Miravi - a Linked Data Viewer

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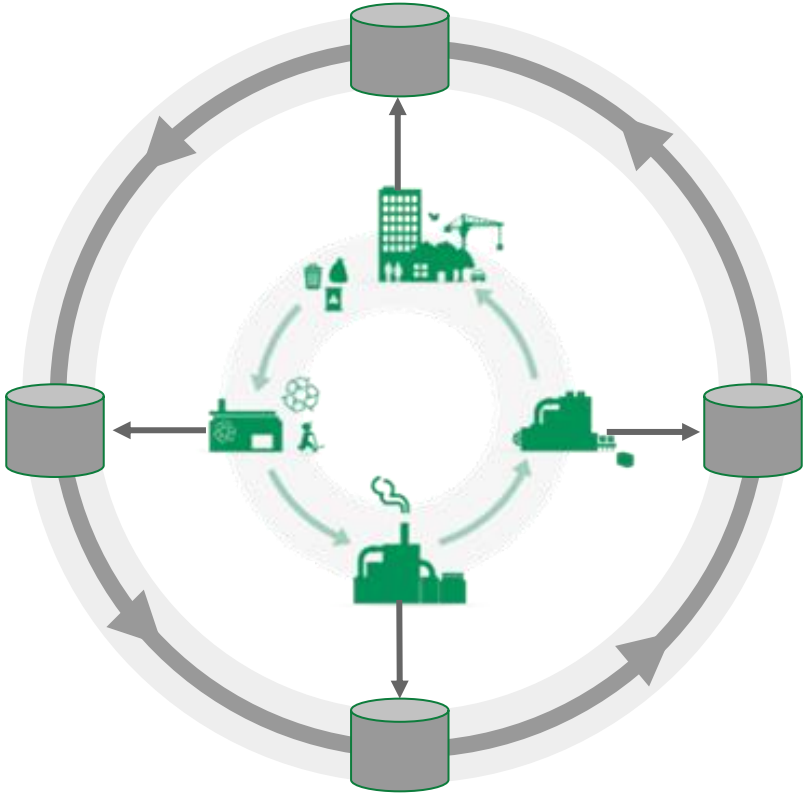
Consuming Decentralized Linked Data

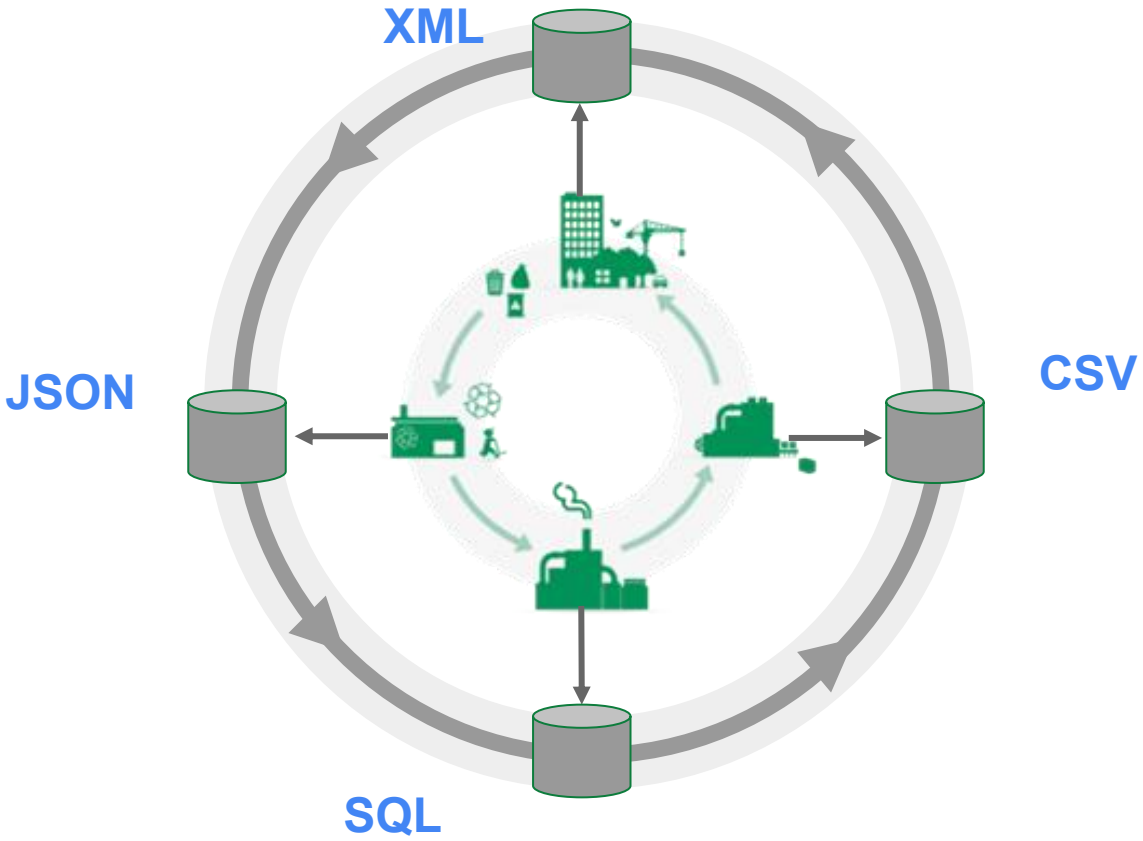
Consuming Decentralized Linked Data

A circular economy use case

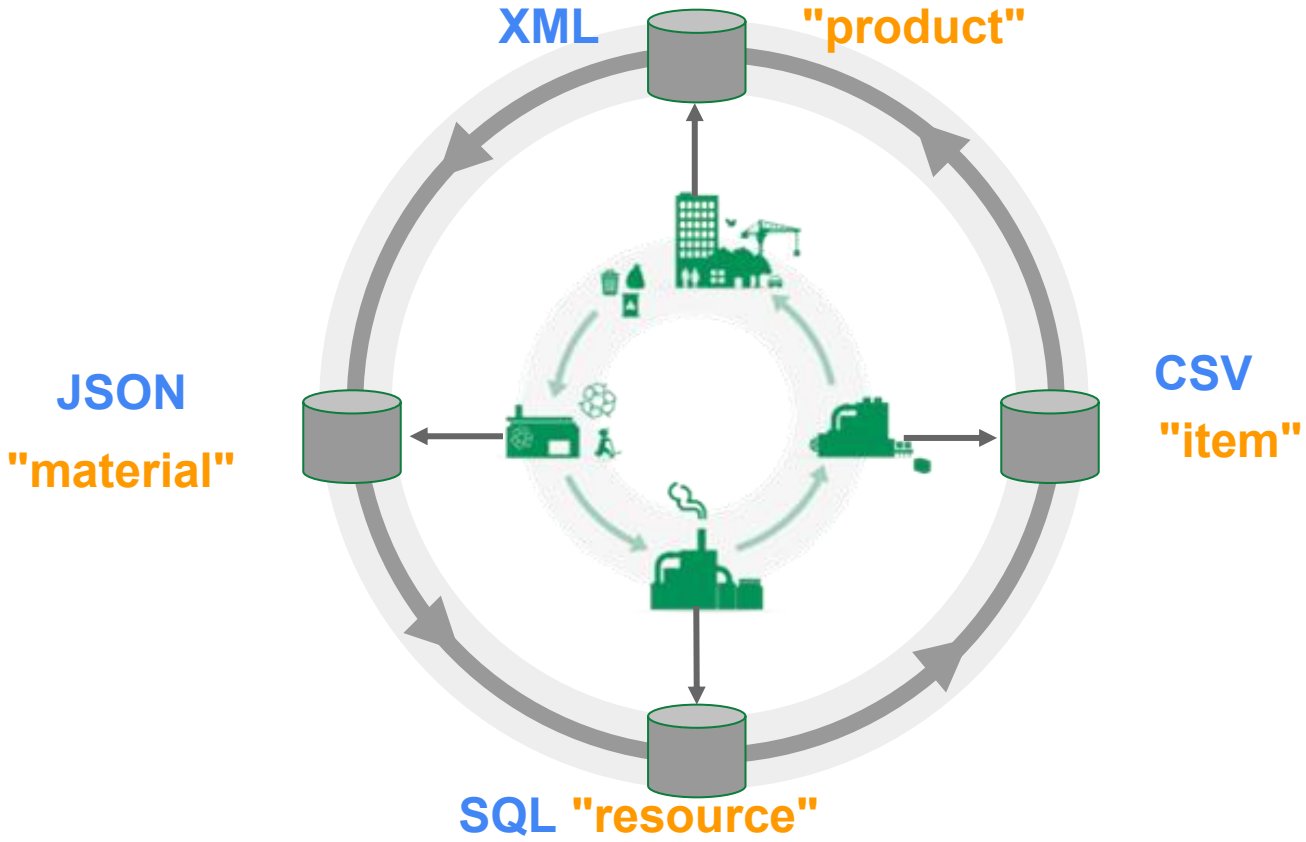
Circular economy needs data flows



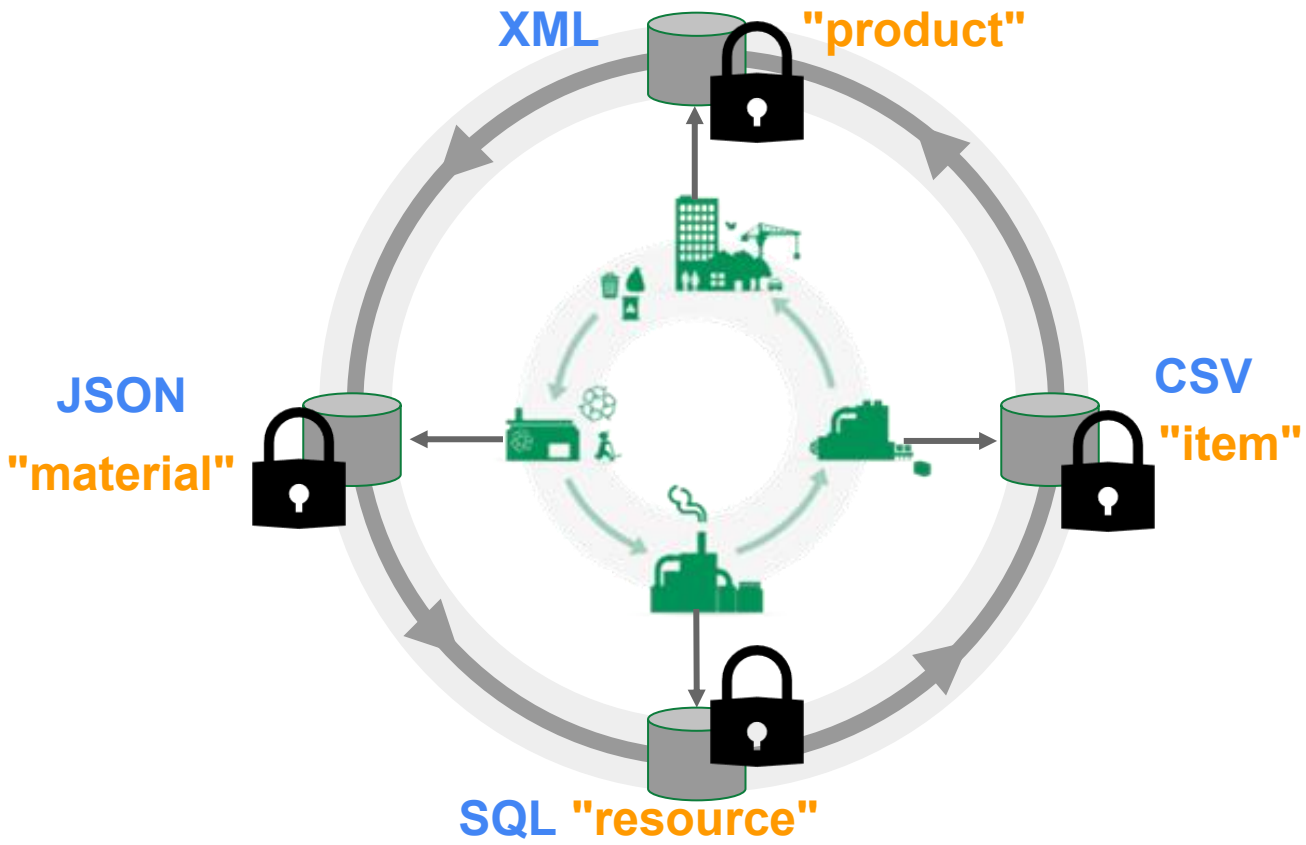
Each actor has his own data **format**



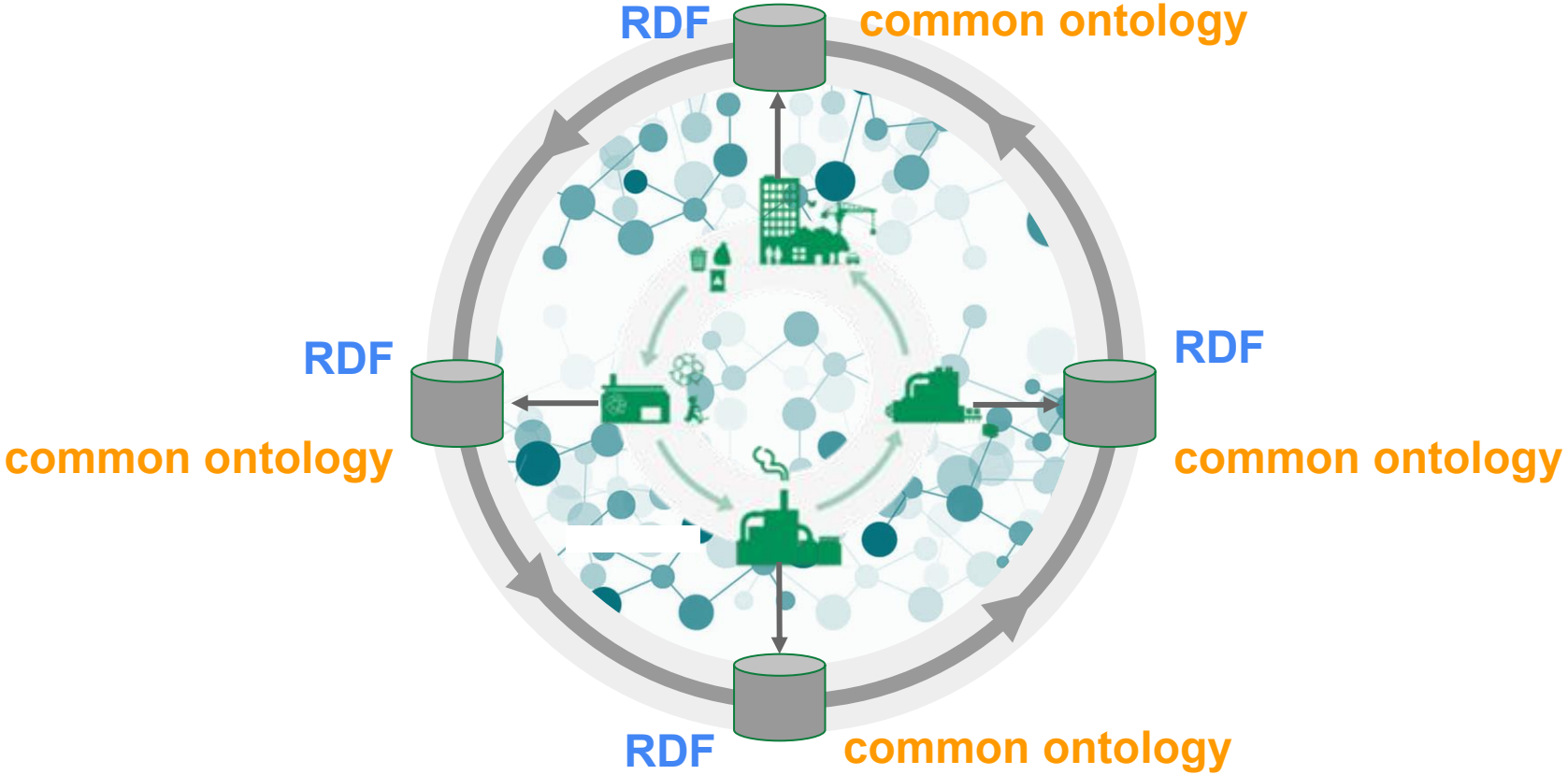
Each actor has his own data **model**



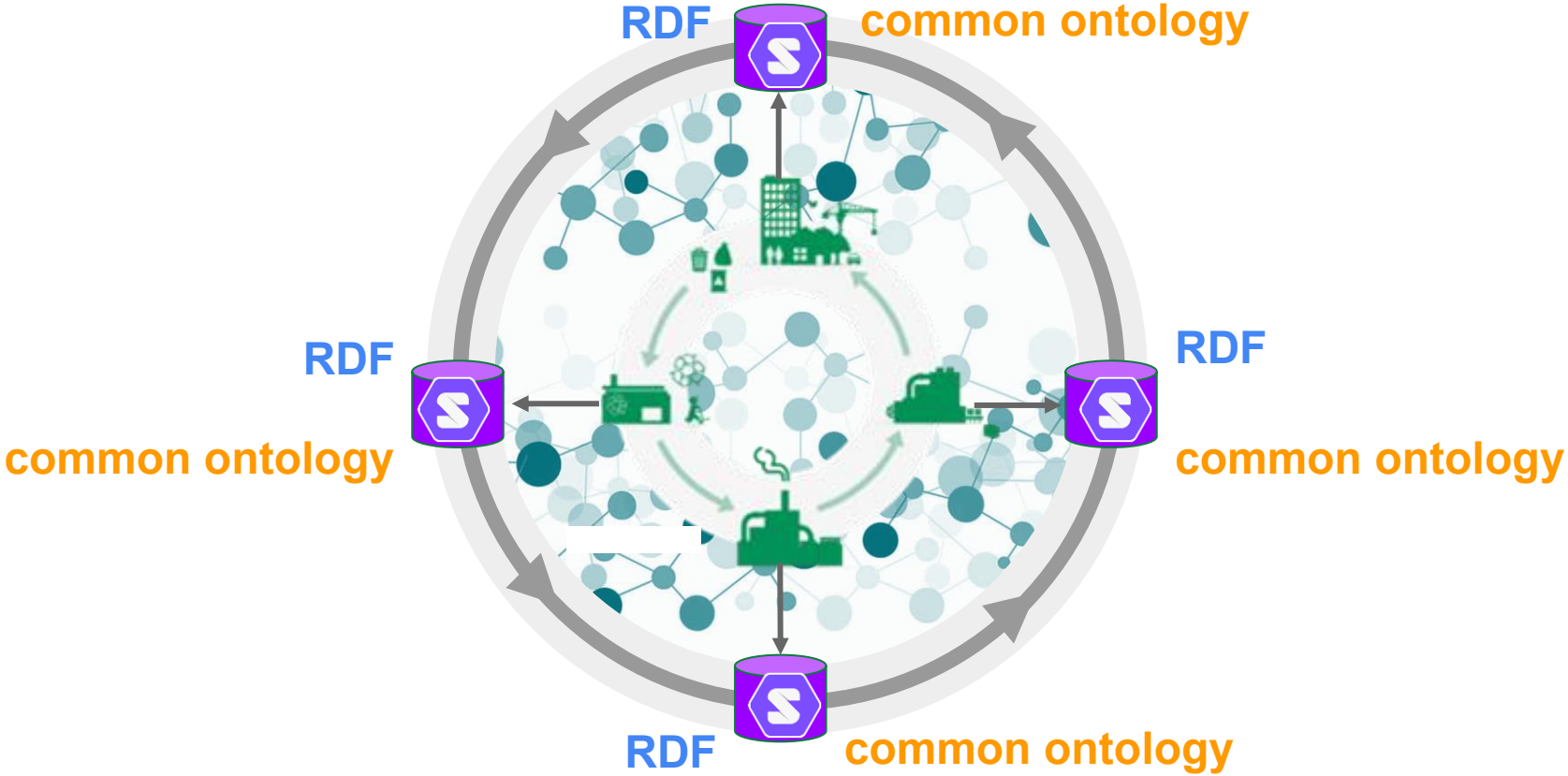
Each actor wants to remain in **control** of his data



RDF secures semantic interoperability



SOLID secures technical interoperability and control



Users experience the benefits of these *backend* solutions through *frontend* applications.

Content

High level description

Setup

Basic use demo (explaining also the configuration)

Advanced: custom queries

Applications

Conclusion

Content

High level description

Setup

Basic use demo (explaining also the configuration)

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Conclusion

Miravi is a configurable Linked Data viewer

with **client-side** processing of **SPARQL queries**

over **decentralized heterogeneous Linked Data** sources,

supporting

- user **authentication** for permissioned (Solid) data sources,
- **data** source and variable **discovery**,
- inspection of **data source status**,
- **export** of query results, and
- **custom queries**.

