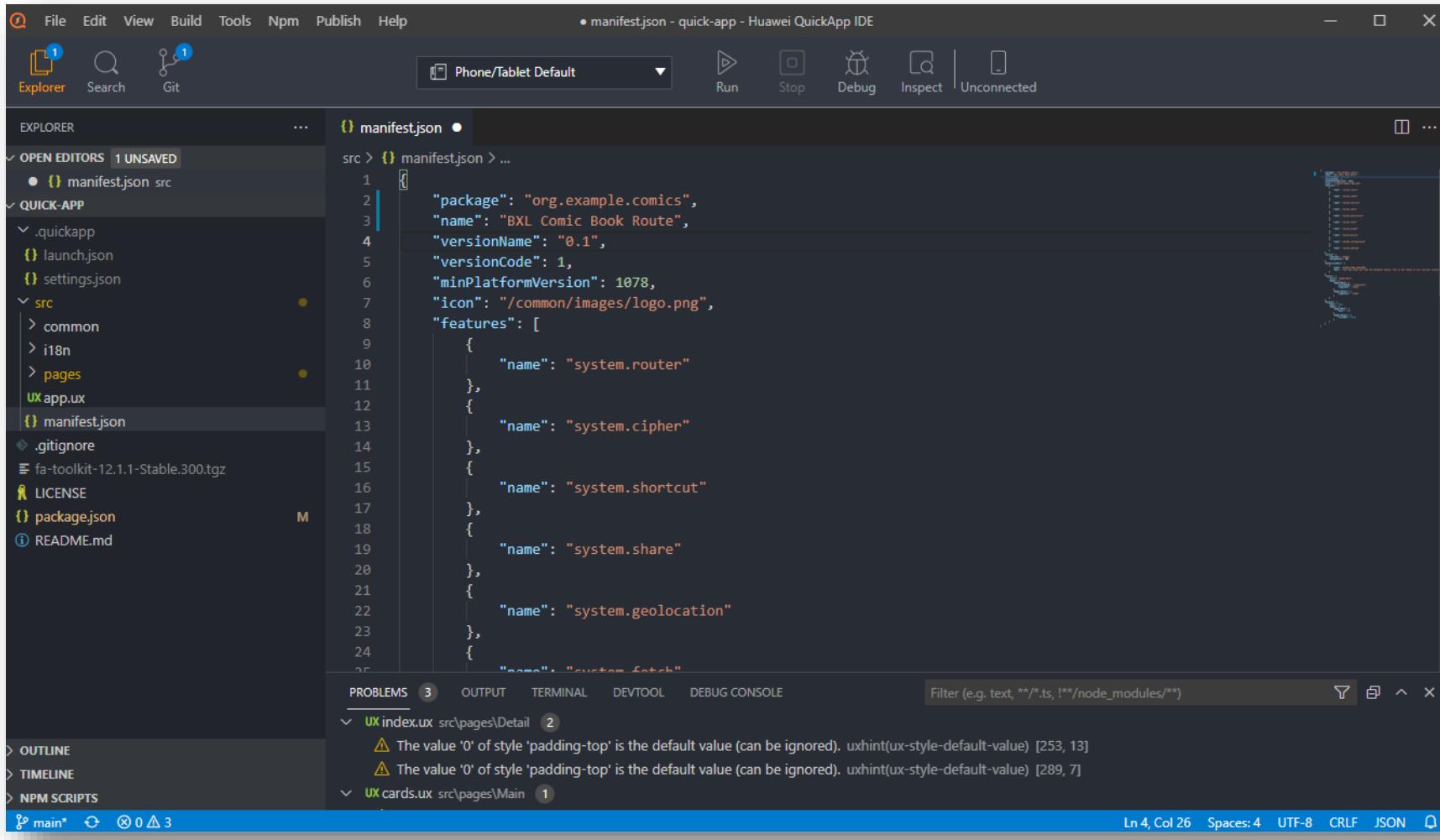
Step 2. populate the database

Step 3. publish the database

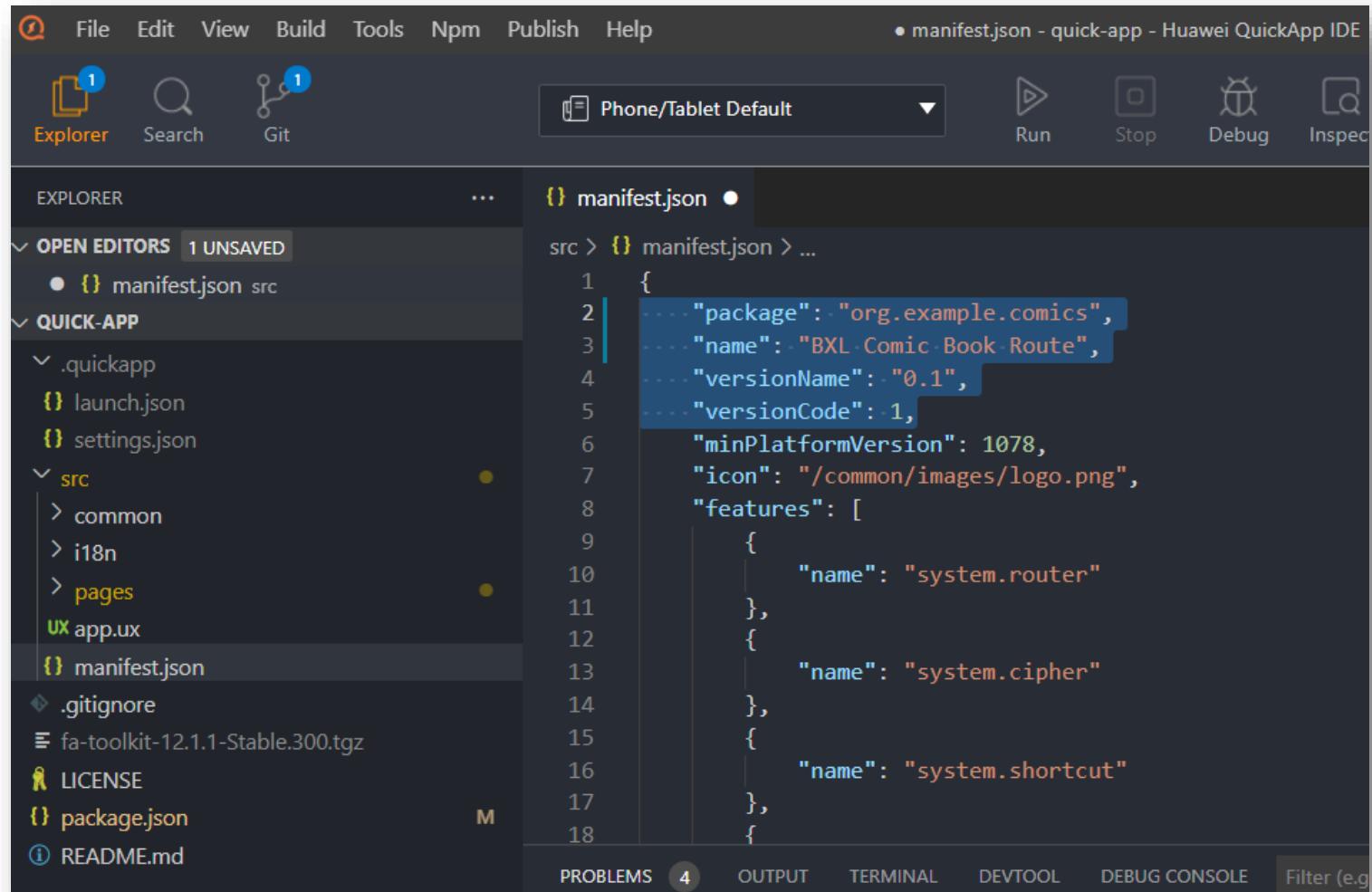
Step 4. customize the app

Step 5. run (and publish) the app

Open the code in the Quick App IDE



manifest.json with the name and version of your app



The screenshot shows the Huawei QuickApp IDE interface. The top navigation bar includes File, Edit, View, Build, Tools, Npm, Publish, and Help. The title bar indicates the current file is manifest.json - quick-app - Huawei QuickApp IDE. The toolbar features icons for Explorer (with 1 notification), Search, Git, Phone/Tablet Default (selected), Run, Stop, Debug, and Inspect.

The Explorer sidebar shows the project structure:

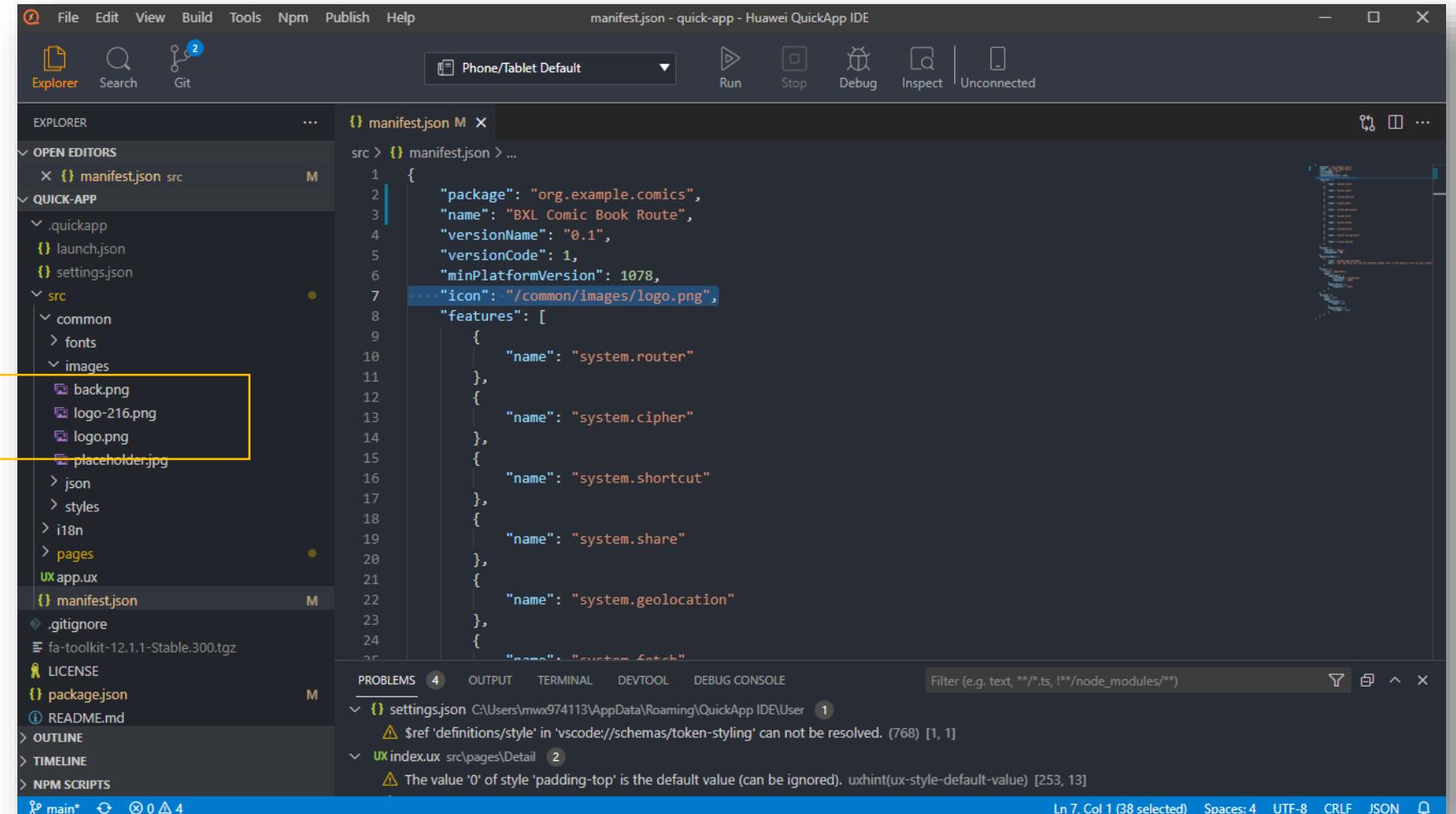
- OPEN EDITORS: manifest.json (src)
- QUICK-APP:
 - .quickapp
 - launch.json
 - settings.json
 - src
 - common
 - i18n
 - pages
 - UX app.ux
 - manifest.json (selected)
 - .gitignore
 - fa-toolkit-12.1.1-Stable.300.tgz
 - LICENSE
 - package.json
 - README.md

