Share VDE Virtual Discovery Environment

# Share VDE - Backend

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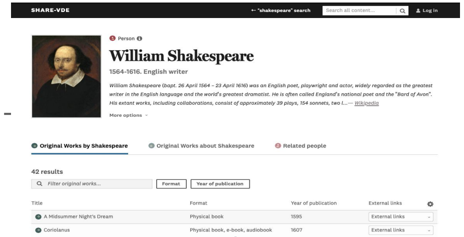
# Overview

Share VDE

# Search API: Overview

Users



SHARE-VDE   ← "shakespeare" search   Search all content...   Log in

Person

## William Shakespeare

1564-1616. English writer

*William Shakespeare (bapt. 26 April 1564 – 23 April 1616) was an English poet, playwright and actor, widely regarded as the greatest writer in the English language and the world's greatest dramatist. He is often called England's national poet and the "Bard of Avon". His extant works, including collaborations, consist of approximately 39 plays, 154 sonnets, two l...* — Wikipedia

More options

Original Works by Shakespeare | Original Works about Shakespeare | Related people

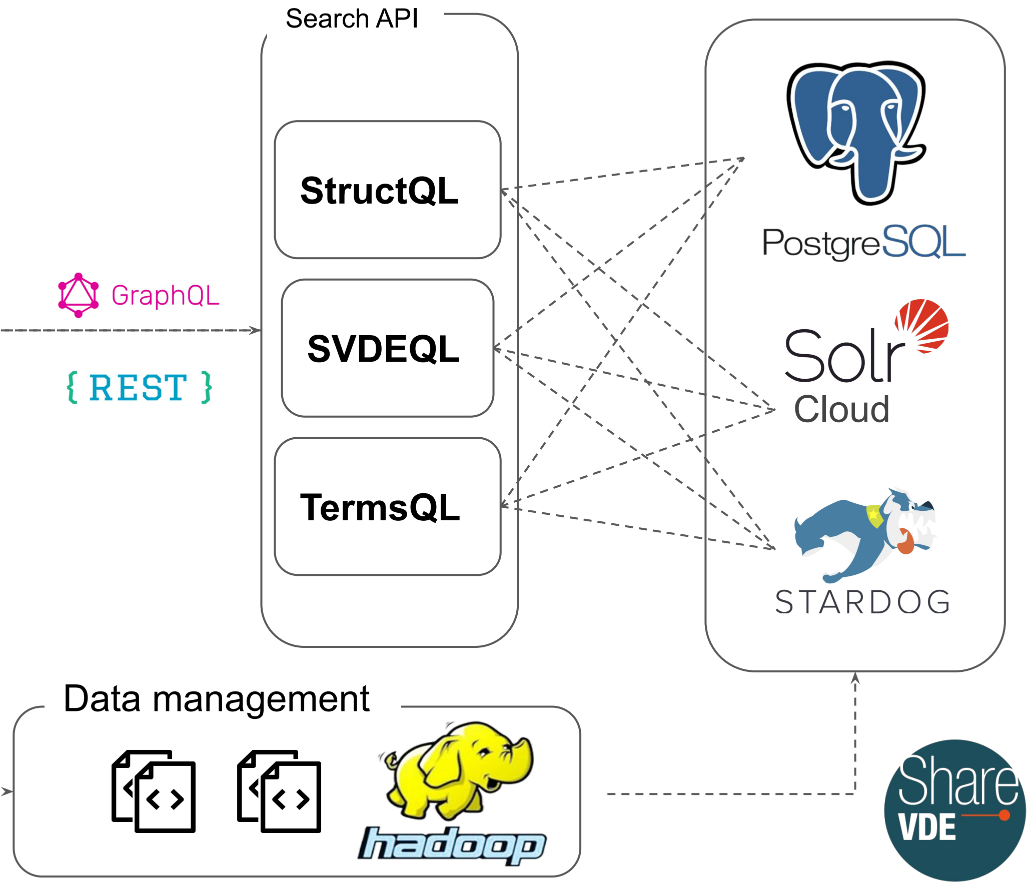
42 results

Filter original works...   Format   Year of publication

| Title | Format | Year of publication | External links |
|---|---|---|---|
| A Midsummer Night's Dream | Physical book | 1595 | External links |
| Coriolanus | Physical book, e-book, audiobook | 1607 | External links |