Miravi reuses open-source components

IDLab's Comunica: knowledge graph querying framework

Inrupt's Solid Client Authentication library

Marmelab's React-Admin Web framework

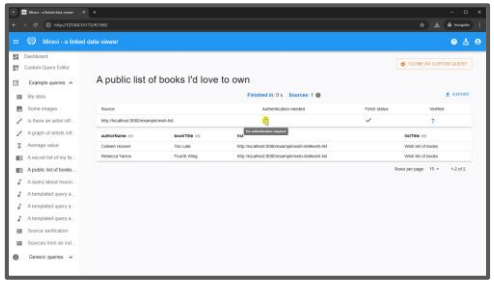
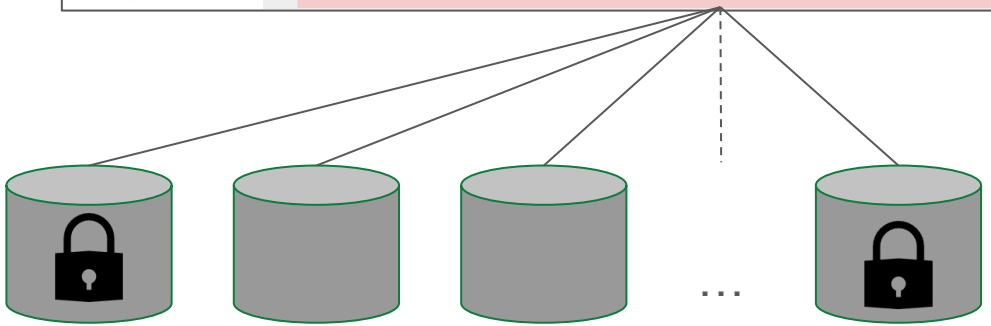


Table-based UI

inrupt Authentication lib

Heterogeneous SPARQL Querying



```
PREFIX schema: <http://schema.org/>

SELECT ?name ?sameAs_url WHERE {
  ?list schema:name ?listTitle;
    schema:name ?name;
    schema:genre $genre;
    schema:sameAs ?sameAs_url;
}
```

Content

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https://github.com/SolidLabResearch/miravi-a-linked-data-viewer.git

Getting started

The Web application is located in directory `main`. Go to that directory.

To install:

```
npm install
```

To select the appropriate configuration (here shown for `demo`):

```
node scripts/select-config.cjs demo
```

To run the Web application in development mode:

```
npm run dev
```

https://github.com/SolidLabResearch/miravi-a-linked-data-viewer.git

Getting started

To build:

```
npm run build
```

The static build appears in directory `main/dist`.

This static build can be served on a webserver without modifications from the host's root path (e.g. `https://www.example.com`), or from any other path (e.g. `https://www.example.com/your/preferred/path`).

To run the Web application in development mode:

```
npm run dev
```

Configuration file

The configuration file must follow the structure shown below.

```
{
  "title": "Title shown at the top of the app.",
  "logoLocation": "Image location of the logo shown at the top of the app (relative to public folder.).
  "logoRedirectURL": "The URL the Web application redirects to when a user clicks on the logo.",
  "defaultIDP": "The default value used for IDP when logging in, this IDP can be manually changed in th
  "queryFolder": "The base location of the queries, all query locations will start from this folder (re
  "introductionText": "The text that the app shows on the dashboard, which the app also shows when you
  "queryGroups" : [
    {
      "id": "A unique ID for the query group",
      "name": "A name for the query group",
      "icon": "The key to the icon for the query group. This is optional and a default menu icon will b
    }
  ],
  "queries": [
    {
      "id": "A unique ID for the query. This ID appears in the URL of the displayed result. Queries are
      "queryGroupId": "ID of the query group too which this query belongs. If not given, the query is d
      "queryLocation": "Path to the query location, relative to 'queryFolder'",
      "name": "A name for the query",
      "description": "Description of the query",
      "icon": "The key to the icon for the query. This is optional and a default menu icon will be used
```

Content

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Basic use demo (explaining also the configuration)

Advanced use: custom queries

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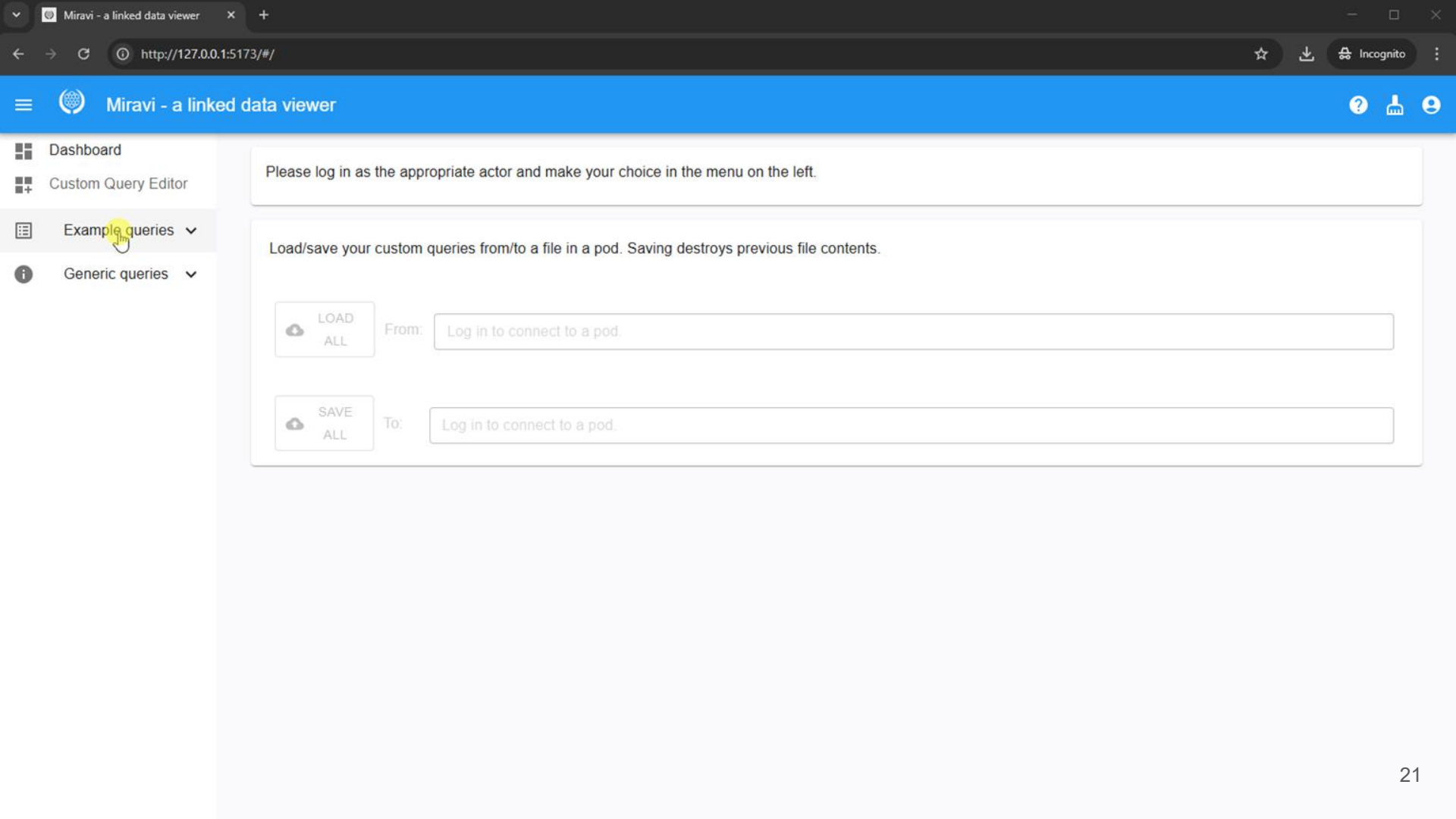
Miravi - a linked data viewer
http://127.0.0.1:5173/#/
Incognito
Miravi - a linked data viewer
Dashboard
Custom Query Editor
Example queries
Generic queries
Please log in as the appropriate actor and make your choice in the menu on the left.
Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.
LOAD ALL
From:
Log in to connect to a pod.
SAVE ALL
To:
Log in to connect to a pod.

Miravi - a linked data viewer

http://127.0.0.1:5173/#/

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  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of boo...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

Please log in as the appropriate actor and make your choice in the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From: Log in to connect to a pod.

SAVE ALL To: Log in to connect to a pod.

A public list of books I'd love to own

Demonstrates a query whose source does not require authentication.

127.0.0.1:5173/#/1060

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1060

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CLONE AS CUSTOM QUERY

A public list of books I'd love to own

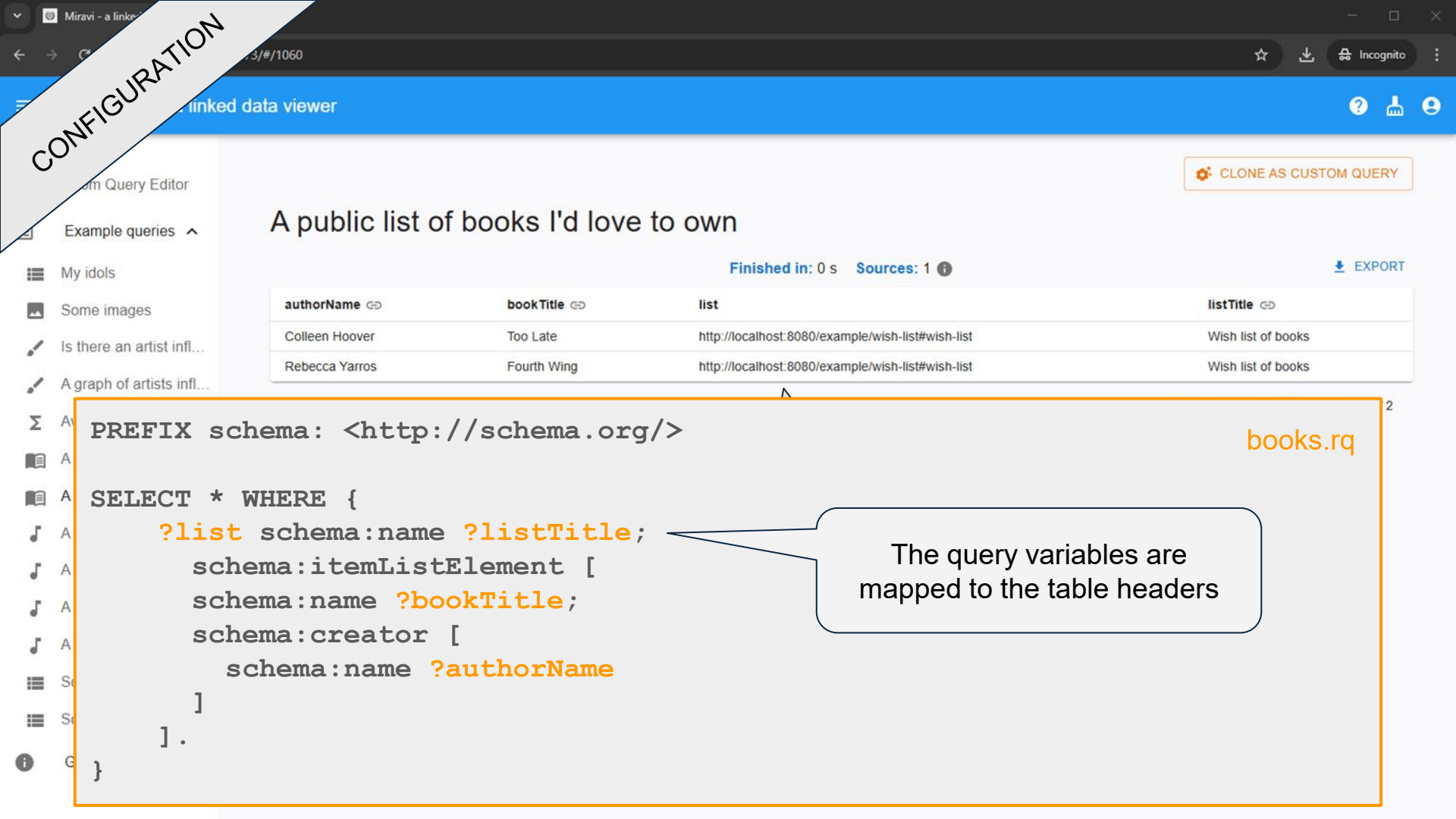
Finished in: 0 s **Sources:** 1

EXPORT

authorName	bookTitle	list	listTitle
Colleen Hoover	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
Rebecca Yarros	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

Rows per page: 10 1-2 of 2

CONFIGURATION

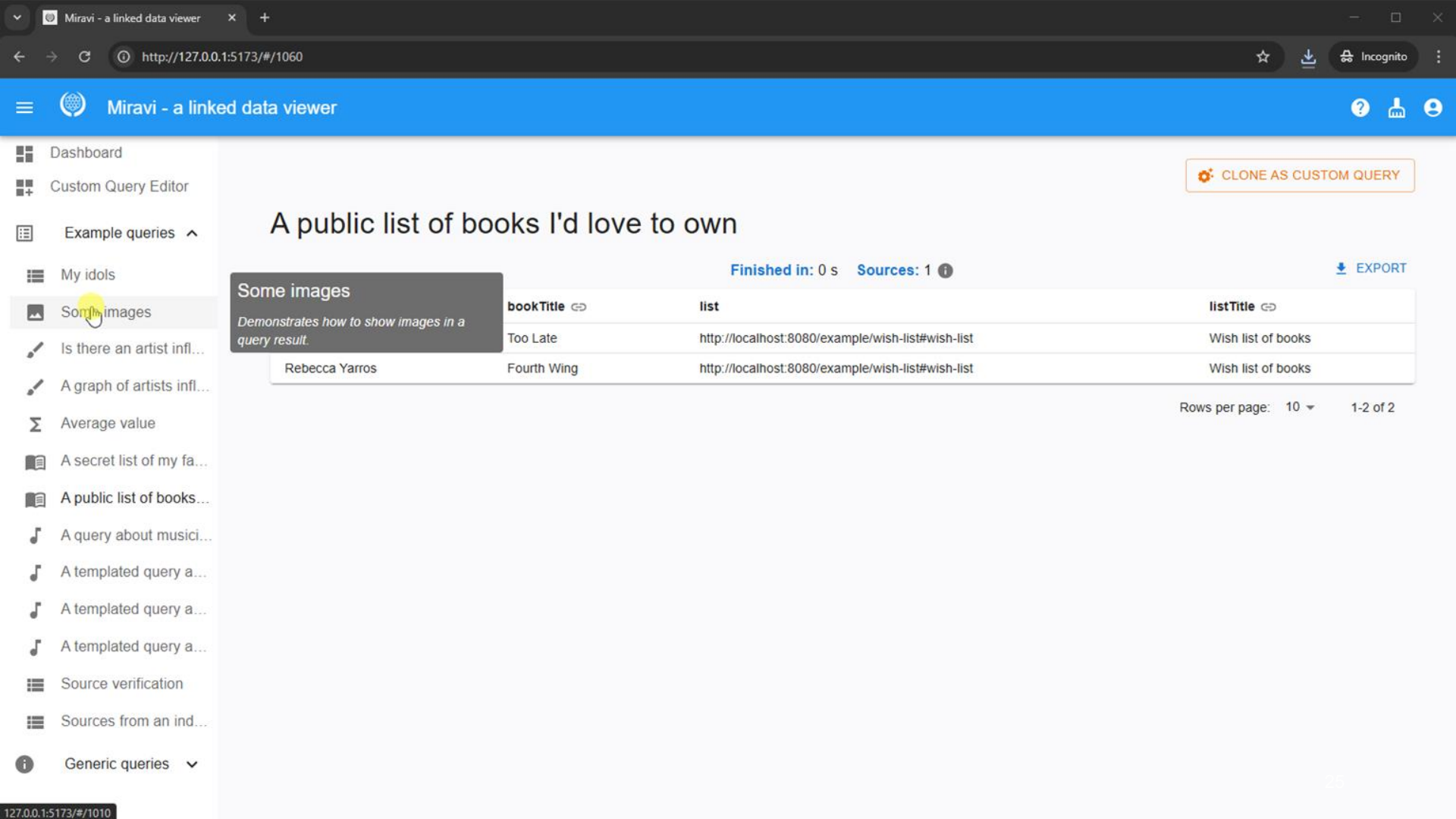


books.rq

```
PREFIX schema: <http://schema.org/>

SELECT * WHERE {
    ?list schema:name ?listTitle;
      schema:itemListElement [
      schema:name ?bookTitle;
      schema:creator [
        schema:name ?authorName
      ]
    ].
}
```

The query variables are mapped to the table headers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A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
A public list of books I'd love to own
Some images
Demonstrates how to show images in a query result.
Finished in: 0 s
Sources: 1
EXPORT
bookTitle
list
listTitle
Too Late
http://localhost:8080/example/wish-list#wish-list
Wish list of books
Rebecca Yarros
Fourth Wing
http://localhost:8080/example/wish-list#wish-list
Wish list of books
Rows per page: 10
1-2 of 2
127.0.0.1:5173/#/1010

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http://127.0.0.1:5173/#/1010

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  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

CLONE AS CUSTOM QUERY

Some images

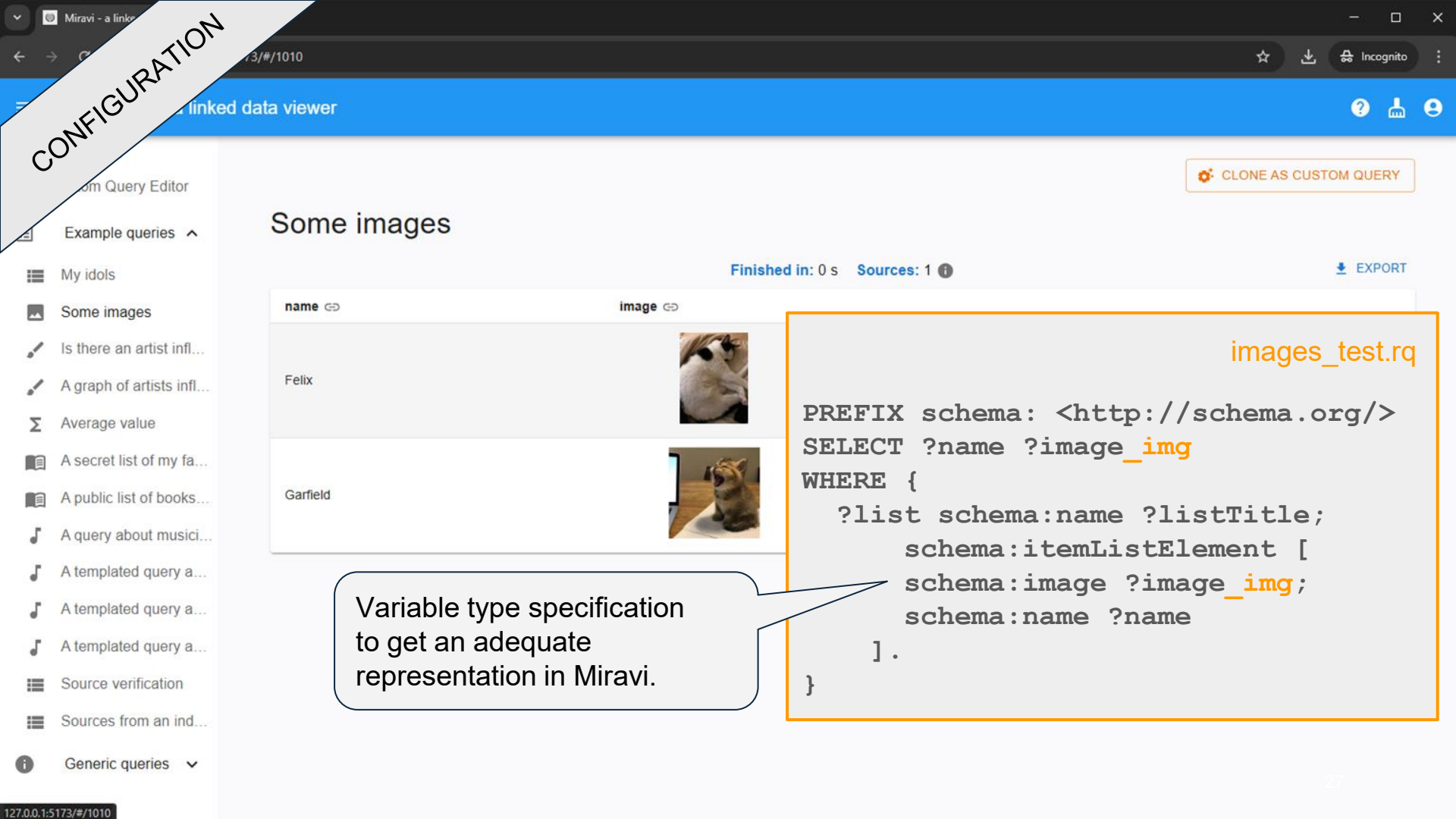
Finished in: 0 s **Sources:** 1

EXPORT

name	image
Felix	
Garfield	

Rows per page: 10 1-2 of 2

CONFIGURATION



Variable type specification to get an adequate representation in Miravi.