The main code editor displays the manifest.json content:

```
1  {
2    "package": "org.example.comics",
3    "name": "BXL Comic Book Route",
4    "versionName": "0.1",
5    "versionCode": 1,
6    "minPlatformVersion": 1078,
7    "icon": "/common/images/logo.png",
8    "features": [
9      {
10        "name": "system.router"
11      },
12      {
13        "name": "system.cipher"
14      },
15      {
16        "name": "system.shortcut"
17      },
18    ]
```

The code editor includes standard VS Code-like navigation and status bars at the bottom: PROBLEMS (4), OUTPUT, TERMINAL, DEVTOOL, DEBUG CONSOLE, and Filter (e.g.).

Rewrite the app logo and the icon (also *placeholder.jpg*)

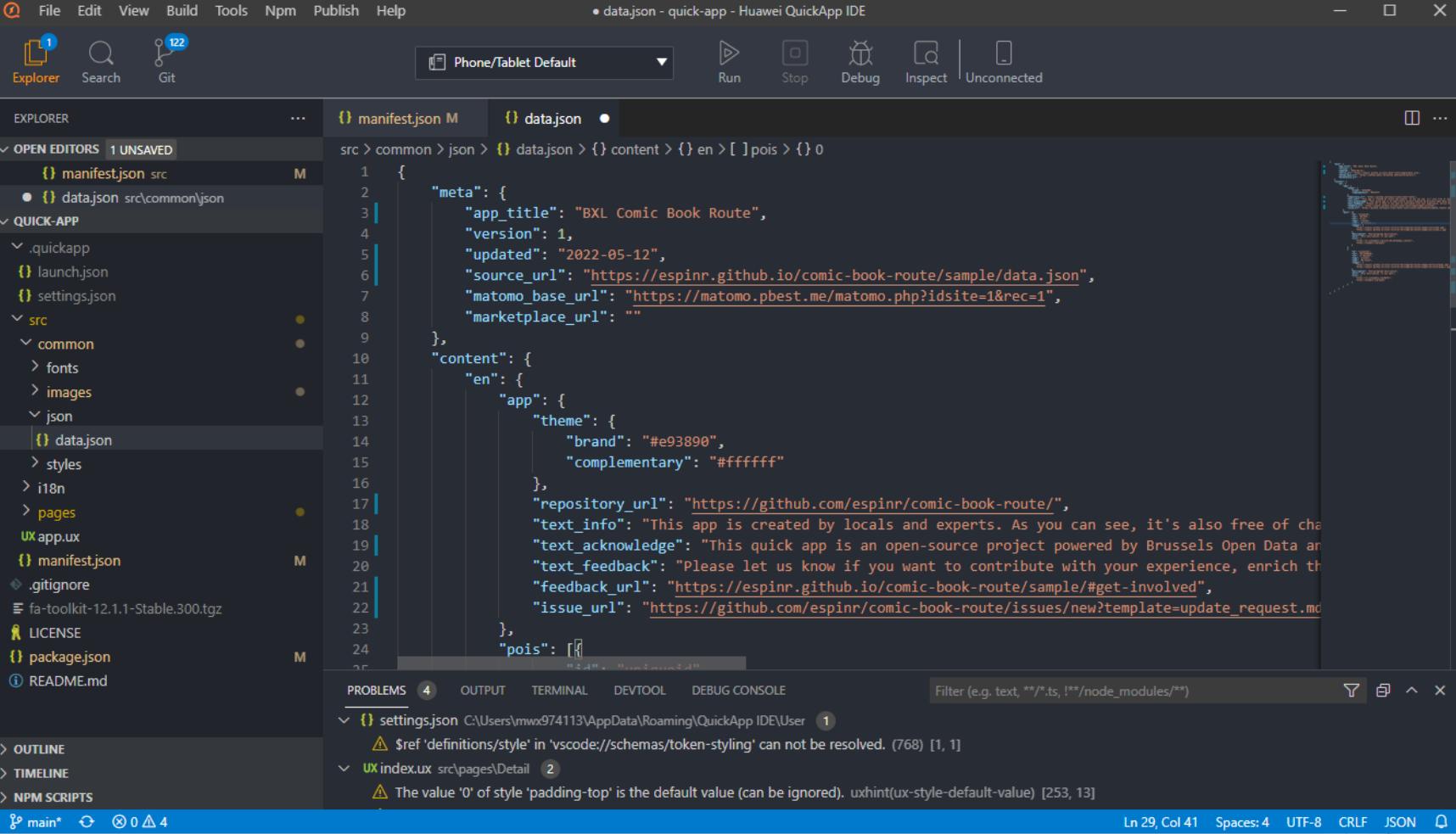


The screenshot shows the Huawei QuickApp IDE interface with the following details:

- File Menu:** File, Edit, View, Build, Tools, Npm, Publish, Help.
- Toolbar:** Phone/Tablet Default, Run, Stop, Debug, Inspect, Unconnected.
- Explorer:** Shows the project structure:
 - manifest.json (selected)
 - src
 - common
 - fonts
 - images
 - back.png
 - logo-216.png
 - logo.png
 - placeholder.jpg
 - i18n
 - pages
 - UX/app.ux
 - manifest.json
 - .gitignore
 - fa-toolkit-12.1.1-Stable.300.tgz
 - LICENSE
 - package.json
 - README.md
 - OUTLINE, TIMELINE, NPM SCRIPTS.- Editor:** manifest.json (Phone/Tablet Default)

```
1  {
2    "package": "org.example.comics",
3    "name": "BXL Comic Book Route",
4    "versionName": "0.1",
5    "versionCode": 1,
6    "minPlatformVersion": 1078,
7    "icon": "./common/images/logo.png",
8    "features": [
9      {
10        "name": "system.router"
11      },
12      {
13        "name": "system.cipher"
14      },
15      {
16        "name": "system.shortcut"
17      },
18      {
19        "name": "system.share"
20      },
21      {
22        "name": "system.geolocation"
23      },
24      {
25        "name": "system.customCatch"
26      }
27    ]
28  }
```
- Problems:**
 - settings.json: Ref 'definitions/style' in 'vscode://schemas/token-styling' can not be resolved. (768) [1, 1]
 - UX/index.ux: The value '0' of style 'padding-top' is the default value (can be ignored). uxhint(ux-style-default-value) [253, 13]
- Bottom Bar:** main*, 0 △ 4, Ln 7, Col 1 (38 selected), Spaces: 4, UTF-8, CRLF, JSON.