Apps

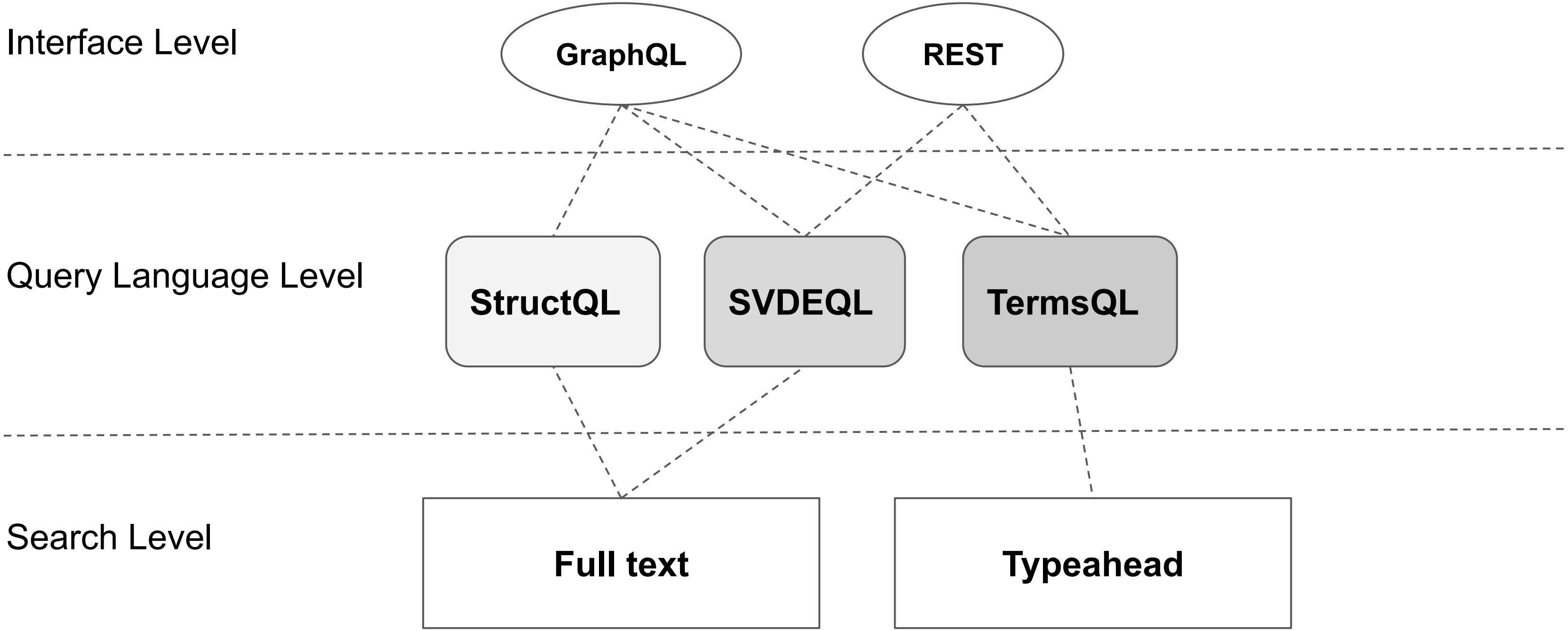
Data



# How can we interact with API?

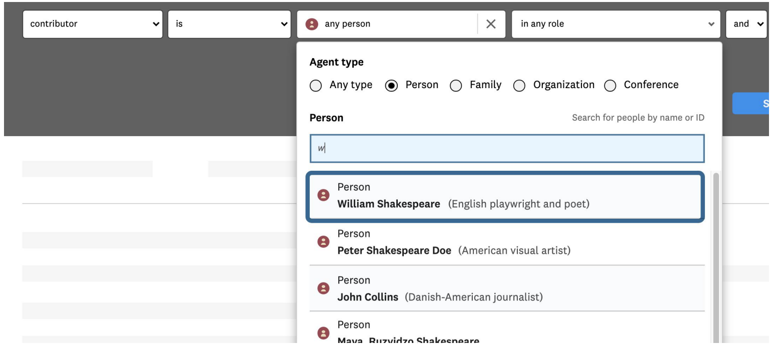
Share VDE

# Query Languages



# TermsQL

- Available in **GraphQL** and **REST** endpoints
- It **isn't a query language** itself
- The **query string** is composed only by **terms**
- When used, it triggers a **typeahead** search (see here for a detailed functional description)
- The response contains
  - matching entities with highlighting snippets
  - (optionally*) a "correctlySpelled" flag which indicates if some correction has been applied to the original terms
  - (optionally*) matching entities in other languages