images_test.rq

```
PREFIX schema: <http://schema.org/>
SELECT ?name ?image_img
WHERE {
  ?list schema:name ?listTitle;
        schema:itemListElement [
        schema:image ?image_img;
        schema:name ?name
    ].
}
```

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1010

Incognito

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  - A templated query a...
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  - Sources from an ind...
- Generic queries

CLONE AS CUSTOM QUERY

Some images

Finished in: 0 s **Sources:** 1

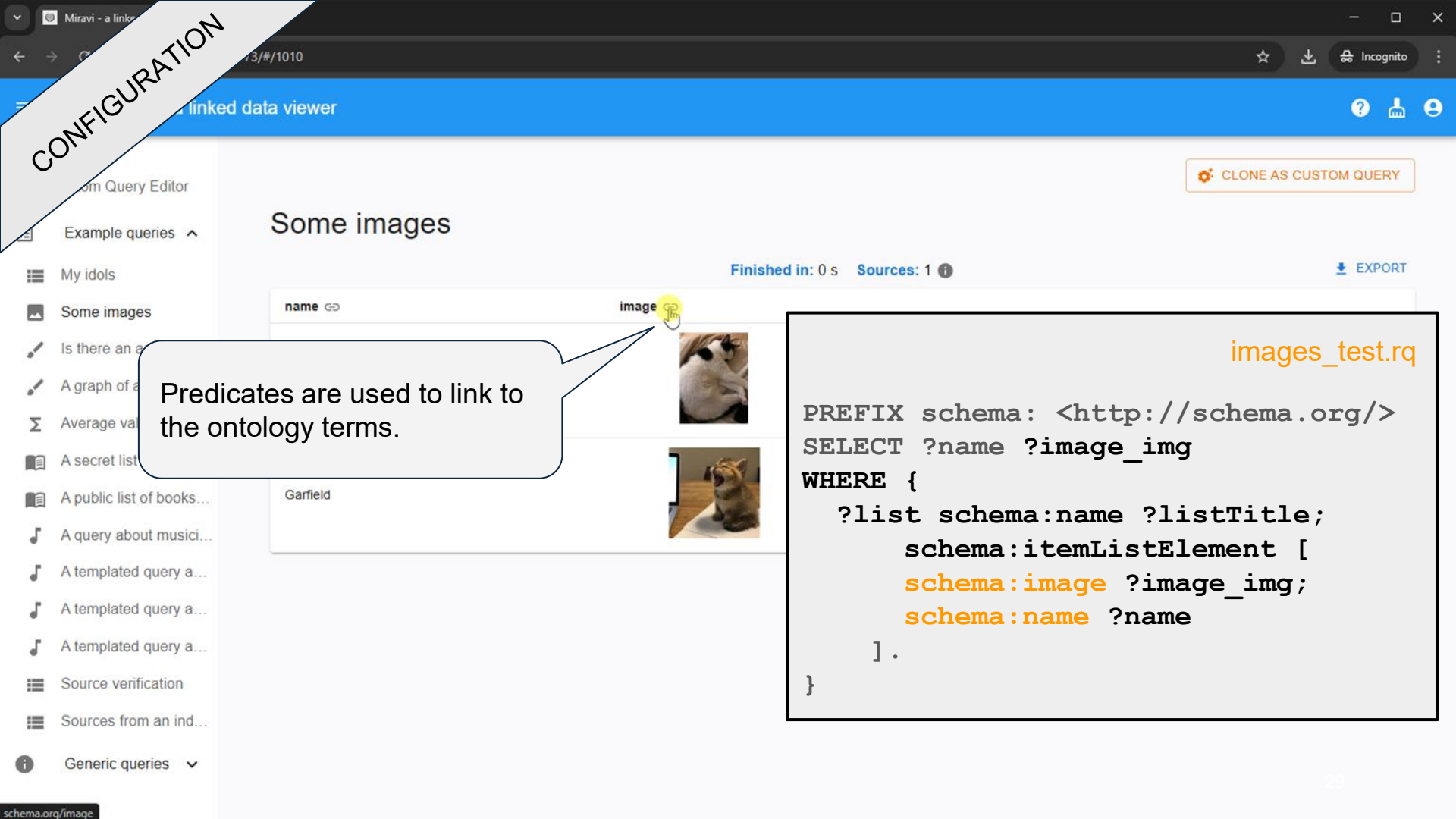
EXPORT

name	image
Felix	
Garfield	

Rows per page: 10 1-2 of 2

schema.org/image

CONFIGURATION



images_test.rq

```
PREFIX schema: <http://schema.org/>
SELECT ?name ?image_img
WHERE {
  ?list schema:name ?listTitle;
        schema:itemListElement [
        schema:image ?image_img;
        schema:name ?name
    ].
}
```

image

A Schema.org Property

Thing › **Property** :: **image**

An image of the item. This can be a URL or a fully described ImageObject.

[more...]

Values expected to be one of these types

- ImageObject
- URL

Used on these types

- Thing

Sub-properties

- colorSwatch
- layoutImage
- logo
- photo

Miravi - a linked data viewer | image - Schema.org Property

http://127.0.0.1:5173/#/1010

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Miravi - a linked data viewer

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  - A templated query a...
  - A templated query a...
  - A templated query a...
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CLONE AS CUSTOM QUERY

Some images

Finished in: 0 s **Sources:** 1

EXPORT

name	image
Felix	

A public list of books I'd love to own

Demonstrates a query whose source does not require authentication.

Rows per page: 10 1-2 of 2

127.0.0.1:5173/#/1060

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

CLONE AS CUSTOM QUERY

A public list of books I'd love to own

Finished in: 0 s **Sources:** 1

Sources info

EXPORT

authorName	bookTitle	list	listTitle
Colleen Hoover	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
Rebecca Yarros	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

Rows per page: 10 1-2 of 2

Dashboard
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Example queries
My idols
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A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

CLONE AS CUSTOM QUERY

A public list of books I'd love to own

Finished in: 0 s **Sources:** 1

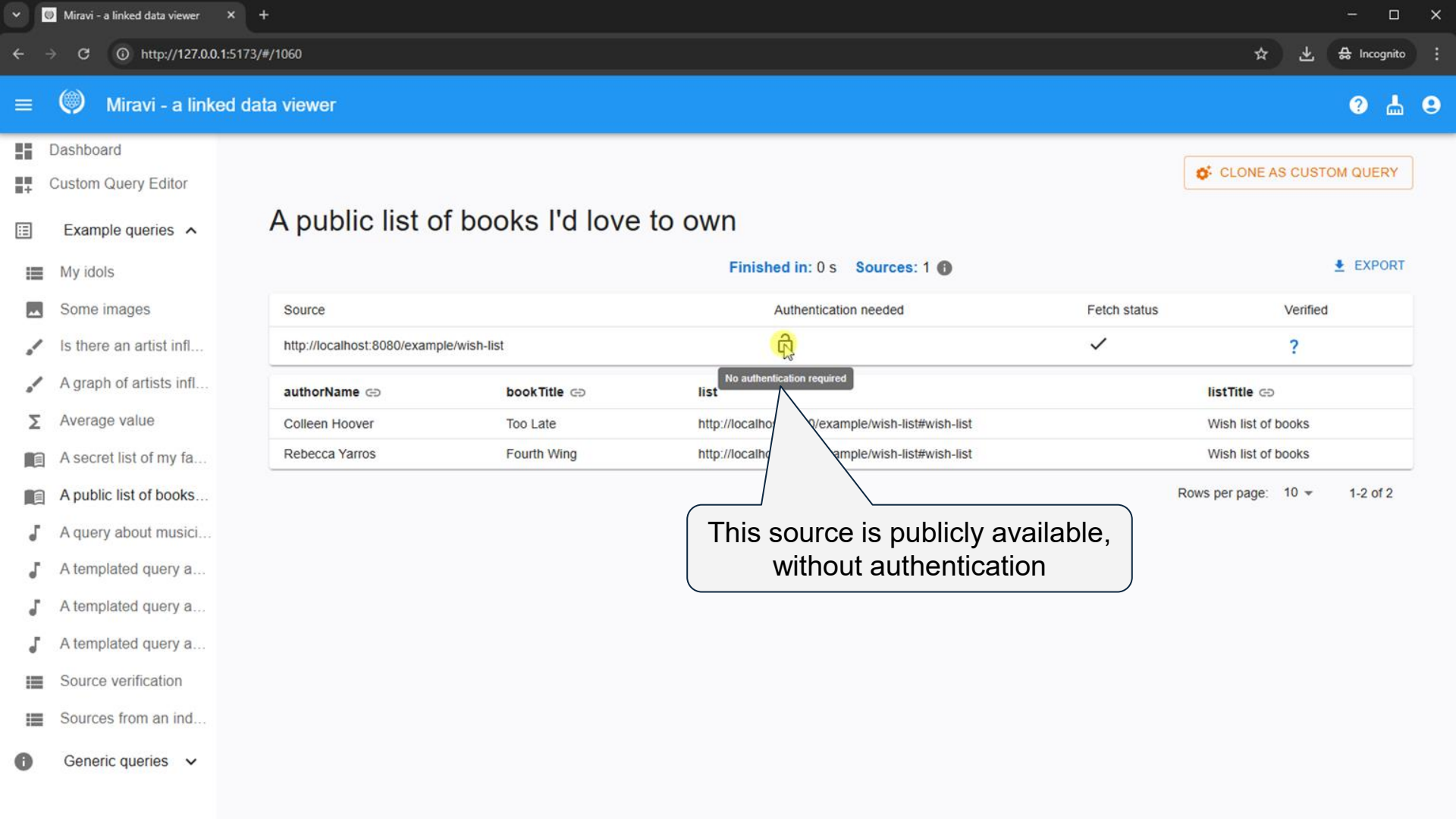
EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/wish-list		✓	?

No authentication required

authorName	bookTitle	list	listTitle
Colleen Hoover	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
Rebecca Yarros	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

Rows per page: 10 1-2 of 2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My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
A public list of books I'd love to own
Finished in: 0 s
Sources: 1
EXPORT
Source
Authentication needed
Fetch status
Verified
http://localhost:8080/example/wish-list
No authentication required
authorName
bookTitle
list
listTitle
Colleen Hoover
Too Late
Wish list of books
Rebecca Yarros
Fourth Wing
Wish list of books
Rows per page: 10
1-2 of 2
This source is publicly available, without authentication

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1060

Incognito

Miravi - a linked data viewer

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  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my f...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
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CLONE AS CUSTOM QUERY

A public list of books I'd love to own

Finished in: 0 s **Sources:** 1

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/wish-list		✓	?

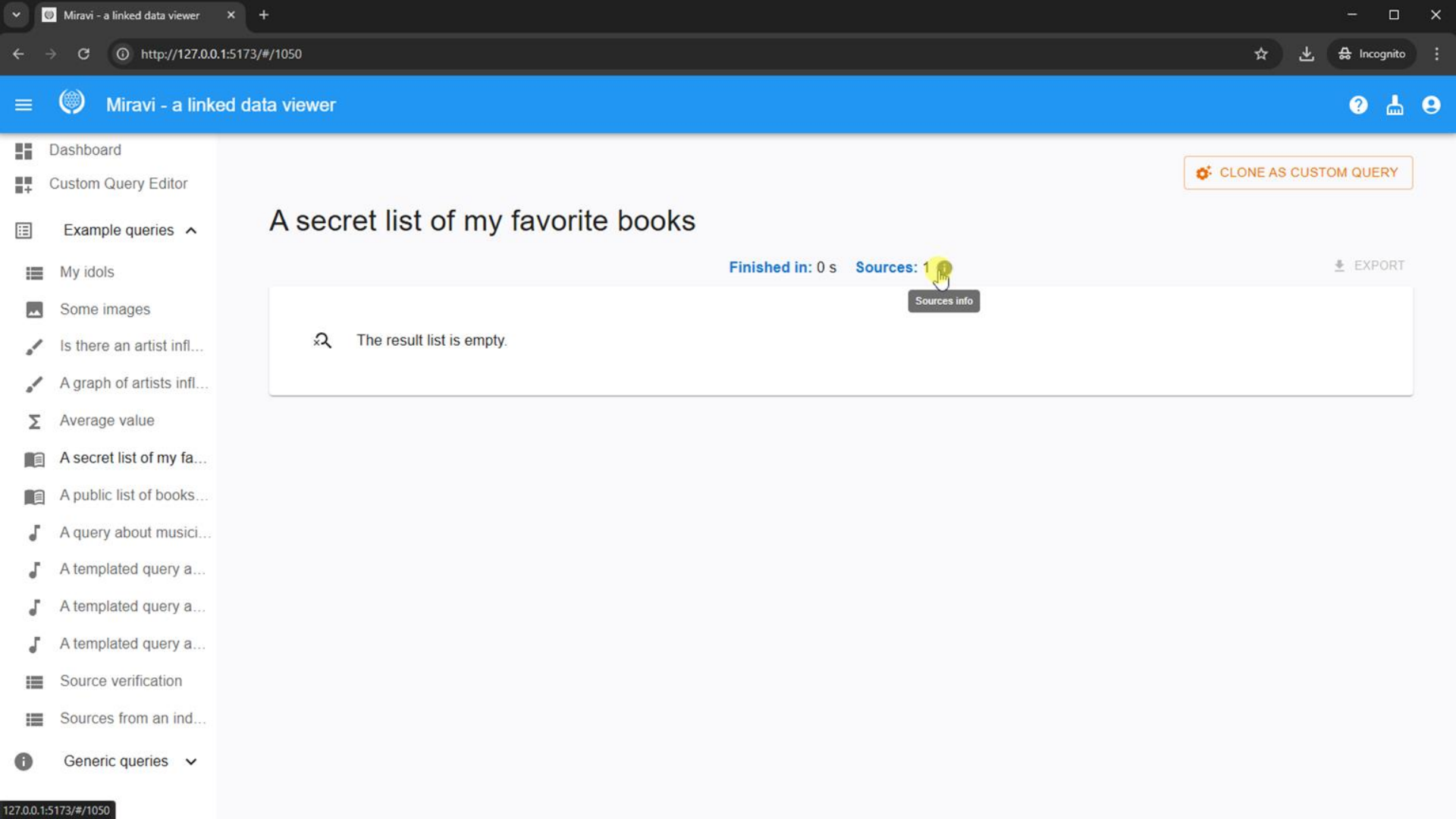
authorName	bookTitle	list	listTitle
	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

A secret list of my favorite books

Demonstrates a query whose source requires authentication.

Rows per page: 10 1-2 of 2

127.0.0.1:5173/#/1050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Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
A secret list of my favorite books
Finished in: 0 s
Sources: 1
Sources info
EXPORT
The result list is empty.
127.0.0.1:5173/#/1050

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

CLONE AS CUSTOM QUERY

A secret list of my favorite books

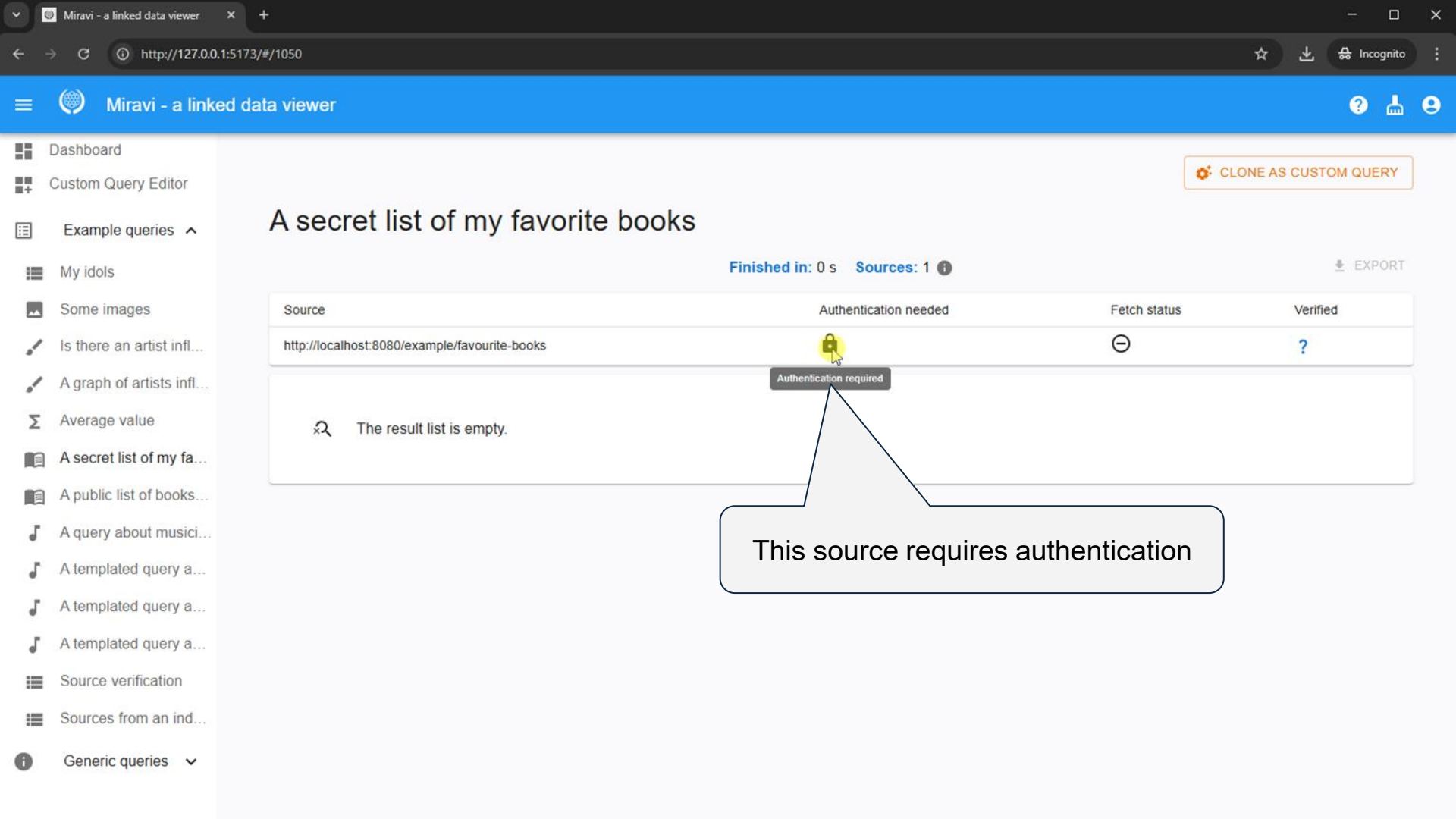
Finished in: 0 s **Sources:** 1

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books		⊖	?

Authentication required

The result list is empty.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Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
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CLONE AS CUSTOM QUERY
A secret list of my favorite books
Finished in: 0 s
Sources: 1
EXPORT
Source
Authentication needed
Fetch status
Verified
http://localhost:8080/example/favourite-books
Authentication required
The result list is empty.
This source requires authentication

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1050

Incognito

Miravi - a linked data viewer

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CLONE AS CUSTOM QUERY

A secret list of my favorite books

Finished in: 0 s **Sources:** 1

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books			?

Unauthorized

The result list is empty.

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
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A secret list of my favorite books

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EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books			?

The result list is empty.