Customize the app with your descriptions and URLs



The screenshot shows the Huawei QuickApp IDE interface with the title bar "data.json - quick-app - Huawei QuickApp IDE". The top navigation bar includes File, Edit, View, Build, Tools, Npm, Publish, and Help. The toolbar features icons for Explorer, Search, Git, Phone/Tablet Default (selected), Run, Stop, Debug, Inspect, and Unconnected. The Explorer sidebar shows the project structure with files like manifest.json, data.json, launch.json, settings.json, and various source files under src/common/json. The main editor area displays the content of data.json, which includes meta information such as app title, version, and URLs for source, matomo, and marketplace. The bottom status bar shows file counts (main*: 0, outline: 0, timeline: 0, npm scripts: 4), line and column numbers (Ln 29, Col 41), and encoding (UTF-8 CRLF JSON).

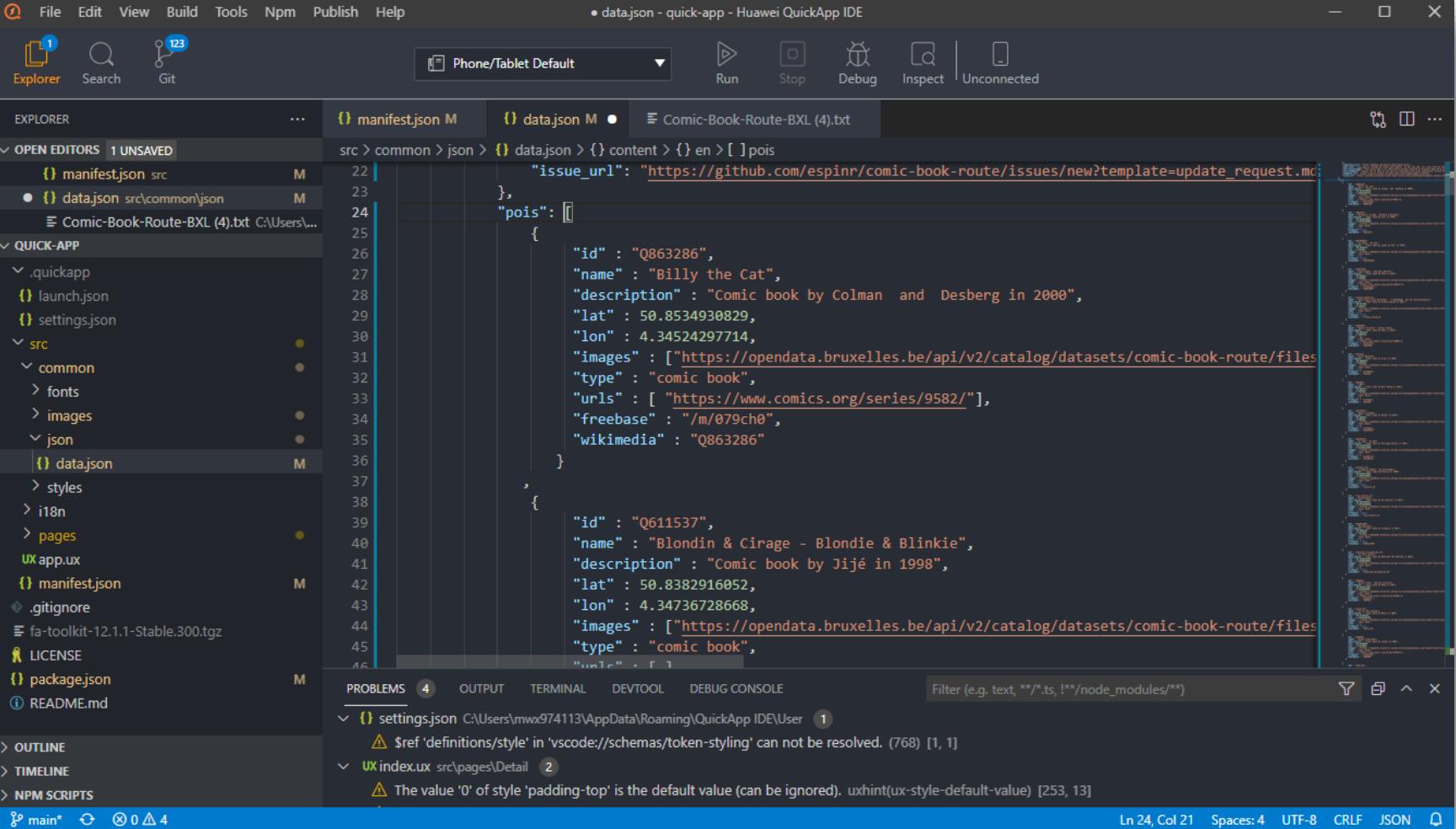
```
src > common > json > manifest.json M data.json •
1  {
2    "meta": {
3      "app_title": "BXL Comic Book Route",
4      "version": 1,
5      "updated": "2022-05-12",
6      "source_url": "https://espinr.github.io/comic-book-route/sample/data.json",
7      "matomo_base_url": "https://matomo.pbest.me/matomo.php?idsite=1&rec=1",
8      "marketplace_url": ""
9    },
10   "content": {
11     "en": {
12       "app": {
13         "theme": {
14           "brand": "#e93890",
15           "complementary": "#ffffff"
16         },
17         "repository_url": "https://github.com/espinr/comic-book-route/",
18         "text_info": "This app is created by locals and experts. As you can see, it's also free of charge!",
19         "text_acknowledge": "This quick app is an open-source project powered by Brussels Open Data and is freely available for use and modification.",
20         "text_feedback": "Please let us know if you want to contribute with your experience, enrich the content or report a bug.",
21         "feedback_url": "https://espinr.github.io/comic-book-route/sample/#get-involved",
22         "issue_url": "https://github.com/espinr/comic-book-route/issues/new?template=update_request.md"
23       },
24       "pois": []
25     }
26   }
27 }
```