contributor | is | any person | in any role | and

Agent type

○ Any type ● Person ○ Family ○ Organization ○ Conference

Person — Search for people by name or ID

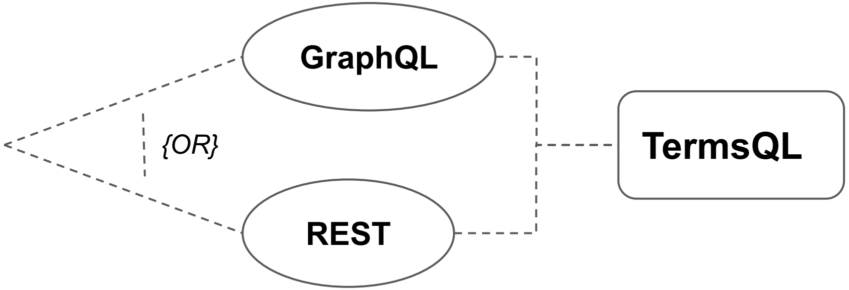
w

Person
**William Shakespeare** (English playwright and poet)

Person
**Peter Shakespeare Doe** (American visual artist)

Person
**John Collins** (Danish-American journalist)

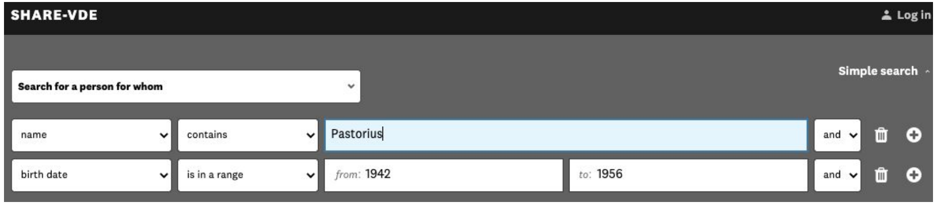
Person
**Maya Ruzvidzo Shakespeare**



** Only if the feature has been enabled and in case of zero results (using original terms + requestor language)*

# SVDEQL / StructQL

- **Simple**: we don’t want to build another query language
- **Dedicated grammar** for expressing and validating the “**advanced search**” syntax
- **Easy** and **human-readable** way to express an **information need**
- **Communication protocol** between **frontend** and **backend**
- Could be potentially **exposed** to **advanced users** in the future
- Only a “**format**” **difference** between the two query languages



Search for a person for whom

name | contains | Pastorius | and

birth date | is in a range | from: 1942 | to: 1956 | and

=

*people whose name contains Pastorius*
*AND birth date is in range from 1942 to 1956*

# StructQL vs SVDEQL

## StructQL

- Only available in the GraphQL endpoint
- JSON-like structure
- Grammar enforced by GraphQL schema

Example

```
{
   q: [
        { name : {p: CONTAINS, o: "Carroll"}, op:AND },
        { name : {p: CONTAINS, o: "Lewis"}}
   ]
}
```

## SVDEQL

- Available in the GraphQL and REST endpoints
- Pseudo-natural syntax
- Grammar enforced by JAVACC