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Is there an artist infl...
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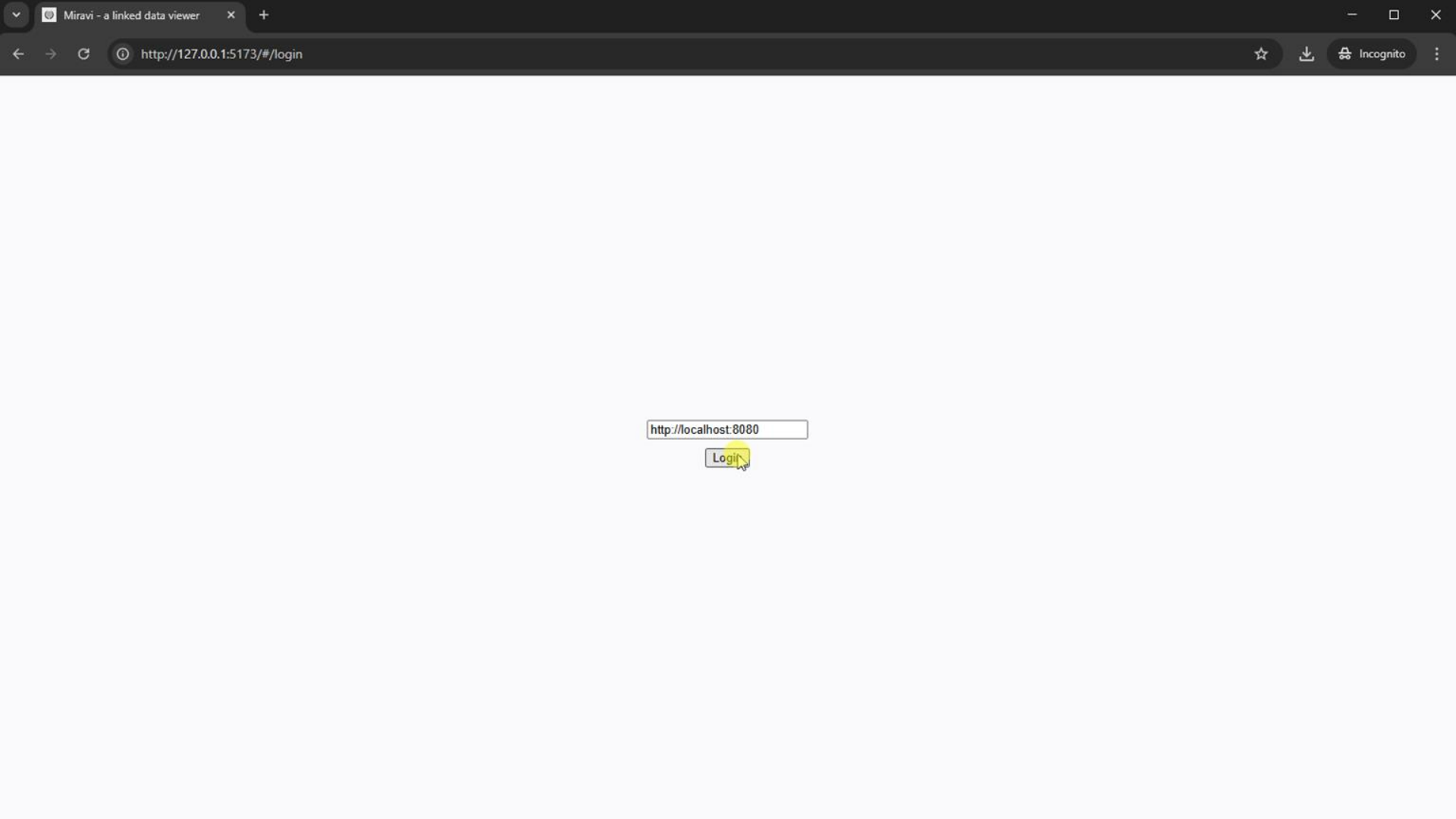
A secret list of my favorite books

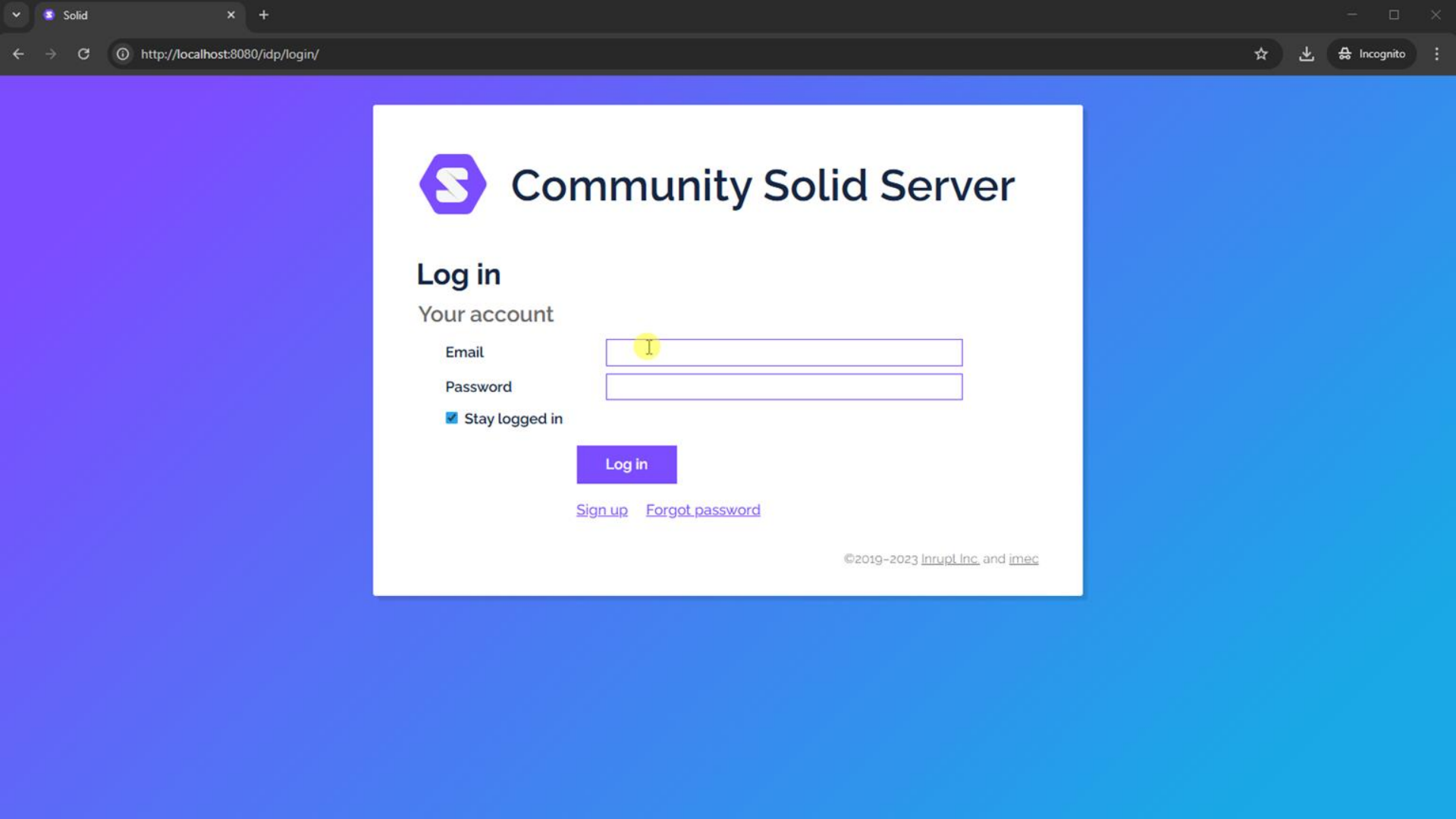
Finished in: 0 s **Sources:** 1

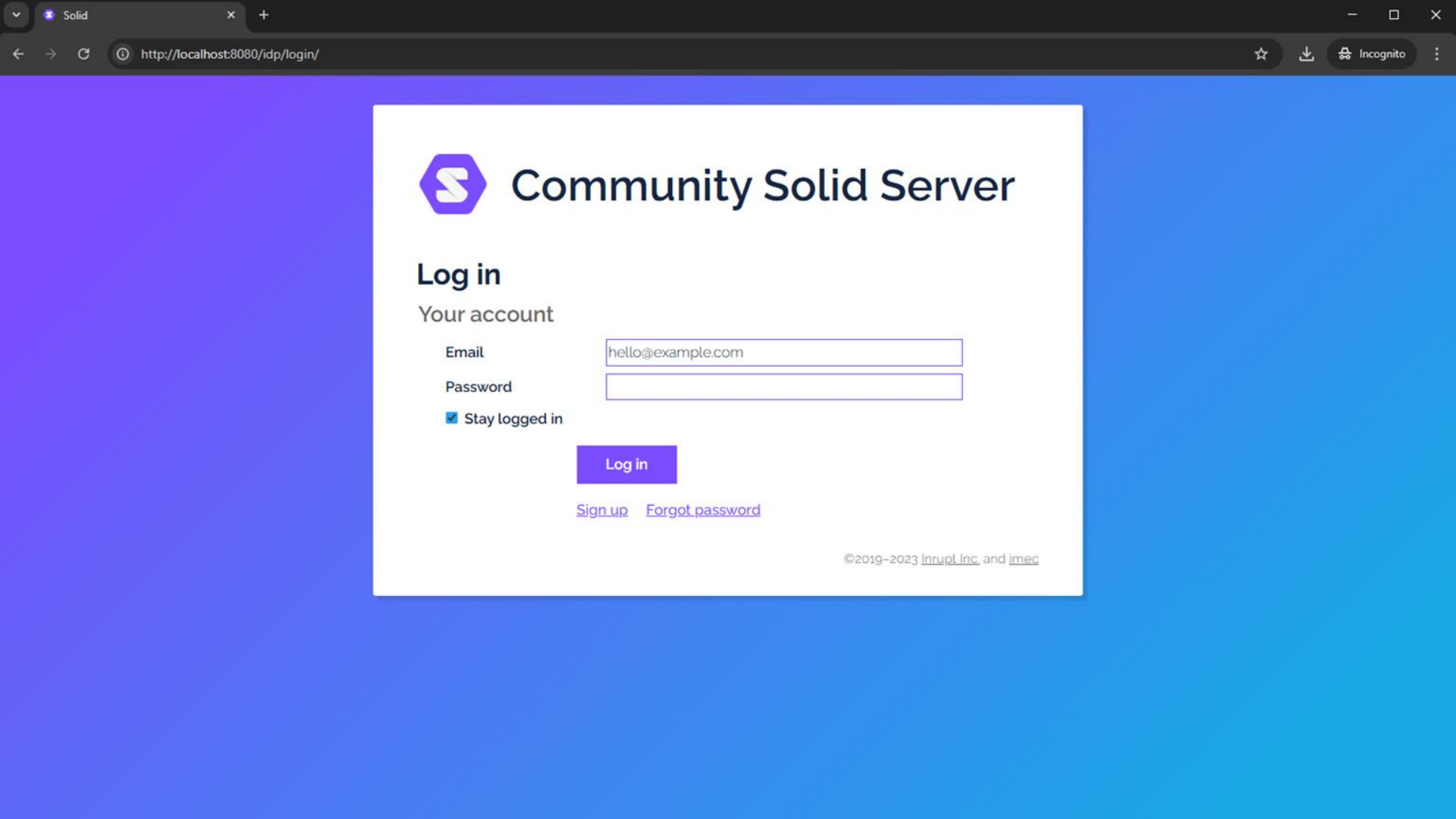
EXPORT

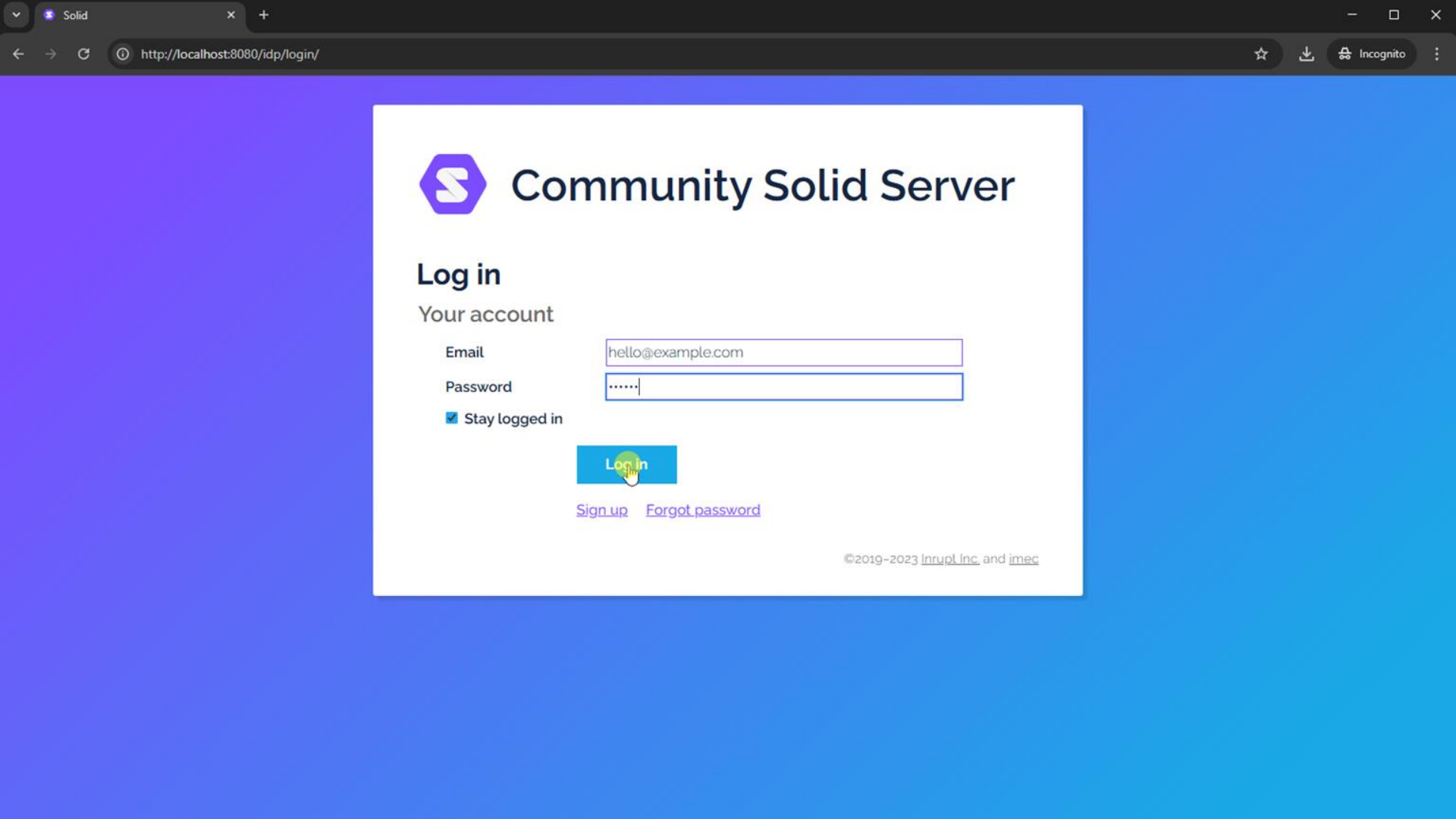
Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books			?

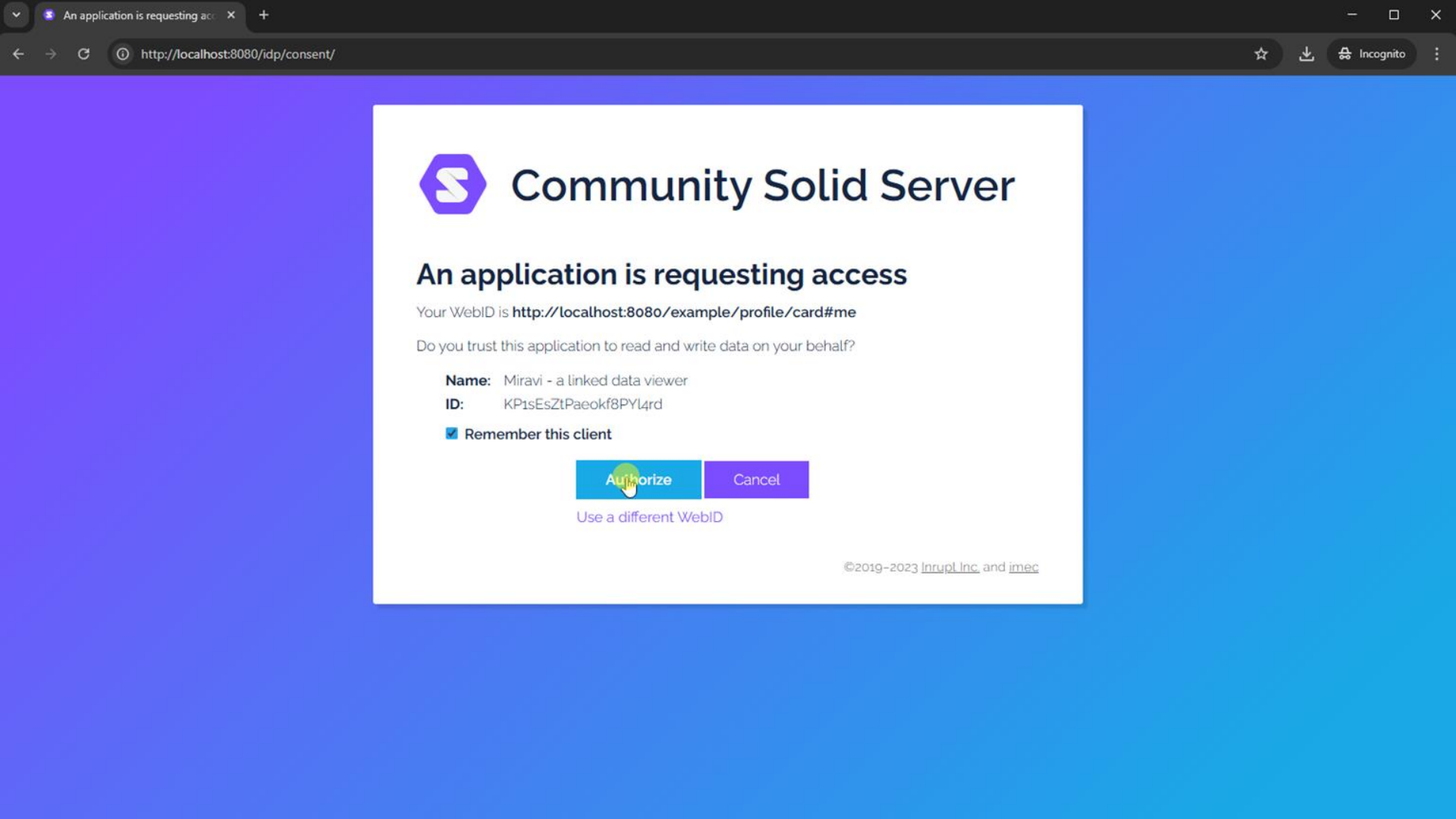
The result list is empty.


Miravi - a linked data viewer
http://127.0.0.1:5173/#/login
Incognito
http://localhost:8080
Login


Solid
http://localhost:8080/idp/login/
Incognito
Community Solid Server
Log in
Your account
Email
Password
Stay logged in
Log in
Sign up
Forgot password
©2019–2023 Inrupt Inc. and imec


Solid
http://localhost:8080/idp/login/
Incognito
Community Solid Server
Log in
Your account
Email
hello@example.com
Password
Stay logged in
Log in
Sign up
Forgot password
©2019–2023 Inrupt Inc. and imec


Solid
http://localhost:8080/idp/login/
Incognito
Community Solid Server
Log in
Your account
Email
hello@example.com
Password
Stay logged in
Log in
Sign up
Forgot password
©2019–2023 Inrupt Inc. and imec


An application is requesting ac
http://localhost:8080/idp/consent/
Incognito
Community Solid Server
An application is requesting access
Your WebID is http://localhost:8080/example/profile/card#me
Do you trust this application to read and write data on your behalf?
Name: Miravi - a linked data viewer
ID: KP1sEsZtPaeokf8PYl4rd
Remember this client
Authorize
Cancel
Use a different WebID
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Miravi - a linked data viewer

http://127.0.0.1:5173

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
- Generic queries

Please log in as the appropriate actor and make your choice in the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From: http://localhost:8080/example/customQueries/myQueries.json

SAVE ALL To: http://localhost:8080/example/customQueries/myQueries.json

Miravi - a linked data viewer

http://127.0.0.1:5173

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my f...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

Please log in as the appropriate actor and make your choice in the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL

From: http://localhost:8080/example/customQueries/myQueries.json

alhost:8080/example/customQueries/myQueries.json

A secret list of my favorite books

Demonstrates a query whose source requires authentication.