PROBLEMS 4 OUTPUT TERMINAL DEVTOOL DEBUG CONSOLE Filter (e.g. text, **/*.ts, !**/node_modules/**)

settings.json C:\Users\mxw974113\AppData\Roaming\QuickApp IDE\User 1

UXindex.ux src\pages\Detail 2

Paste the Points of Interest database you created



The screenshot shows the Huawei QuickApp IDE interface with the title bar "data.json - quick-app - Huawei QuickApp IDE". The main area displays a code editor with the following JSON content:

```
src > common > json > manifest.json > content > en > [ ] pois
  "issue_url": "https://github.com/espinr/comic-book-route/issues/new?template=update_request.md",
  },
  "pois": [
    {
      "id": "Q863286",
      "name": "Billy the Cat",
      "description": "Comic book by Colman and Desberg in 2000",
      "lat": 50.8534930829,
      "lon": 4.34524297714,
      "images": ["https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1475969"],
      "type": "comic book",
      "urls": ["https://www.comics.org/series/9582/"],
      "freebase": "/m/079ch0",
      "wikimedia": "Q863286"
    },
    {
      "id": "Q611537",
      "name": "Blondin & Cirage - Blondie & Blinkie",
      "description": "Comic book by Jijé in 1998",
      "lat": 50.8382916052,
      "lon": 4.34736728668,
      "images": ["https://opendata.bruxelles.be/api/v2/catalog/datasets/comic-book-route/files/1475970"],
      "type": "comic book",
      "urls": ["https://www.comics.org/series/9583/"]
    }
  ]
}
```

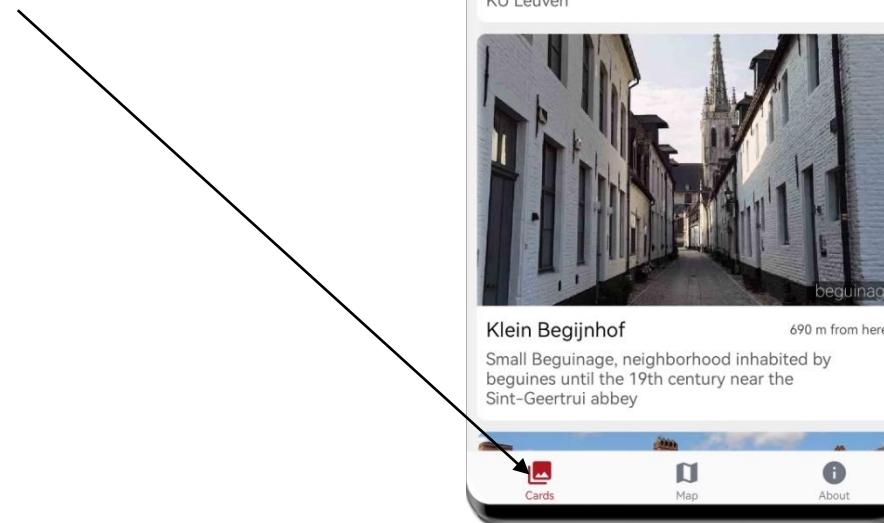
The left sidebar shows the project structure with files like manifest.json, data.json, and UXindex.ux. The bottom status bar indicates "Ln 24, Col 21" and "Spaces: 4".

Internationalization: adapted to user's locale

USER INTERFACE

User interface (UI) in different languages.

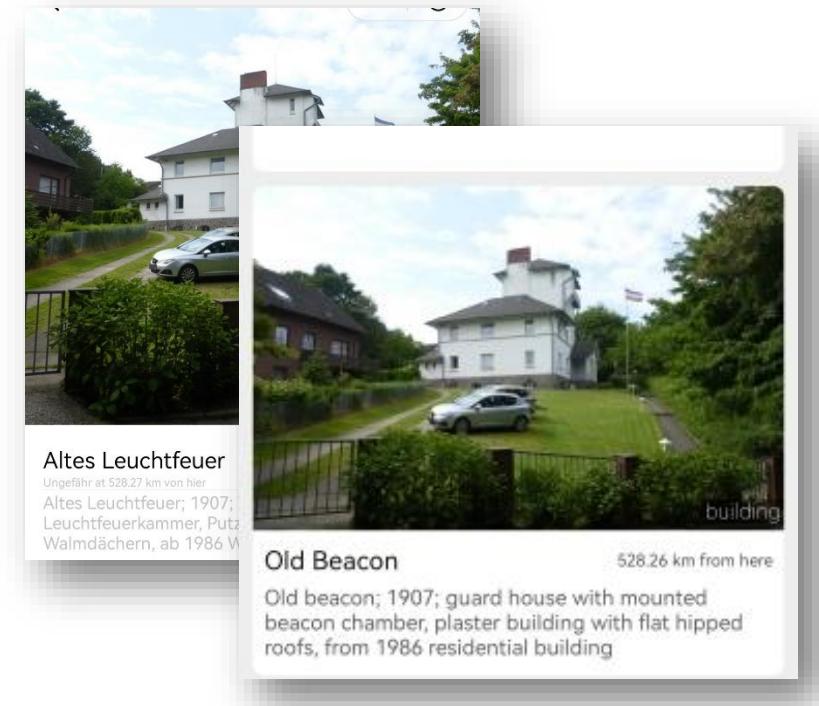
The community may help translate the UI (10' per language)



CONTENT (Pols database)