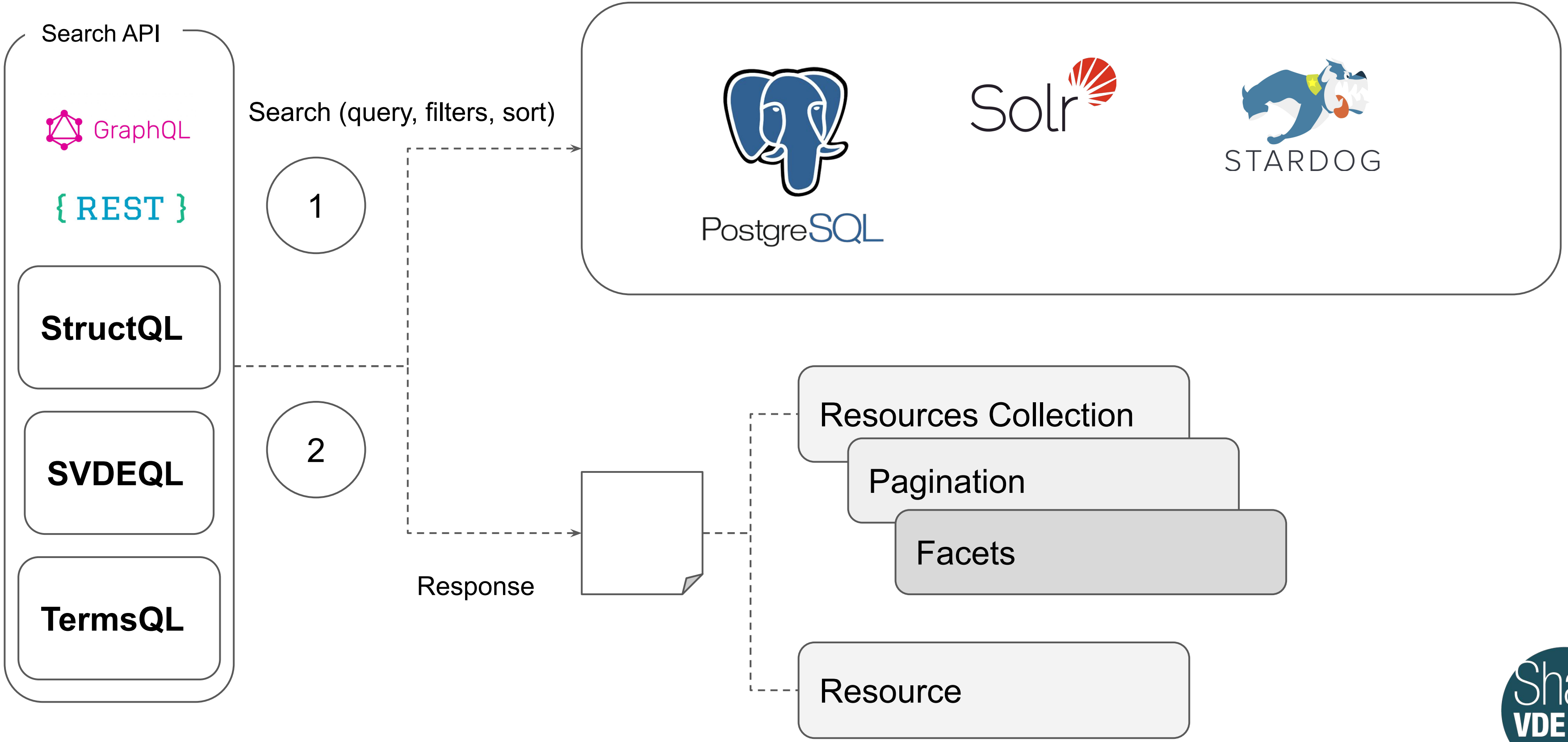
Example

```
agents whose
      name contains Carroll AND
      name contains Lewis
```