127.0.0.1:5173/#/1050

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

CLONE AS CUSTOM QUERY

A secret list of my favorite books

Finished in: 0 s **Sources:** 1

Sources info

EXPORT

authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books

Rows per page: 10 1-2 of 2

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1050

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

CLONE AS CUSTOM QUERY

A secret list of my favorite books

Finished in: 0 s **Sources:** 1

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books	Authentication required	✓	?

authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books

Rows per page: 10 1-2 of 2

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

CLONE AS CUSTOM QUERY

A secret list of my favorite books

Finished in: 0 s **Sources:** 1

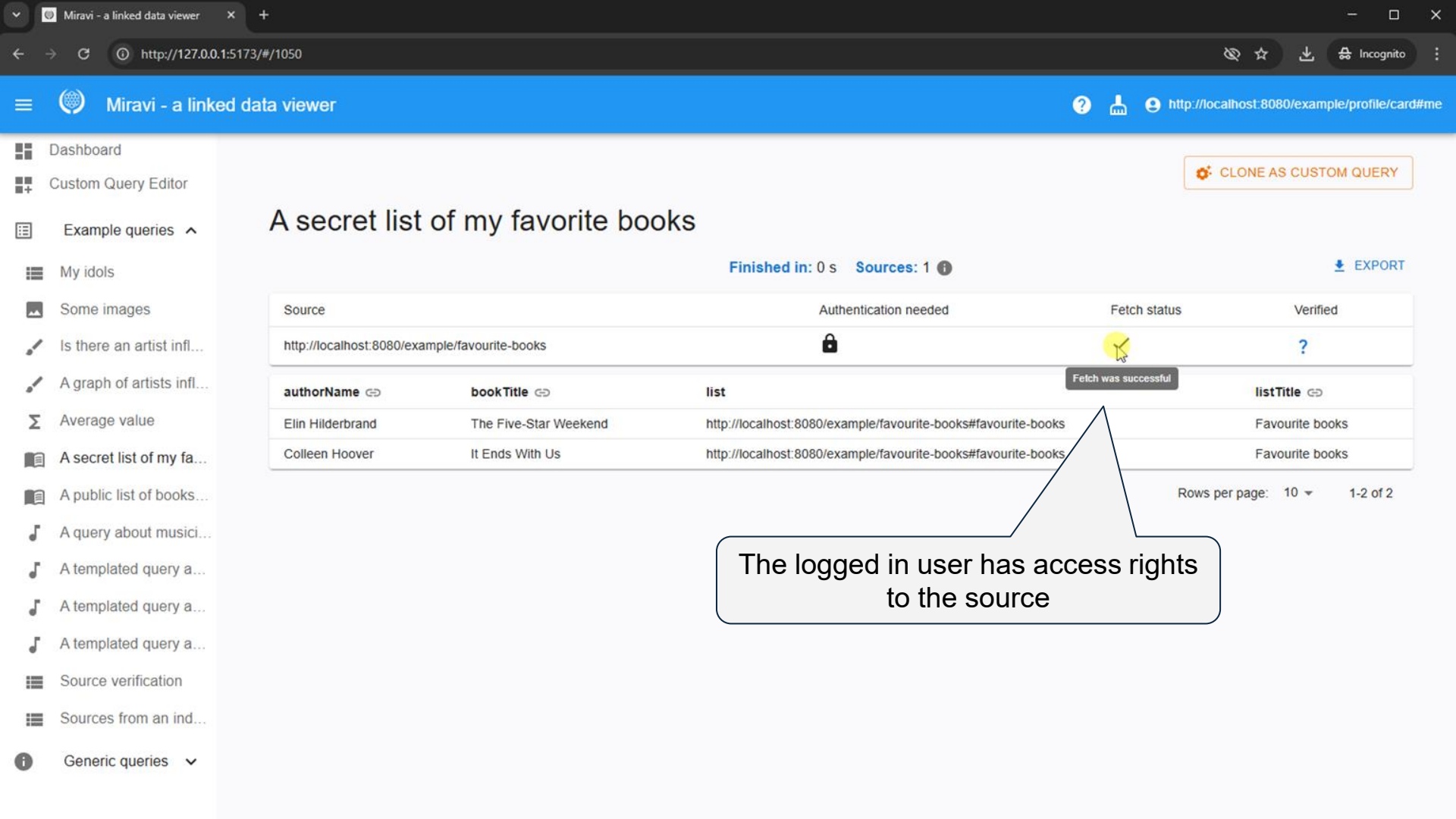
EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books			?

Fetch was successful

authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books

Rows per page: 10 1-2 of 2


Miravi - a linked data viewer
http://127.0.0.1:5173/#/1050
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
A secret list of my favorite books
Finished in: 0 s
Sources: 1
EXPORT
Source
Authentication needed
Fetch status
Verified
http://localhost:8080/example/favourite-books
Fetch was successful
authorName
bookTitle
list
listTitle
Elin Hilderbrand
The Five-Star Weekend
http://localhost:8080/example/favourite-books#favourite-books
Favourite books
Colleen Hoover
It Ends With Us
http://localhost:8080/example/favourite-books#favourite-books
Favourite books
Rows per page: 10
1-2 of 2
The logged in user has access rights to the source

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query ...
A templated query a...
Source verification
Sources from an ind...
Generic queries

CLONE AS CUSTOM QUERY

A secret list of my favorite books

Finished in: 0 s **Sources:** 1

EXPORT

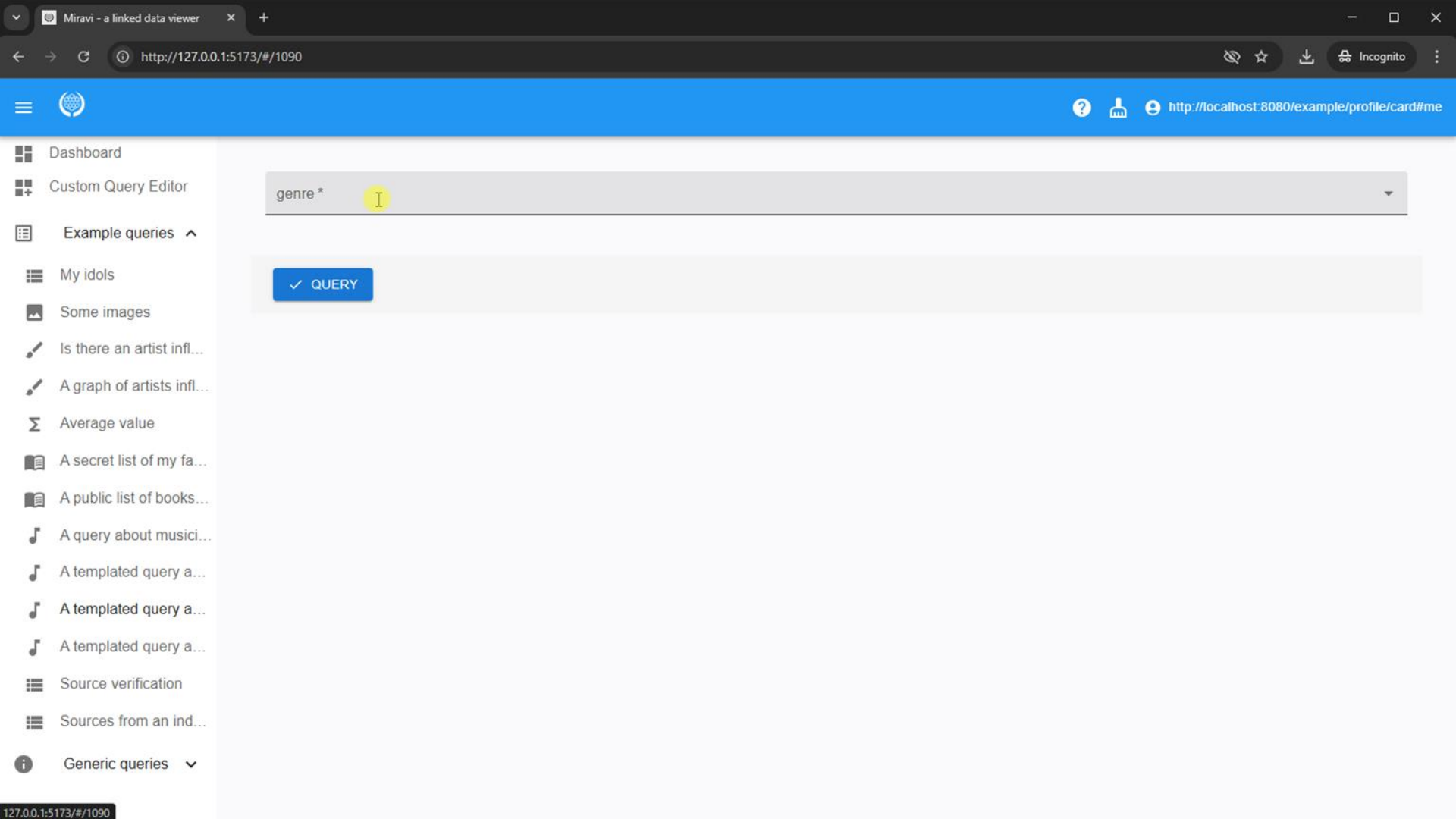
Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books	🔒	✓	?

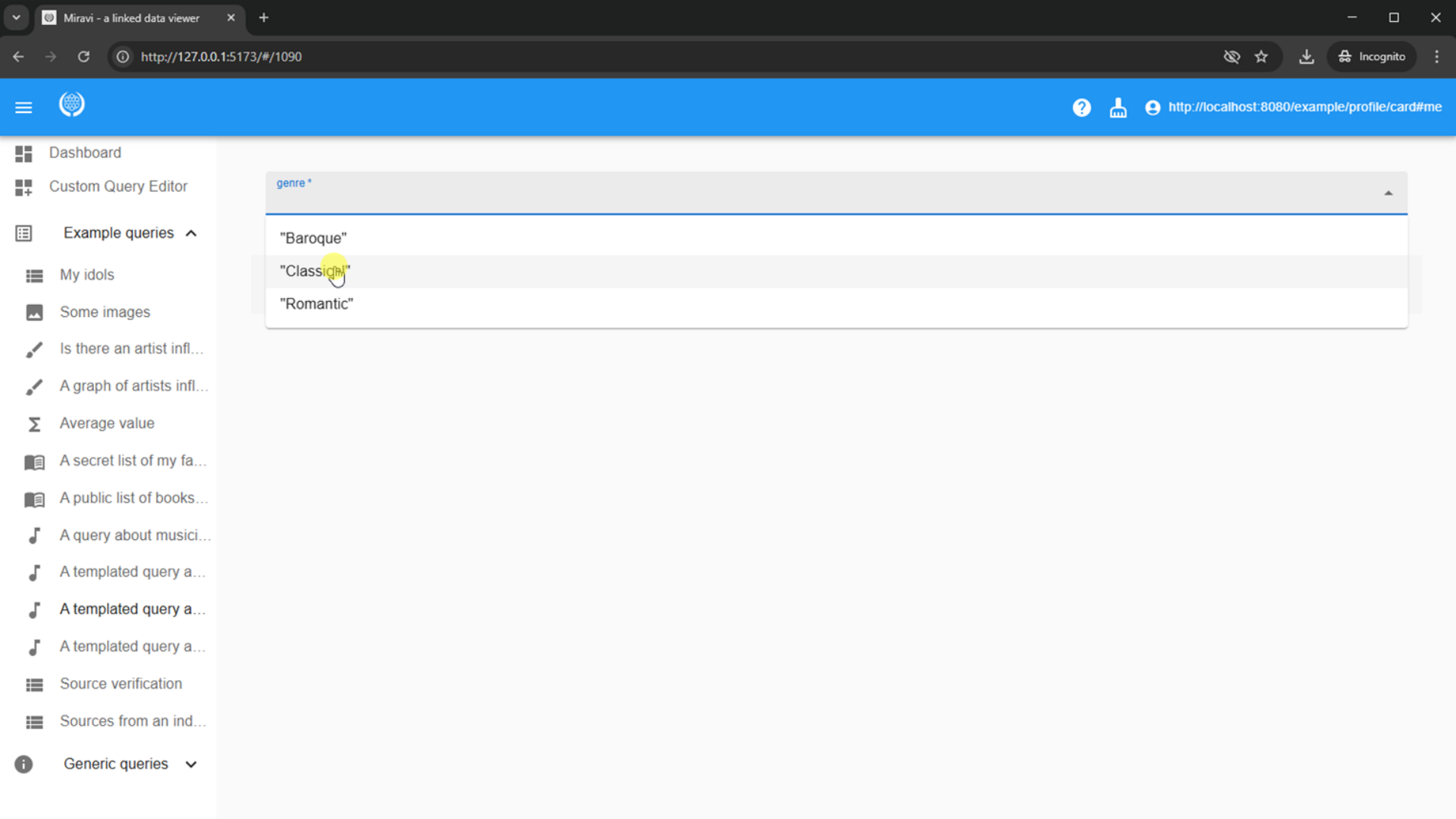
authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books

Rows per page: 10 1-2 of 2

A templated query about musicians (indirect variables)

Demonstrates the usage of templated queries, here with indirectly loaded variable values.


Miravi - a linked data viewer
http://127.0.0.1:5173/#/1090
Incognito
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
genre *
QUERY
127.0.0.1:5173/#/1090


Miravi - a linked data viewer
http://127.0.0.1:5173/#/1090
Incognito
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
genre *
"Baroque"
"Classical"
"Romantic"

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1090

Incognito

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

genre *

"Classical"

QUERY

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an in...
Generic queries

CHANGE VARIABLES

CLONE AS CUSTOM QUERY

A templated query about musicians (indirect variables)

genre: "Classical"

Finished in: 0 s **Sources:** 1

EXPORT

name	sameAs
Ludwig van Beethoven	https://en.wikipedia.org/wiki/Ludwig_van_Beethoven
Wolfgang Amadeus Mozart	https://en.wikipedia.org/wiki/Wolfgang_Amadeus_Mozart

Rows per page: 10 1-2 of 2

Sources from an index file

Query components (including details about materials) with the sources obtained from index files.

CONFIGURATION

config snippet

```
"queries": [ (...),
     {"id": "1080",
      (...),
       "queryLocation": "musicians.rq",
       "variables": {
         "genre": [
           "\"Romantic\"",
           "\"Baroque\"",
           "\"Classical\""
         ]} },(...)]
```

Query template option 1: list of values

musicians.rq

```
PREFIX schema: <http://schema.org/>

SELECT ?name ?sameAs_url WHERE {
  ?list schema:name ?listTitle;
    schema:name ?name;
    schema:genre $genre;
    schema:sameAs ?sameAs_url;
}
```

CONFIGURATION

config snippet

```
"queries": [ (...),
     {"id": "1090",
      (...),
       "queryLocation": "musicians.rq",
       "indirectVariables": {
         "queryLocations": [
           "variableQueries/musicians_genre_variable.rq"
         ]
       }
 },(...)]
```

Query template option 2:
indirect variables (scalable)

musicians.rq

```
PREFIX schema: <http://schema.org/>

SELECT ?name ?sameAs_url WHERE {
  ?list schema:name ?listTitle;
    schema:name ?name;
    schema:genre $genre;
    schema:sameAs ?sameAs_url;
}
```

musicians_genre_variable.rq

```
PREFIX schema: <http://schema.org/>

SELECT DISTINCT ?genre
WHERE {
  ?list schema:genre ?genre
}
ORDER BY ?genre
```

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an in...
Generic queries

CHANGE VARIABLES

CLONE AS CUSTOM QUERY

A templated query about musicians (indirect variables)

genre: "Classical"

Finished in: 0 s **Sources:** 1

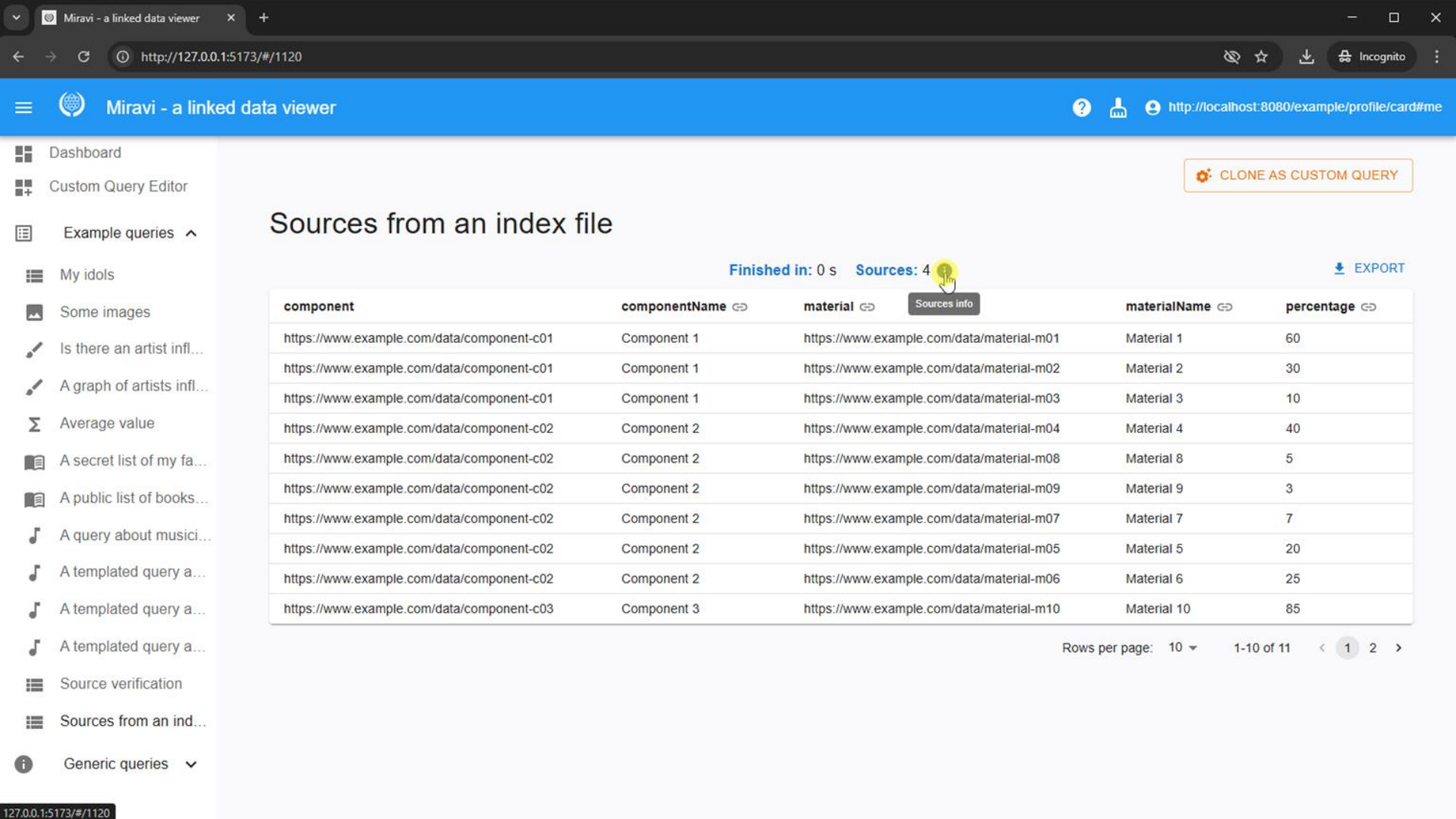
EXPORT

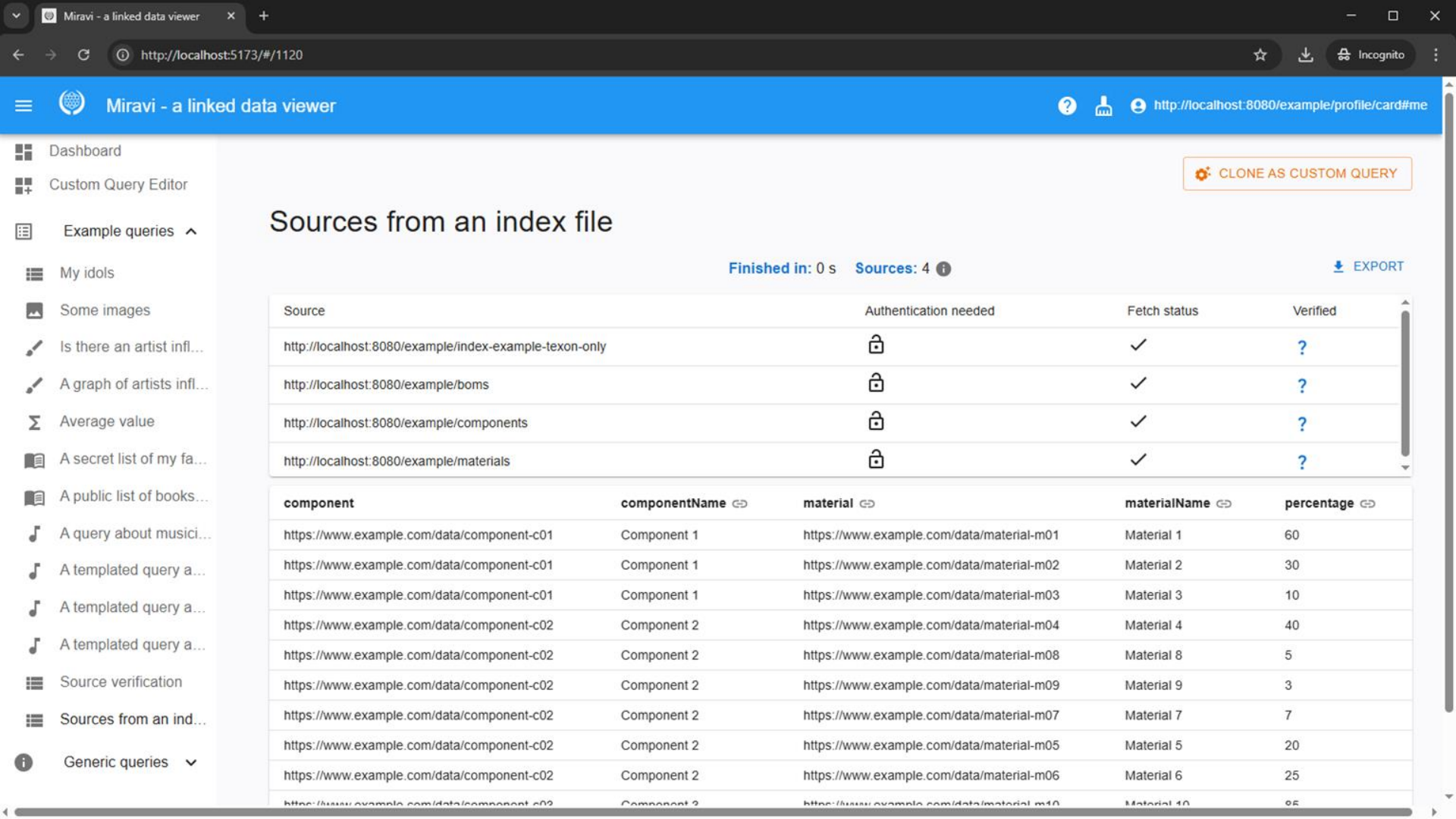
name	sameAs
Ludwig van Beethoven	https://en.wikipedia.org/wiki/Ludwig_van_Beethoven
Wolfgang Amadeus Mozart	https://en.wikipedia.org/wiki/Wolfgang_Amadeus_Mozart