Content can be in different languages

For instance: German and English below



See [more details](#) about the setup

Process

Step 1. clone and configure the project

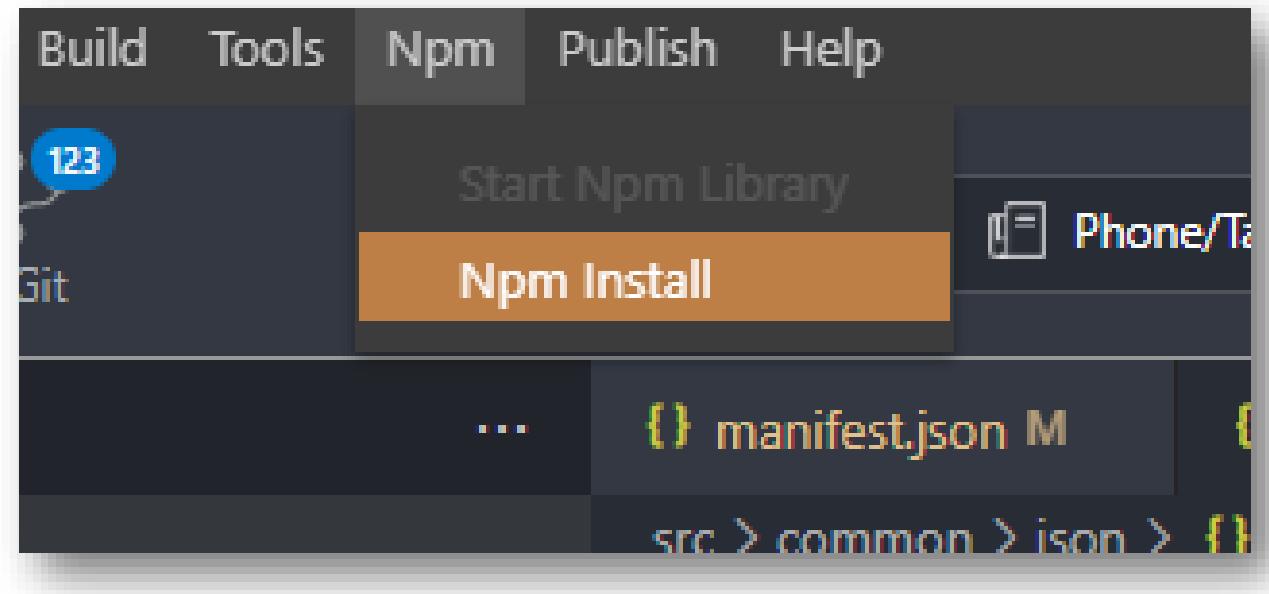
Step 2. populate the database

Step 3. publish the database

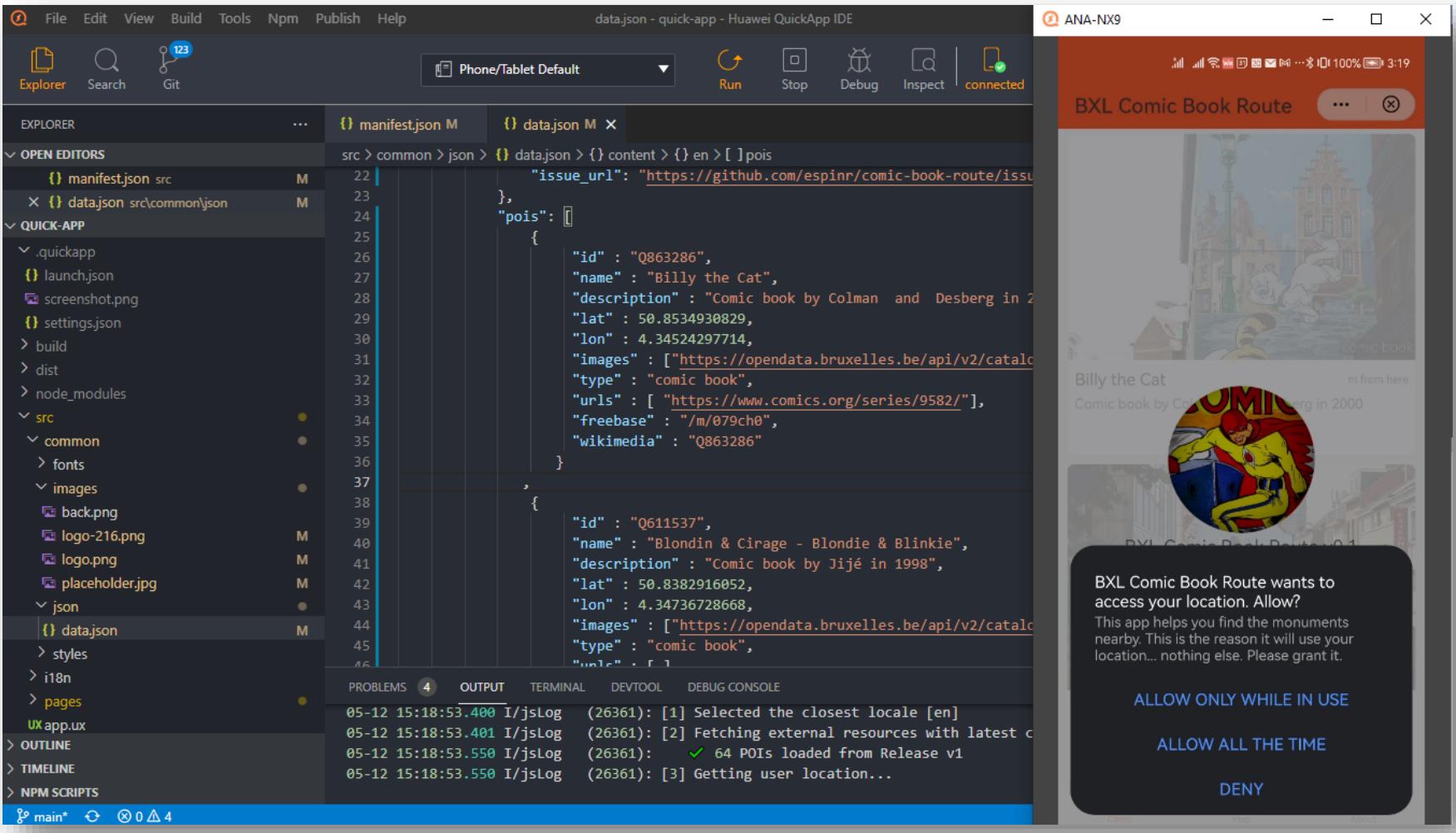
Step 4. customize the app

Step 5. run (and publish) the app

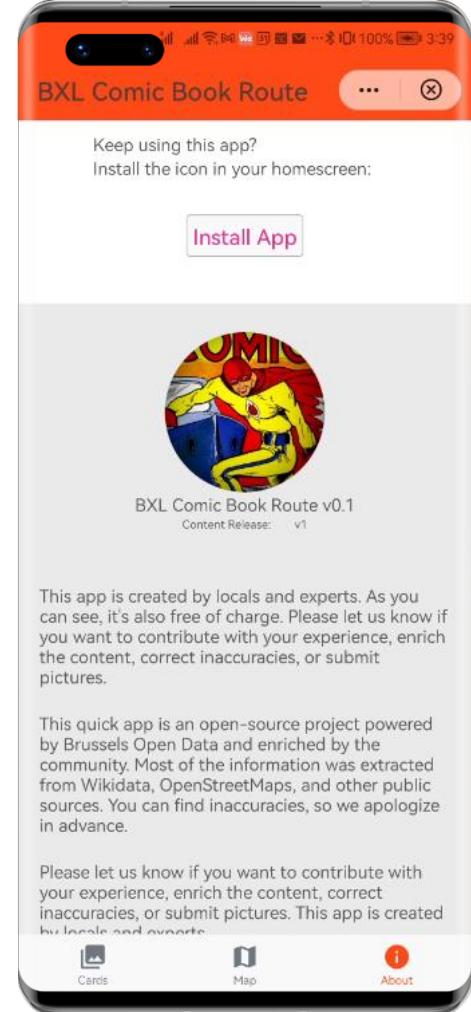
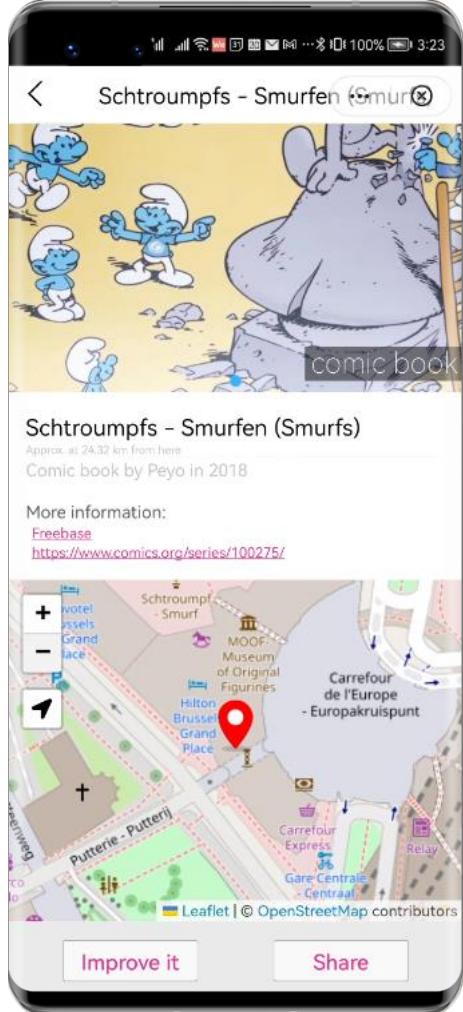
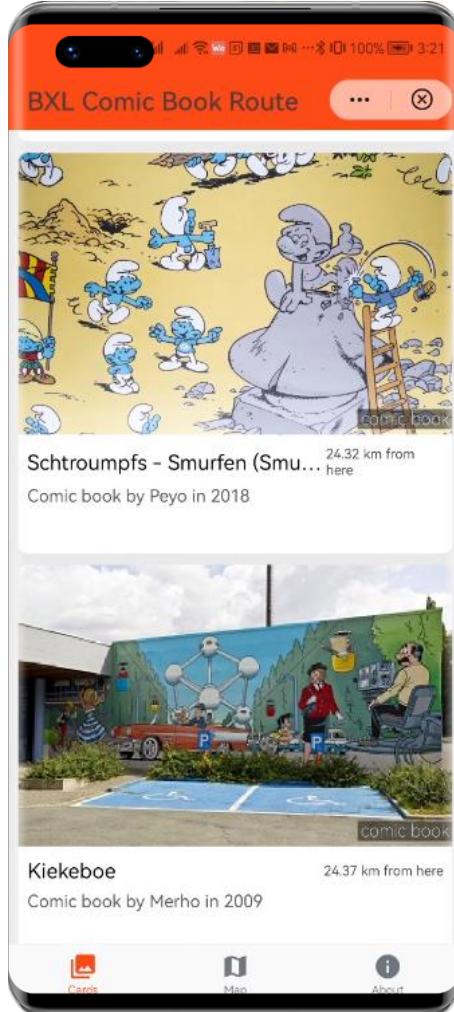
Install the dependencies



Connect your device and run the first test



Quick App ready in less than one hour



A big thanks to Brussels Open Data

See the quick app: <https://appgallery.huawei.com/app/C106421983>

Reuse the project: <https://github.com/pbesteu/comic-book-route-quick-app>

Martin Alvarez
@espinr

Process

Step 1. clone and configure the project

Step 2. populate the database

Step 3. publish the database

Step 4. customize the app

Step 5. run (and publish) the app

[maintenance] How to add new items (Pols)

How to add a new image?