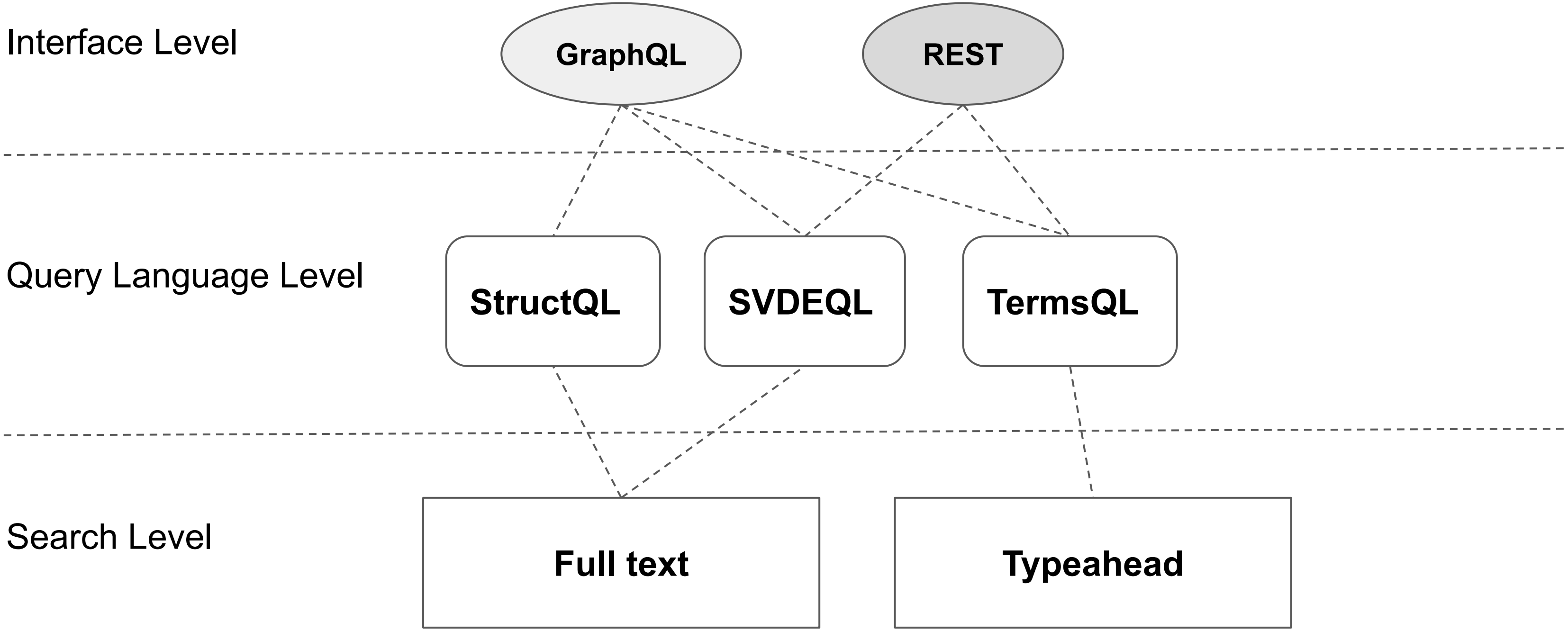
# What do we get in output?

Share VDE

# Hybrid Response: Realtime and Near Realtime



# Query Languages



# RESTFul API

- **H**ypermedia **A**s **T**he **E**ngine **O**f **A**pplication **S**tate (**HATEOAS**)
- Share VDE resources provide information dynamically through **hypermedia**
- client actions are **discovered** within **resource representations** returned from the server
- **linked resources are expressed through URIs**, in dedicated sections of the resource representation
- https://en.wikipedia.org/wiki/HATEOAS

# RESTFul API: Resource (Person)

```
{
 "heading": "Carroll, Lewis",
 ...
 "_links": {
   "self": [
     { "href": "https://share-vde.org/people/201" },
     { "href": "https://share-vde.org/agents/201" },
     { "href": "http://isni.org/isni/000000012137136X", "type": "ISNI" },
     { "href": "https://viaf.org/viaf/66462036", "type": "VIAF" }
   ],
   "photo": { "href":  "https://commons.wikimedia.org/wiki/lc_1863.jpg" },
   "birth_place": { "href": "https://share-vde.org/places/7295222" }
 },
 "alternate_headings": [ "Dodgson, Charles Lutwidge", "Karol, Luis" ],
 "birth_date": 1832,
 "death_date": 1898
}
```