Rows per page: 10 1-2 of 2

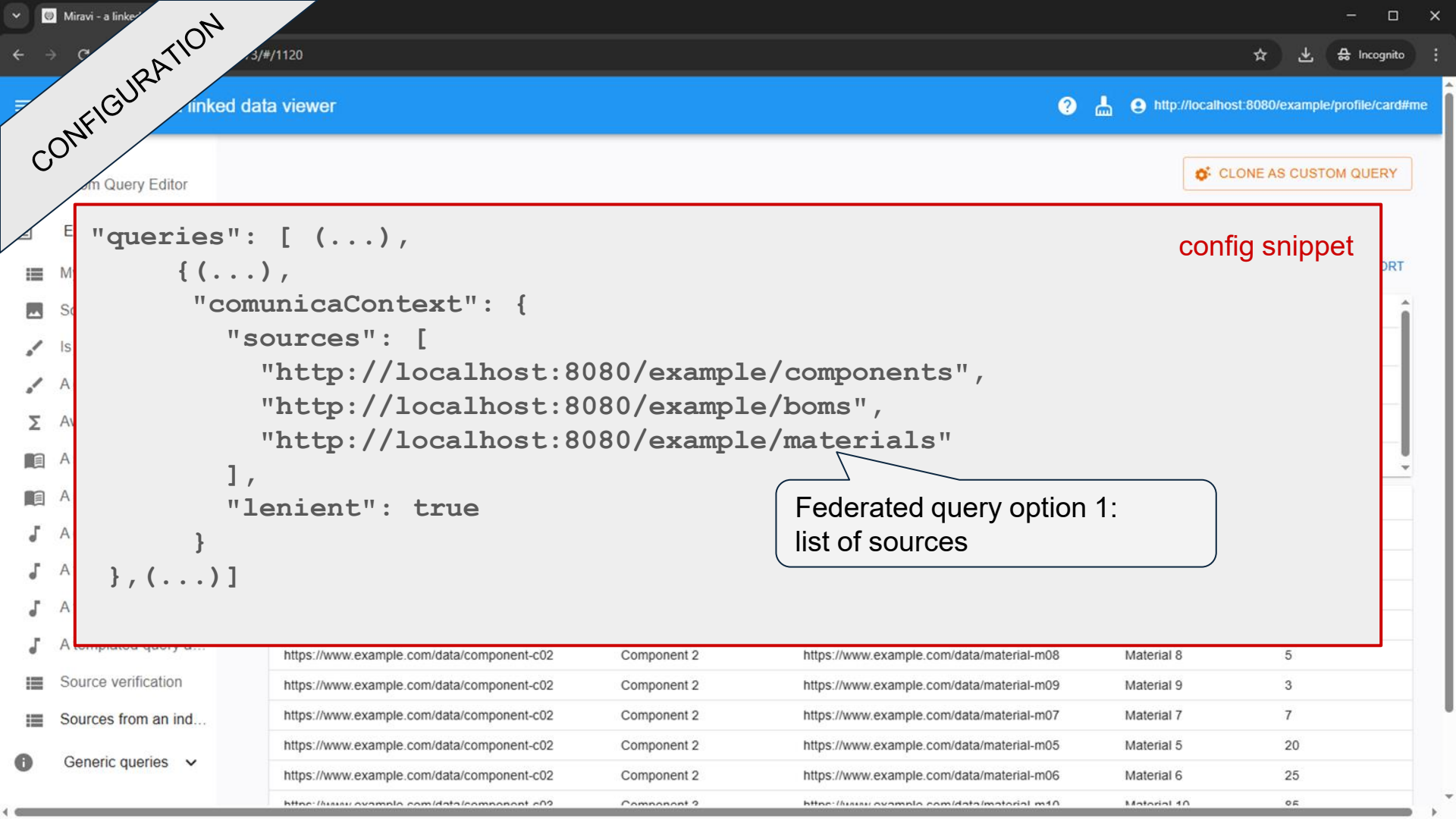
Sources from an index file

Query components (including details about materials) with the sources obtained from index files.


Miravi - a linked data viewer
http://127.0.0.1:5173/#/1120
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
Sources from an index file
Finished in: 0 s
Sources: 4
Sources info
EXPORT
component
componentName
material
materialName
percentage
https://www.example.com/data/component-c01
Component 1
https://www.example.com/data/material-m01
Material 1
60
https://www.example.com/data/component-c01
Component 1
https://www.example.com/data/material-m02
Material 2
30
https://www.example.com/data/component-c01
Component 1
https://www.example.com/data/material-m03
Material 3
10
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m04
Material 4
40
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m08
Material 8
5
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m09
Material 9
3
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m07
Material 7
7
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m05
Material 5
20
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m06
Material 6
25
https://www.example.com/data/component-c03
Component 3
https://www.example.com/data/material-m10
Material 10
85
Rows per page: 10
1-10 of 11
1
2
127.0.0.1:5173/#/1120


Miravi - a linked data viewer
http://localhost:5173/#/1120
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
Sources from an index file
Finished in: 0 s
Sources: 4
EXPORT
Source
Authentication needed
Fetch status
Verified
http://localhost:8080/example/index-example-texon-only
http://localhost:8080/example/boms
http://localhost:8080/example/components
http://localhost:8080/example/materials
component
componentName
material
materialName
percentage
https://www.example.com/data/component-c01 Component 1 https://www.example.com/data/material-m01 Material 1 60
https://www.example.com/data/component-c01 Component 1 https://www.example.com/data/material-m02 Material 2 30
https://www.example.com/data/component-c01 Component 1 https://www.example.com/data/material-m03 Material 3 10
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m04 Material 4 40
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m08 Material 8 5
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m09 Material 9 3
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m07 Material 7 7
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m05 Material 5 20
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m06 Material 6 25

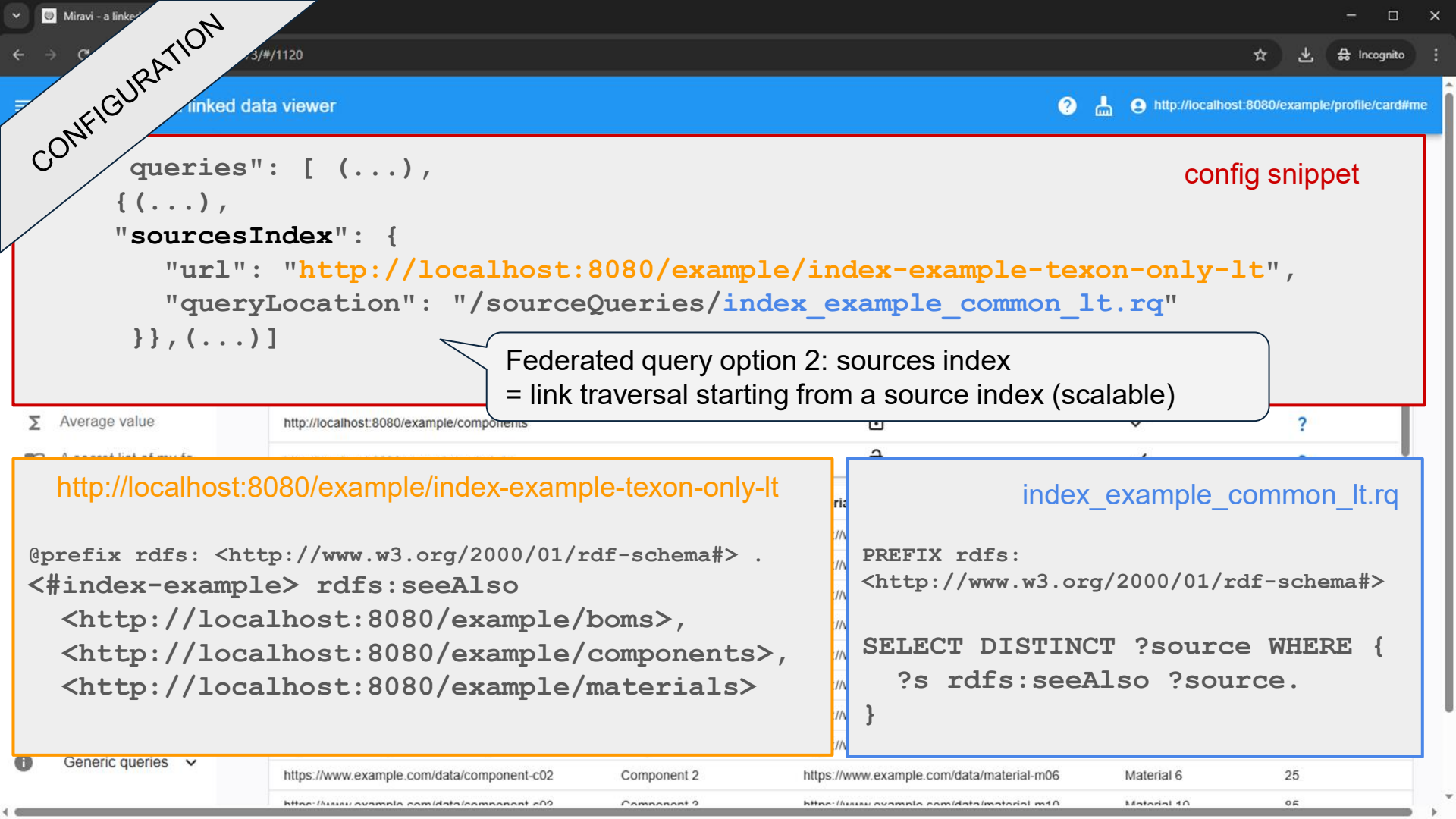
CONFIGURATION

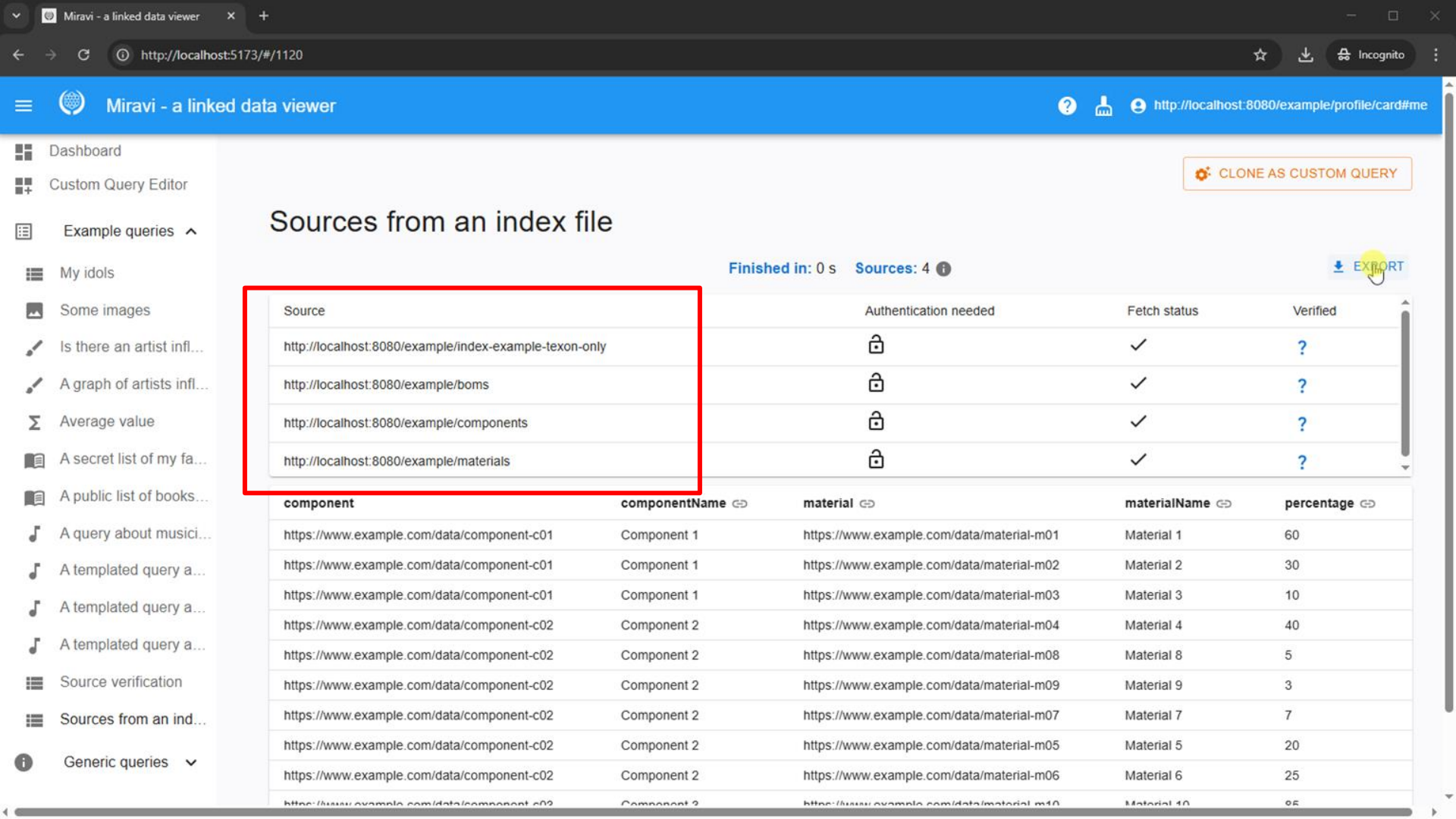



```
"queries": [ (...),
     {(...),
      "comunicaContext": {
        "sources": [
          "http://localhost:8080/example/components",
          "http://localhost:8080/example/boms",
          "http://localhost:8080/example/materials"
        ],
        "lenient": true
      }
 },(...)]
```

config snippet

Federated query option 1:
list of sources


CONFIGURATION
linked data viewer
http://localhost:8080/example/profile/card#me
config snippet
queries": [(...),
{(...),
"sourcesIndex": {
"url": "http://localhost:8080/example/index-example-texon-only-lt",
"queryLocation": "/sourceQueries/index_example_common_lt.rq"
}},(...)]
Federated query option 2: sources index
= link traversal starting from a source index (scalable)
Average value
http://localhost:8080/example/components
http://localhost:8080/example/index-example-texon-only-lt
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
<#index-example> rdfs:seeAlso
<http://localhost:8080/example/boms>,
<http://localhost:8080/example/components>,
<http://localhost:8080/example/materials>
index_example_common_lt.rq
PREFIX rdfs:
<http://www.w3.org/2000/01/rdf-schema#>
SELECT DISTINCT ?source WHERE {
?s rdfs:seeAlso ?source.
}
Generic queries
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m06
Material 6
25