1. Follow the recommendations (ratio aspect and size) for a homogenous look and feel
2. Rename the images in a meaningful way (using the identifier of the Pol)

Example: Chinese Astrolabe



astrolabe.jpg



astrolabe_2.jpg



astrolabe_3.jpg



astrolabe_4.jpg

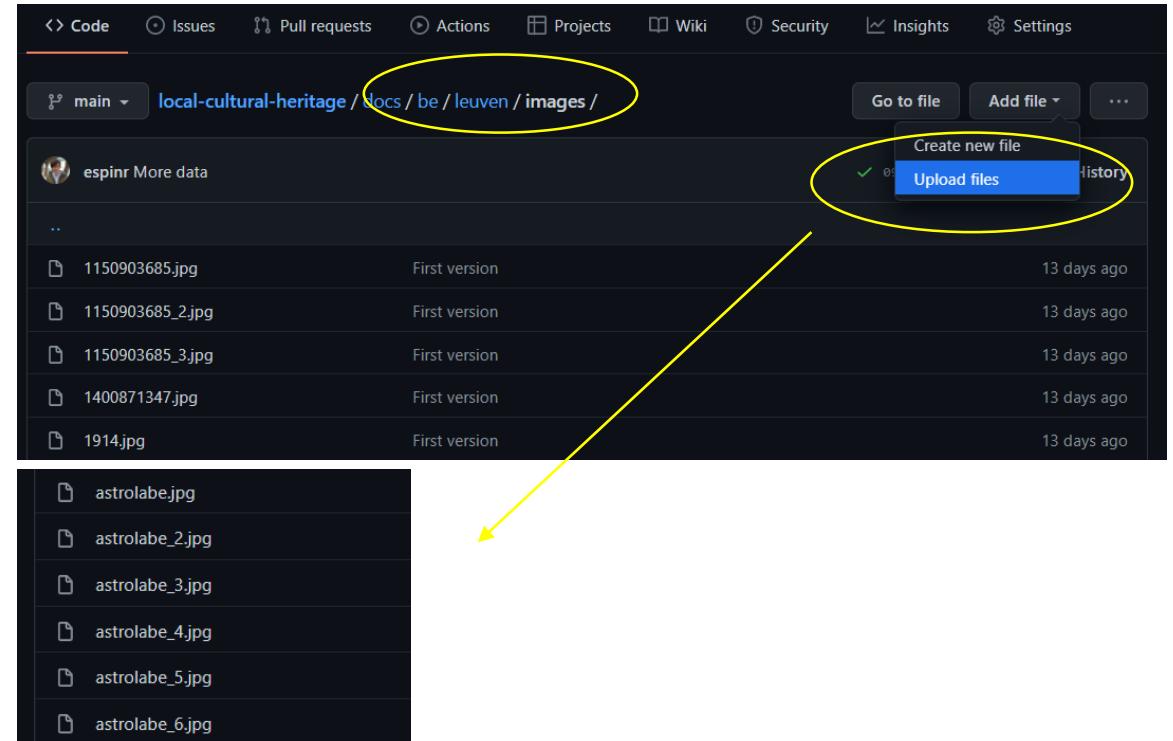


astrolabe_5.jpg



astrolabe_6.jpg

3. Upload them to the `./images/` folder of your repository



Now these images are available at:

<https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe.jpg>

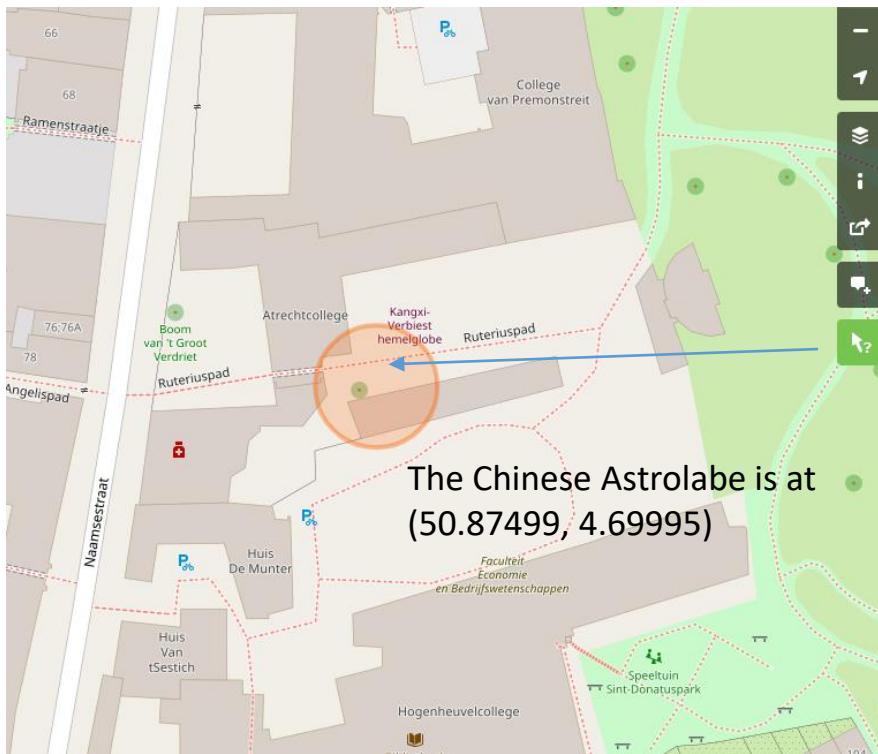
https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe_2.jpg ...

And can be used in the description of the Pols

How to add a new Pol in the database

(1) Identify the coordinates (latitude, longitude)

- > Probably your smartphone geolocates the image, just check the information of the picture
- > Or, use a map tool to collect the coordinates



(2) Describe the point of interest in the **data.json** file in the repository. Just add a new object at the end with these attributes:

```
{  
  "id": "astrolabe",  
  "name": "Kangxi Hemelglobe",  
  "description": "Functional Chinese Astrolabe engraved with 1.888 stars and celestial bodies",  
  "more": "This bronze globe weighs 3.850 kg and is 2.76 metres high. The celestial bodies inclu",  
  "lat": "50.87525674044207",  
  "lon": "4.700880771666212",  
  "type": "astrolabe",  
  "images": [  
    "https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe.jpg",  
    "https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe_2.jpg",  
    "https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe_3.jpg",  
    "https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe_4.jpg",  
    "https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe_5.jpg",  
    "https://espinr.github.io/local-cultural-heritage/be/leuven/images/astrolabe_6.jpg"  
  ],  
  "urls": [  
    "http://2020group1.onlinepublishing.ulyssis.be/kangxi-hemelglobe-atrechtcollege"  
  ]  
}
```

At the top of the document, change the version

In a few seconds, the Pol is accessible on the quick app

- Publishers don't need to create another quick app release and upload it to AppGallery
 - > Just modify the database, upload pictures
- This process should be moderated by one of two experts for supervision, curation, and approval of the changes (configuration in GitHub).