Miravi - a linked data viewer

http://localhost:5173/#/1120

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

CLONE AS CUSTOM QUERY

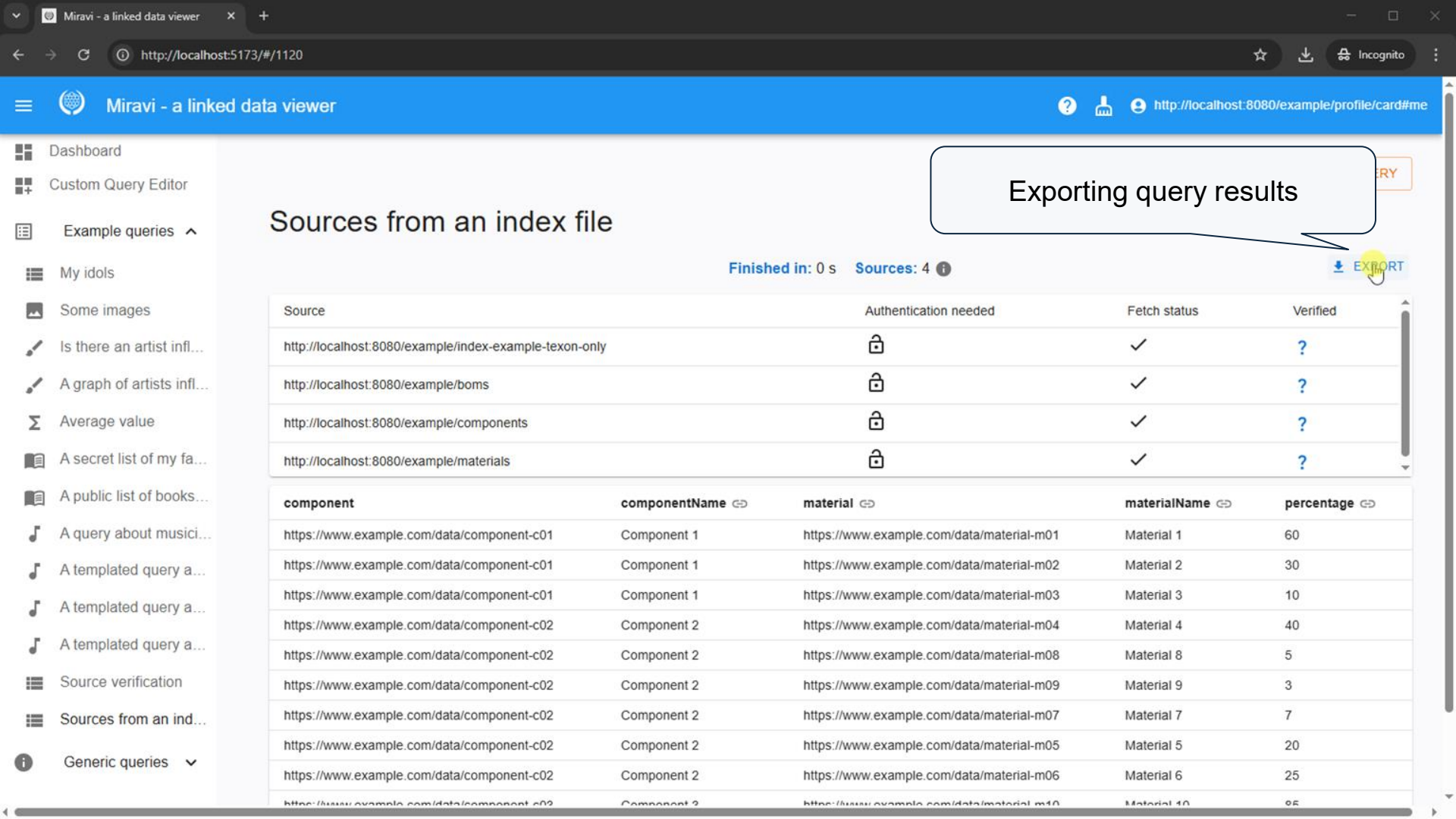
Sources from an index file

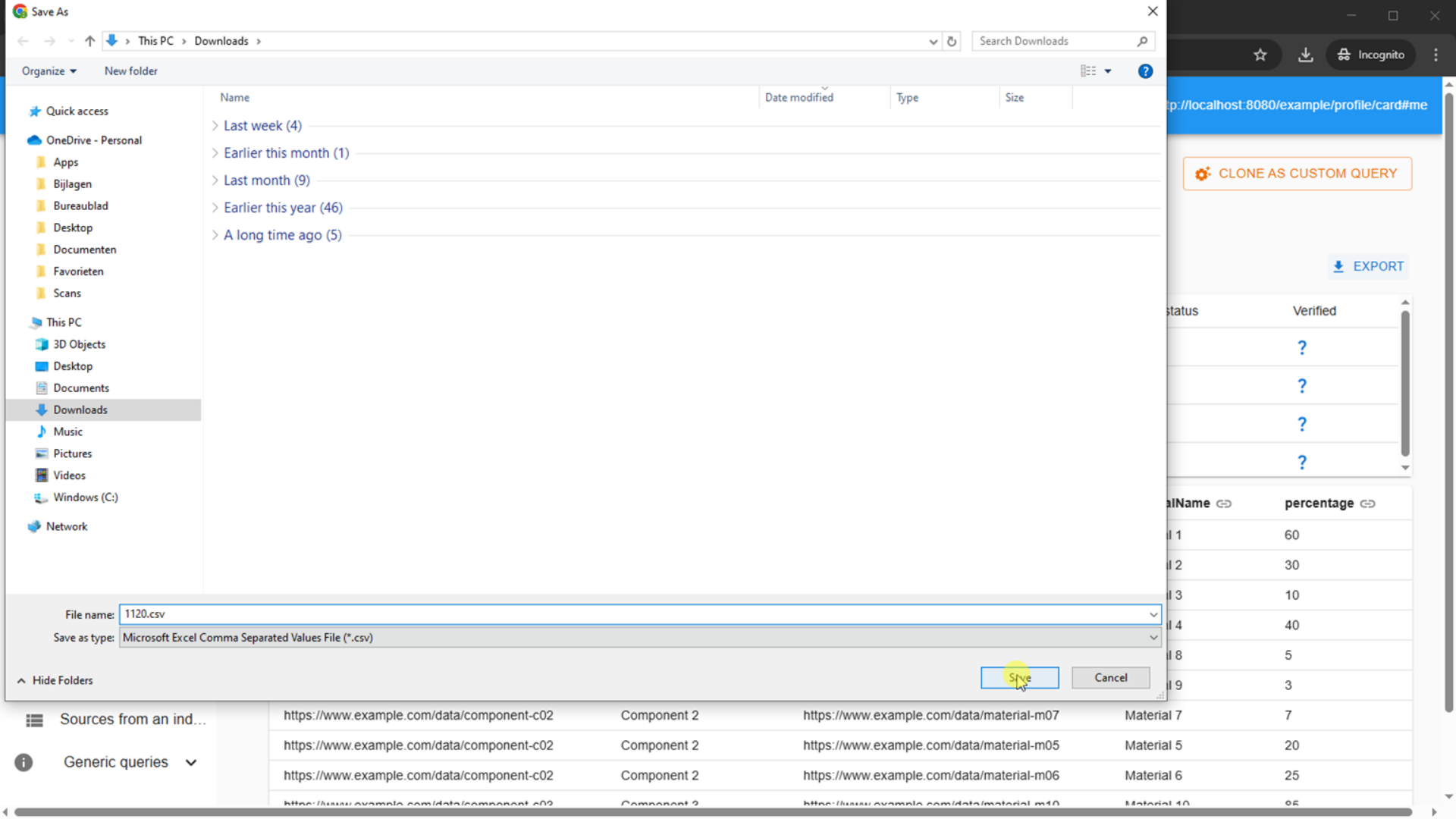
Finished in: 0 s **Sources:** 4

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/index-example-texon-only		✓	?
http://localhost:8080/example/boms		✓	?
http://localhost:8080/example/components		✓	?
http://localhost:8080/example/materials		✓	?

component	componentName	material	materialName	percentage
https://www.example.com/data/component-c01	Component 1	https://www.example.com/data/material-m01	Material 1	60
https://www.example.com/data/component-c01	Component 1	https://www.example.com/data/material-m02	Material 2	30
https://www.example.com/data/component-c01	Component 1	https://www.example.com/data/material-m03	Material 3	10
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m04	Material 4	40
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m08	Material 8	5
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m09	Material 9	3
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m07	Material 7	7
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m05	Material 5	20
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m06	Material 6	25


Miravi - a linked data viewer
http://localhost:5173/#/1120
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
Exporting query results
Sources from an index file
Finished in: 0 s
Sources: 4
EXPORT
Source
Authentication needed
Fetch status
Verified
http://localhost:8080/example/index-example-texon-only
http://localhost:8080/example/boms
http://localhost:8080/example/components
http://localhost:8080/example/materials
component
componentName
material
materialName
percentage
https://www.example.com/data/component-c01 Component 1 https://www.example.com/data/material-m01 Material 1 60
https://www.example.com/data/component-c01 Component 1 https://www.example.com/data/material-m02 Material 2 30
https://www.example.com/data/component-c01 Component 1 https://www.example.com/data/material-m03 Material 3 10
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m04 Material 4 40
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m08 Material 8 5
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m09 Material 9 3
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m07 Material 7 7
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m05 Material 5 20
https://www.example.com/data/component-c02 Component 2 https://www.example.com/data/material-m06 Material 6 25


Save As
This PC
Downloads
Search Downloads
Organize
New folder
Quick access
OneDrive - Personal
Apps
Bijlagen
Bureaublad
Desktop
Documenten
Favorieten
Scans
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Windows (C:)
Network
Name
Date modified
Type
Size
Last week (4)
Earlier this month (1)
Last month (9)
Earlier this year (46)
A long time ago (5)
File name:
1120.csv
Save as type:
Microsoft Excel Comma Separated Values File (*.csv)
Hide Folders
Save
Cancel
Incognito
CLONE AS CUSTOM QUERY
EXPORT
Verified
percentage
Sources from an ind...
Generic queries
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m07
Material 7
7
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m05
Material 5
20
https://www.example.com/data/component-c02
Component 2
https://www.example.com/data/material-m06
Material 6
25

Anyone using this device can see downloaded files
1120.csv
3.8 KB • Done

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

TOM QUERY

Sources from an index file

Finished in: 0 s **Sources:** 4

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/index-example-texon-only		✓	?
http://localhost:8080/example/boms		✓	?
http://localhost:8080/example/components		✓	?
http://localhost:8080/example/materials		✓	?

component	componentName	material	materialName	percentage
https://www.example.com/data/component-c01	Component 1	https://www.example.com/data/material-m01	Material 1	60
https://www.example.com/data/component-c01	Component 1	https://www.example.com/data/material-m02	Material 2	30
https://www.example.com/data/component-c01	Component 1	https://www.example.com/data/material-m03	Material 3	10
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m04	Material 4	40
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m08	Material 8	5
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m09	Material 9	3
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m07	Material 7	7
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m05	Material 5	20
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m06	Material 6	25

Miravi - a linked data viewer

http://localhost:5173/#/1120

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

Dashboard

Custom Query Editor

Example

My idols

Some ima

Is there a

A graph o

Average v

A secret li

A public li

A query a

A templat

A templat

A templat

Source ve

Sources f

Generic queries

CLONE AS CUSTOM QUERY

EXPORT

AutoSave Off — 1120.... • Saved to this... — Search — ED

File Home Insert Page Layout Formulas Data Review View Automate Developer Help Acrobat — Comments — Share

Paste — Aptos Narrow — 11 — General — Conditional Formatting — Format as Table — Cell Styles — Cells — Editing — Sensitivity — Add-ins — Analyze Data — Create a PDF

Clipboard — Font — Alignment — Number — Styles — Sensitivity — Add-ins — Adobe Acrobat

A1 — component.termType

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	compone	compone	compone	compone	compone	compone	compone	material.t	material.v	materialN	materialN	materialN	materialN	materialN	percentag	percentag	percentag
2	NamedNc	https://ww	Literal	Component 1		NamedNc	http://www	NamedNc	https://ww	Literal	Material 1		NamedNc	http://www	Literal	60	
3	NamedNc	https://ww	Literal	Component 1		NamedNc	http://www	NamedNc	https://ww	Literal	Material 2		NamedNc	http://www	Literal	30	
4	NamedNc	https://ww	Literal	Component 1		NamedNc	http://www	NamedNc	https://ww	Literal	Material 3		NamedNc	http://www	Literal	10	
5	NamedNc	https://ww	Literal	Component 2		NamedNc	http://www	NamedNc	https://ww	Literal	Material 4		NamedNc	http://www	Literal	40	
6	NamedNc	https://ww	Literal	Component 2		NamedNc	http://www	NamedNc	https://ww	Literal	Material 8		NamedNc	http://www	Literal	5	
7	NamedNc	https://ww	Literal	Component 2		NamedNc	http://www	NamedNc	https://ww	Literal	Material 9		NamedNc	http://www	Literal	3	
8	NamedNc	https://ww	Literal	Component 2		NamedNc	http://www	NamedNc	https://ww	Literal	Material 7		NamedNc	http://www	Literal	7	
9	NamedNc	https://ww	Literal	Component 2		NamedNc	http://www	NamedNc	https://ww	Literal	Material 5		NamedNc	http://www	Literal	20	
10	NamedNc	https://ww	Literal	Component 2		NamedNc	http://www	NamedNc	https://ww	Literal	Material 6		NamedNc	http://www	Literal	25	
11	NamedNc	https://ww	Literal	Component 3		NamedNc	http://www	NamedNc	https://ww	Literal	Material 10		NamedNc	http://www	Literal	85	
12	NamedNc	https://ww	Literal	Component 3		NamedNc	http://www	NamedNc	https://ww	Literal	Material 11		NamedNc	http://www	Literal	15	
13																	
14																	

1120

Ready — Accessibility: Unavailable — Display Settings — 100%

tatus	Verified
	?
	?
	?
	?

lName	percentage
1	60
2	30
3	10
4	40
8	5
9	3
7	7
Material 5	20
Material 6	25
Material 10	85

https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m05	Material 5
https://www.example.com/data/component-c02	Component 2	https://www.example.com/data/material-m06	Material 6

Content

High level description

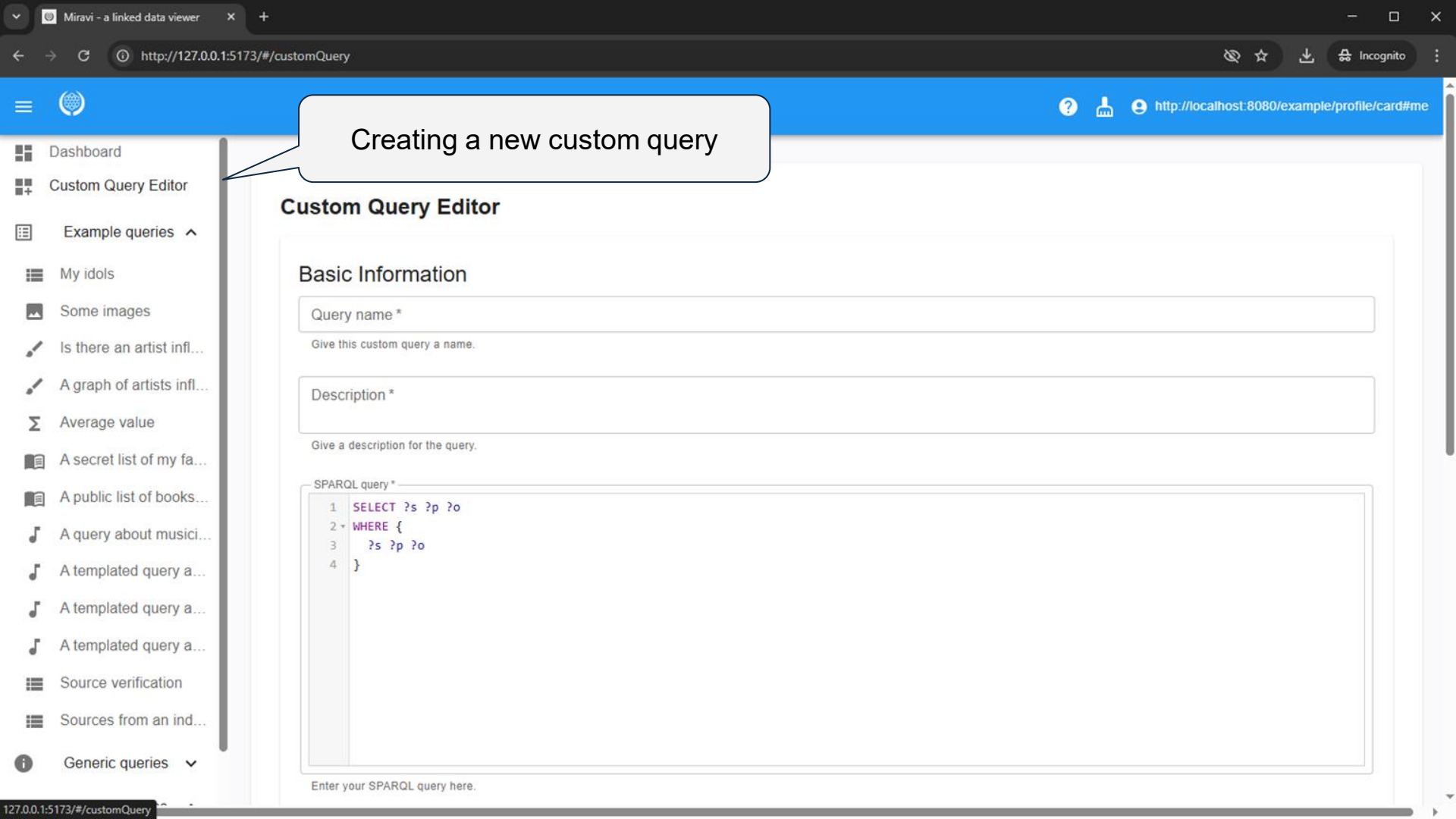
Setup

Basic use demo (explaining also the configuration)

Advanced: custom queries

Applications

Conclusion


Miravi - a linked data viewer
http://127.0.0.1:5173/#/customQuery
Incognito
http://localhost:8080/example/profile/card#me
Creating a new custom query
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
Custom Query Editor
Basic Information
Query name *
Give this custom query a name.
Description *
Give a description for the query.
SPARQL query *
1 SELECT ?s ?p ?o
2 WHERE {
3 ?s ?p ?o
4 }
Enter your SPARQL query here.
127.0.0.1:5173/#/customQuery

Miravi - a linked data viewer

http://127.0.0.1:5173/#/customQuery

Incognito

http://localhost:8080/example/profile/card#me

Dashboard

Custom Query Editor

Example queries

My idols

Some images

Is there an artist infl...

A graph of artists infl...

Average value

A secret list of my f...

A public list of books...

A query about musici...

A templated query a...

A templated query a...

A templated query a...

Source verification

Sources from an ind...

Generic queries

Custom Query Editor

Basic Information

Query name *

Give this custom query a name.

Description *

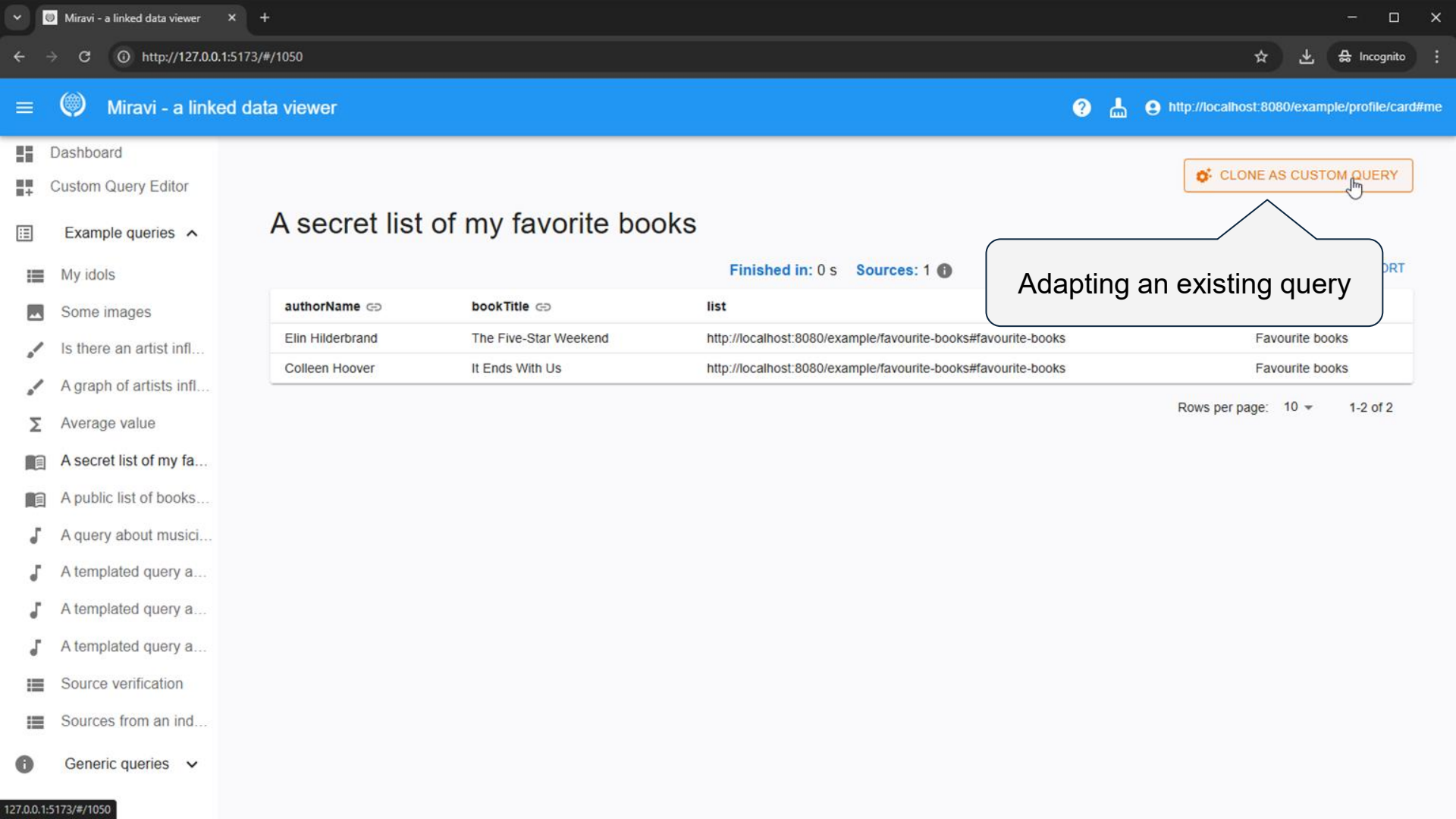
A secret list of my favorite books

Demonstrates a query whose source requires authentication.

```
2 WHERE {
3   ?s ?p ?o
4 }
```

Enter your SPARQL query here.

127.0.0.1:5173/#/1050


Miravi - a linked data viewer
http://127.0.0.1:5173/#/1050
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
CLONE AS CUSTOM QUERY
A secret list of my favorite books
Finished in: 0 s
Sources: 1
Adapting an existing query
authorName
bookTitle
list
Elin Hilderbrand
The Five-Star Weekend
http://localhost:8080/example/favourite-books#favourite-books
Favourite books
Colleen Hoover
It Ends With Us
http://localhost:8080/example/favourite-books#favourite-books
Favourite books
Rows per page: 10
1-2 of 2
127.0.0.1:5173/#/1050

Miravi - a linked data viewer

http://127.0.0.1:5173/#/customQuery?name=%28Cloned+from%29+A+secret+list+of+my+favorite+books&description=Demonstrates+a+query+whose+source+requires+authentication.&icon...

Incognito

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

Custom Query Editor

Basic Information

Query name *

(Cloned from) A secret list of my favorite books

Give this custom query a name.

Description *

Demonstrates a query whose source requires authentication.

Give a description for the query.

SPARQL query *

```
PREFIX schema: <http://schema.org/>

SELECT * WHERE {
    ?list schema:name ?listTitle;
      schema:itemListElement [
      schema:name ?bookTitle;
      schema:creator [
        schema:name ?authorName
      ]
    ].
}
```

Enter your SPARQL query here.

Miravi - a linked data viewer

http://127.0.0.1:5173/#/customQuery?name=%28Cloned+from%29+A+secret+list+of+my+favorite+books&description=Demonstrates+a+query+whose+source+requires+authentication.&icon...

Incognito

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries

Custom Query Editor

Basic Information

Query name *

A list of my favorite books

Give this custom query a name.

Description *

Demonstrates a query over sources with and without authentication.

Give a description for the query.

SPARQL query *

```
PREFIX schema: <http://schema.org/>

SELECT * WHERE {
    ?list schema:name ?listTitle;
      schema:itemListElement [
      schema:name ?bookTitle;
      schema:creator [
        schema:name ?authorName
      ]
    ].
}
```

Enter your SPARQL query here.

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

Give a description for the query.

SPARQL query *

```
PREFIX schema: <http://schema.org/>

SELECT * WHERE {
    ?list schema:name ?listTitle;
      schema:itemListElement [
      schema:name ?bookTitle;
      schema:creator [
        schema:name ?authorName
      ]
    ].
}
```

Enter your SPARQL query here.

Comunica Context & Sources

Fixed data source(s) *

http://localhost:8080/example/favourite-book

Give the source URL(s) for the query. Separate URLs with '; '. (These are the Comunica context sources)

Advanced Comunica Context Settings

Comunica context configuration *

```
{"lenient":true}
```

Dashboard

Custom Query Editor

Example queries

My idols

Some images

Is there an artist infl...

A graph of artists infl...

Average value

A secret list of my fa...

A public list of books...

A query about musici...

A templated query a...

A templated query a...

A templated query a...

Source verification

Sources from an ind...

Generic queries

Give a description for the query.

SPARQL query *

```
PREFIX schema: <http://schema.org/>

SELECT * WHERE {
    ?list schema:name ?listTitle;
      schema:itemListElement [
      schema:name ?bookTitle;
      schema:creator [
        schema:name ?authorName
      ]
    ].
}
```

Enter your SPARQL query here.

Comunica Context & Sources

Fixed data source(s) *

http://localhost:8080/example/favourite-books; http://localhost:8080/example/wish-list

Give the source URL(s) for the query. Separate URLs with '; '. (These are the Comunica context sources)

Advanced Comunica Context Settings

Comunica context configuration *

```
{"lenient":true}
```

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries

Enter your extra Comunica context in JSON-format.

- [ ] Indirect sources

Templated Query

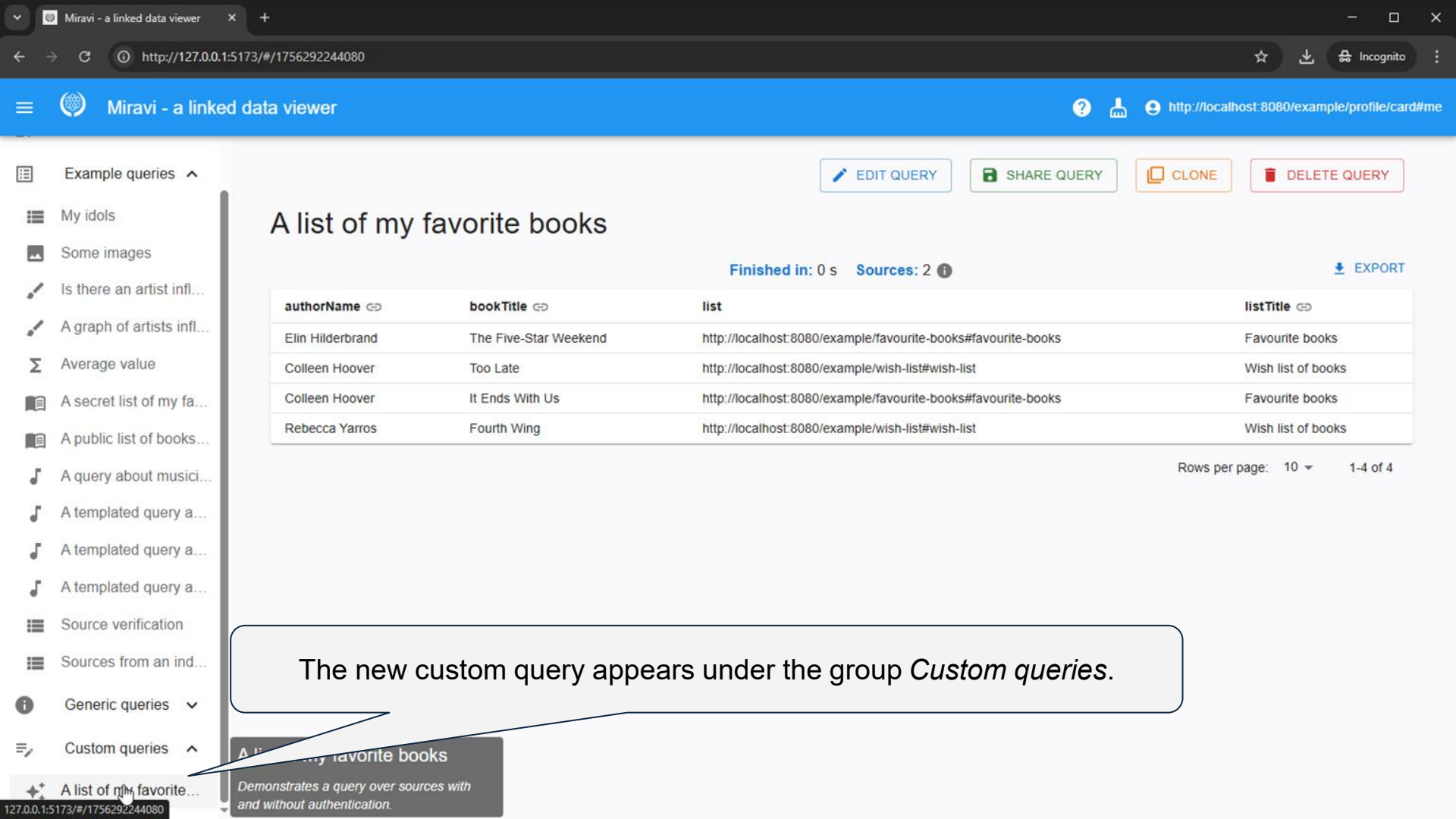
- [ ] Fixed Variables
- [ ] Indirect Variables

Extra Options

- [ ] ASK query
- [ ] Http proxies

+ CREATE QUERY

GO BACK


Miravi - a linked data viewer
http://127.0.0.1:5173/#/1756292244080
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
Custom queries
A list of my favorite...
EDIT QUERY
SHARE QUERY
CLONE
DELETE QUERY
A list of my favorite books
Finished in: 0 s
Sources: 2
EXPORT
authorName
bookTitle
list
listTitle
Elin Hilderbrand
The Five-Star Weekend
http://localhost:8080/example/favourite-books#favourite-books
Favourite books
Colleen Hoover
Too Late
http://localhost:8080/example/wish-list#wish-list
Wish list of books
Colleen Hoover
It Ends With Us
http://localhost:8080/example/favourite-books#favourite-books
Favourite books
Rebecca Yarros
Fourth Wing
http://localhost:8080/example/wish-list#wish-list
Wish list of books
Rows per page: 10
1-4 of 4
The new custom query appears under the group Custom queries.
favorite books
Demonstrates a query over sources with and without authentication.
127.0.0.1:5173/#/1756292244080

Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
Custom queries
A list of my favorite b...

EDIT QUERY | SHARE QUERY | CLONE | DELETE QUERY

A list of my favorite books

Finished in: 0 s **Sources:** 2

Sources info

EXPORT

authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Rebecca Yarros	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

Rows per page: 10 1-4 of 4

Miravi - a linked data viewer

http://127.0.0.1:5173/#/1756292244080

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries
- Custom queries
  - A list of my favorite b...

EDIT QUERY | SHARE QUERY | CLONE | DELETE QUERY

A list of my favorite books

Finished in: 0 s **Sources:** 2

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books	🔒	✓	?
http://localhost:8080/example/wish-list	🔓	✓	?

authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Rebecca Yarros	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

Rows per page: 10 1-4 of 4

Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
om queries

EDIT QUERY | SHARE QUERY | CLONE | DELETE QUERY

A list of my favorite books

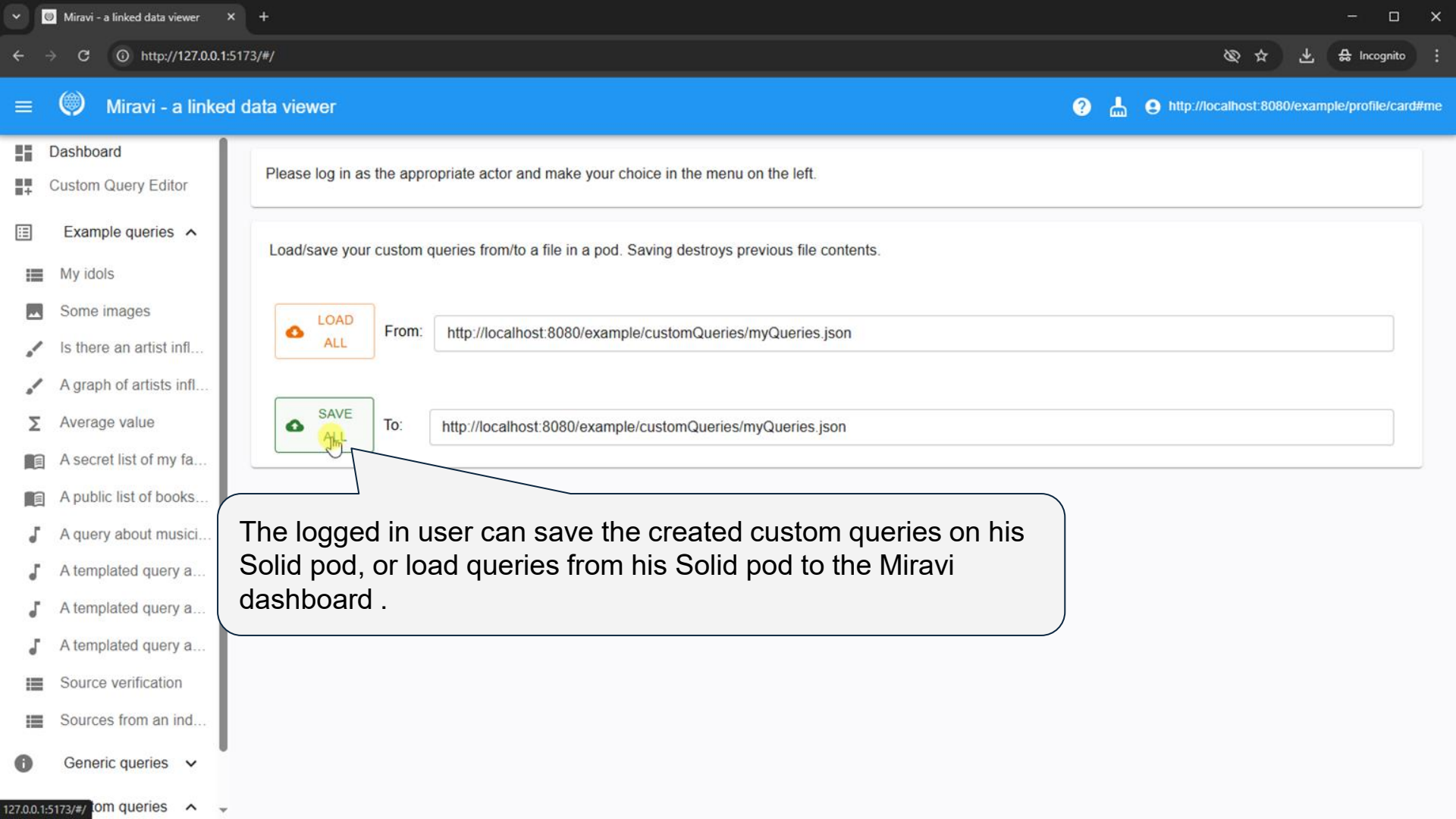
Finished in: 0 s **Sources:** 2

EXPORT

Source	Authentication needed	Fetch status	Verified
http://localhost:8080/example/favourite-books	🔒	✓	?
http://localhost:8080/example/wish-list	🔓	✓	?

authorName	bookTitle	list	listTitle
Elin Hilderbrand	The Five-Star Weekend	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Colleen Hoover	Too Late	http://localhost:8080/example/wish-list#wish-list	Wish list of books
Colleen Hoover	It Ends With Us	http://localhost:8080/example/favourite-books#favourite-books	Favourite books
Rebecca Yarros	Fourth Wing	http://localhost:8080/example/wish-list#wish-list	Wish list of books

Rows per page: 10 1-4 of 4


Miravi - a linked data viewer
http://127.0.0.1:5173/#/
Incognito
Miravi - a linked data viewer
http://localhost:8080/example/profile/card#me
Dashboard
Custom Query Editor
Example queries
My idols
Some images
Is there an artist infl...
A graph of artists infl...
Average value
A secret list of my fa...
A public list of books...
A query about musici...
A templated query a...
A templated query a...
A templated query a...
Source verification
Sources from an ind...
Generic queries
Please log in as the appropriate actor and make your choice in the menu on the left.
Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.
LOAD ALL
From:
http://localhost:8080/example/customQueries/myQueries.json
SAVE ALL
To:
http://localhost:8080/example/customQueries/myQueries.json
The logged in user can save the created custom queries on his Solid pod, or load queries from his Solid pod to the Miravi dashboard .

Miravi - a linked data viewer

http://127.0.0.1:5173/#/

Incognito

Miravi - a linked data viewer

http://localhost:8080/example/profile/card#me

- Dashboard
- Custom Query Editor
- Example queries
  - My idols
  - Some images
  - Is there an artist infl...
  - A graph of artists infl...
  - Average value
  - A secret list of my fa...
  - A public list of books...
  - A query about musici...
  - A templated query a...
  - A templated query a...
  - A templated query a...
  - Source verification
  - Sources from an ind...
- Generic queries
- Custom queries

Please log in as the appropriate actor and make your choice in the menu on the left.

Load/save your custom queries from/to a file in a pod. Saving destroys previous file contents.

LOAD ALL From: http://localhost:8080/example/customQueries/myQueries.json

SAVE ALL To: http://localhost:8080/example/customQueries/myQueries.json

Successfully saved your queries on the pod!

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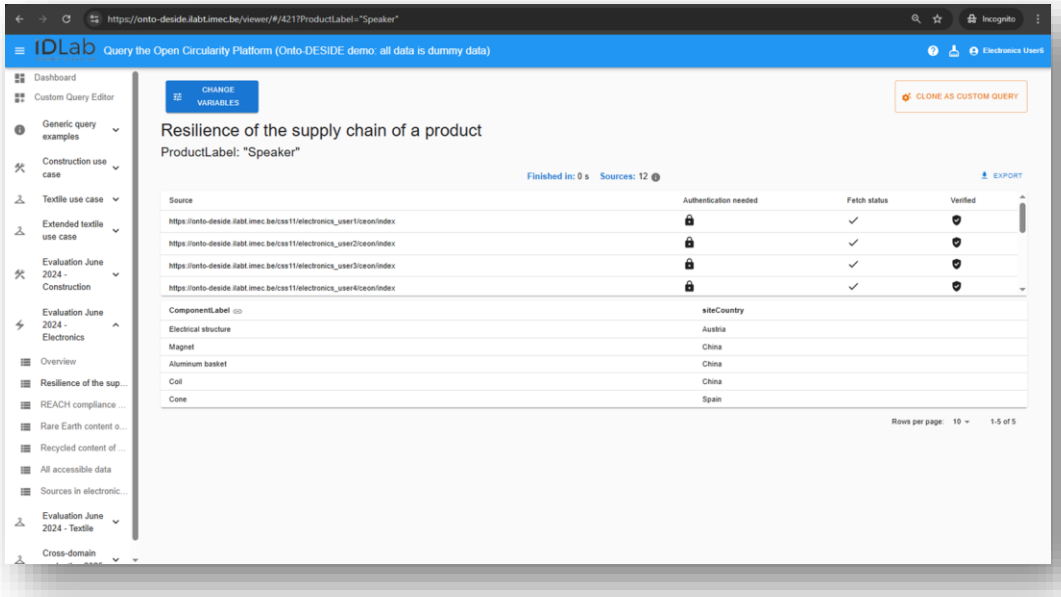
Ontology-based Decentralized Sharing of Industry Data in the European Circular Economy (Onto-DESIDE)

A **Horizon Europe** Project with **access control** as requirement for data sharing. The **development of Miravi** was part of this project.

With Miravi we demonstrate the **benefits** of the data integration in the backend to the **non-technical end user**.

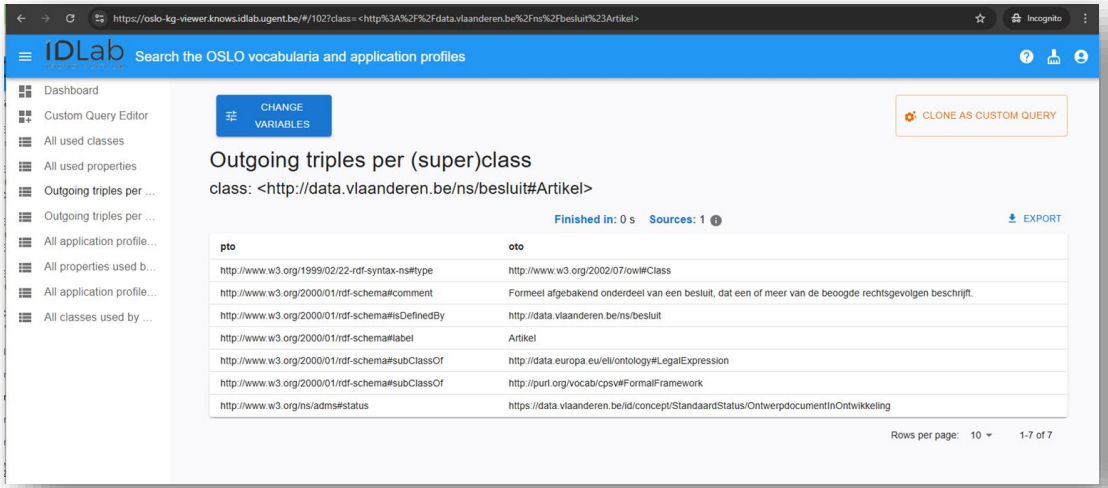


https://onto-deside.ilabt.imec.be/viewer/

Open Standards for Linked Organizations (OSLO)

A project of **Digital Flanders**, that has published more than 250 **vocabularies and application profiles**.

With Miravi we created a
dedicated search interface
as an aid
for **developers**
of future OSLO standards
and **users**
of existing OSLO standards.

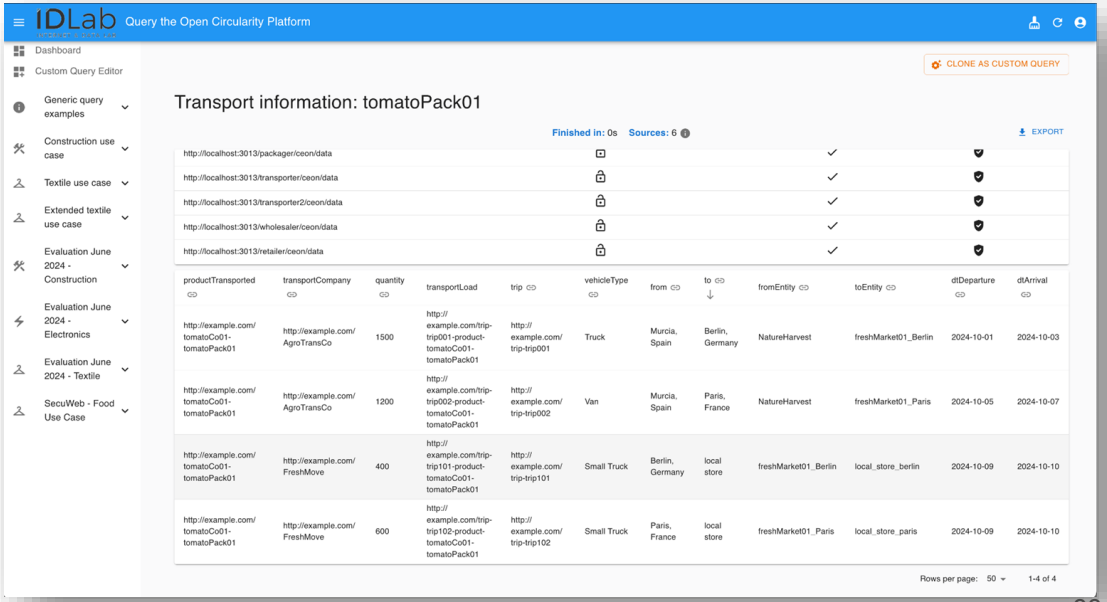


https://oslo-kg-viewer.knows.idlab.ugent.be/

SecuWeb

An **Interreg Europe project**, aiming to strengthen **data security** in companies and organizations in Flanders, Wallonia, and France.

With Miravi, we integrate decentralized Linked Data from the Food Supply Chain domain,
with access control



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Conclusion

Mirava is a **Linked Data viewer**
with **client-side** processing of **SPARQL queries**
over **decentralized heterogeneous Linked Data** sources,
supporting

- user **authentication** for permissioned (Solid) data sources,
- **data** source and variable **discovery**,
- inspection of **data source status**,
- **export** of query results, and
- **custom queries**,

reusing the following open-source components:
Comunica, **Solid Client Authentication library,** and **React-Admin.**

Miravi - a Linked Data Viewer

Els de Vleeschauwer, Martin Vanbrabant,
Ben De Meester, and Pieter Colpaert

https://github.com/SolidLabResearch/miravi-a-linked-data-viewer

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