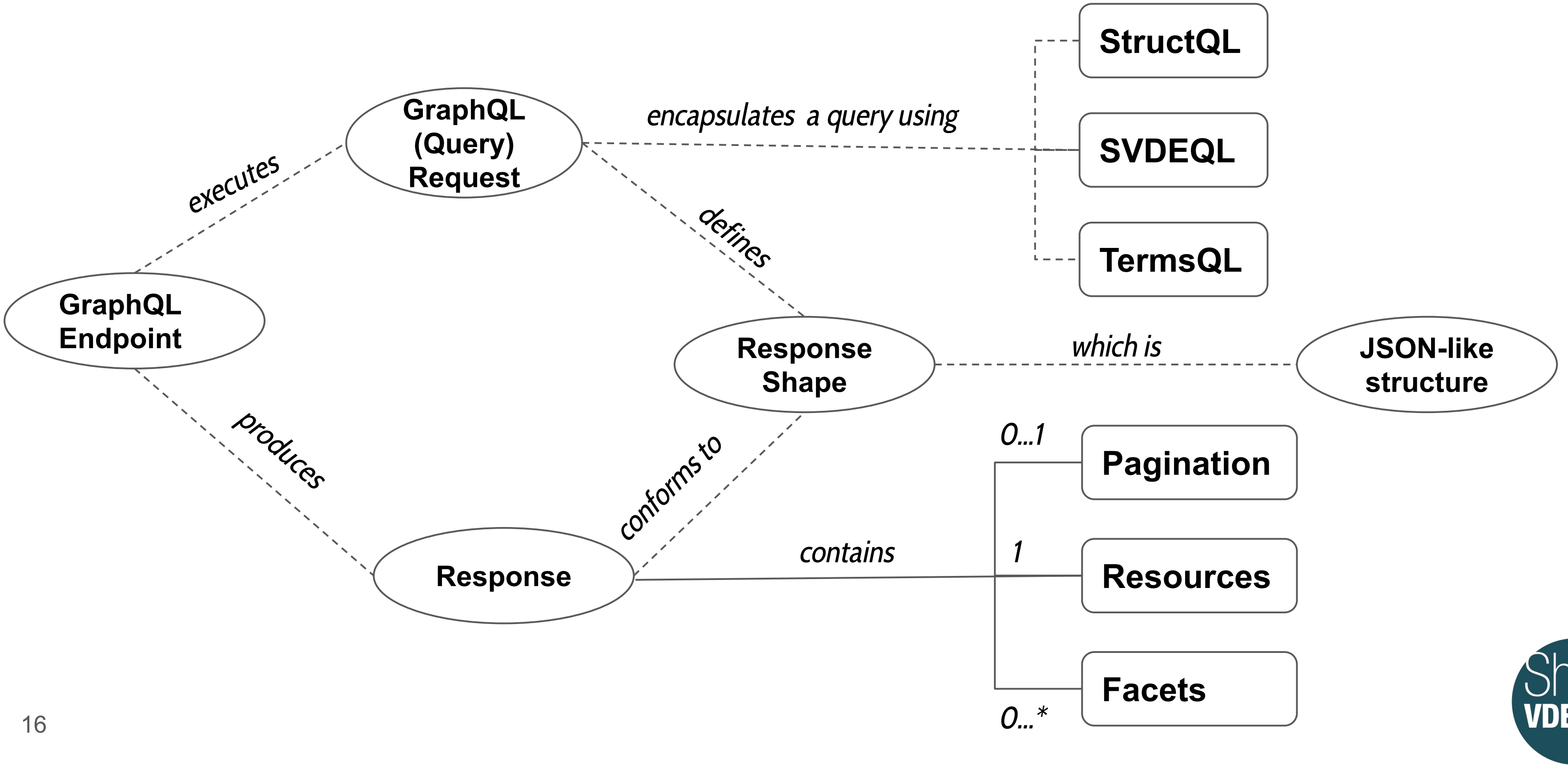
# RESTFul API: Collection (People)

```
{
 "_embedded": {
   "agentList": [
     {
       "heading": "Carroll, Lewis",
       "_links": {
            ...
     },
     {
       "heading": "Dodgson, Campbell",
       "alternate_headings": [ "Dodgson, C." ],
       "birth_date": 1867,
       "death_date": 1948
     },
     ...
```

# HATEOAS: Faceted Collection (Agents)

```
...
"facets": {
  "facet_fields": {
    "location": {
      { "https://share-vde.org/places//5387877": 3,
        "https://share-vde.org/places/2650225": 2,
      ...
    },
    "type": {
      "https://share-vde.org/agentTypes/Meeting": 6,
      "https://share-vde.org/agentTypes/Person": 4,
      "https://share-vde.org/agentTypes/Family": 3,
      "https://share-vde.org/agentTypes/Organisation": 1
    }
```

# GraphQL


GraphQL Endpoint
executes
GraphQL (Query) Request
encapsulates a query using
StructQL
SVDEQL
TermsQL
defines
Response Shape
which is
JSON-like structure
produces
conforms to
Response
contains
0...1
Pagination
1
Resources
0...*
Facets

# GraphQL: Example Request

```
{
 people(svdeql: {q: "people whose name contains meyer AND birthDate is in range from 1950 to 1988 "}) {
  resources {
   uri
   preferredHeading
   alternateHeadings
   birthDate
   opuses {
    resources {
     uri
     preferredHeading
     works {
      resources {
       uri
       language {
        uri
        preferredHeading
       }
      }
     }
    }
   }
  }
 }
}
```

Main query

For each person return these literal attributes

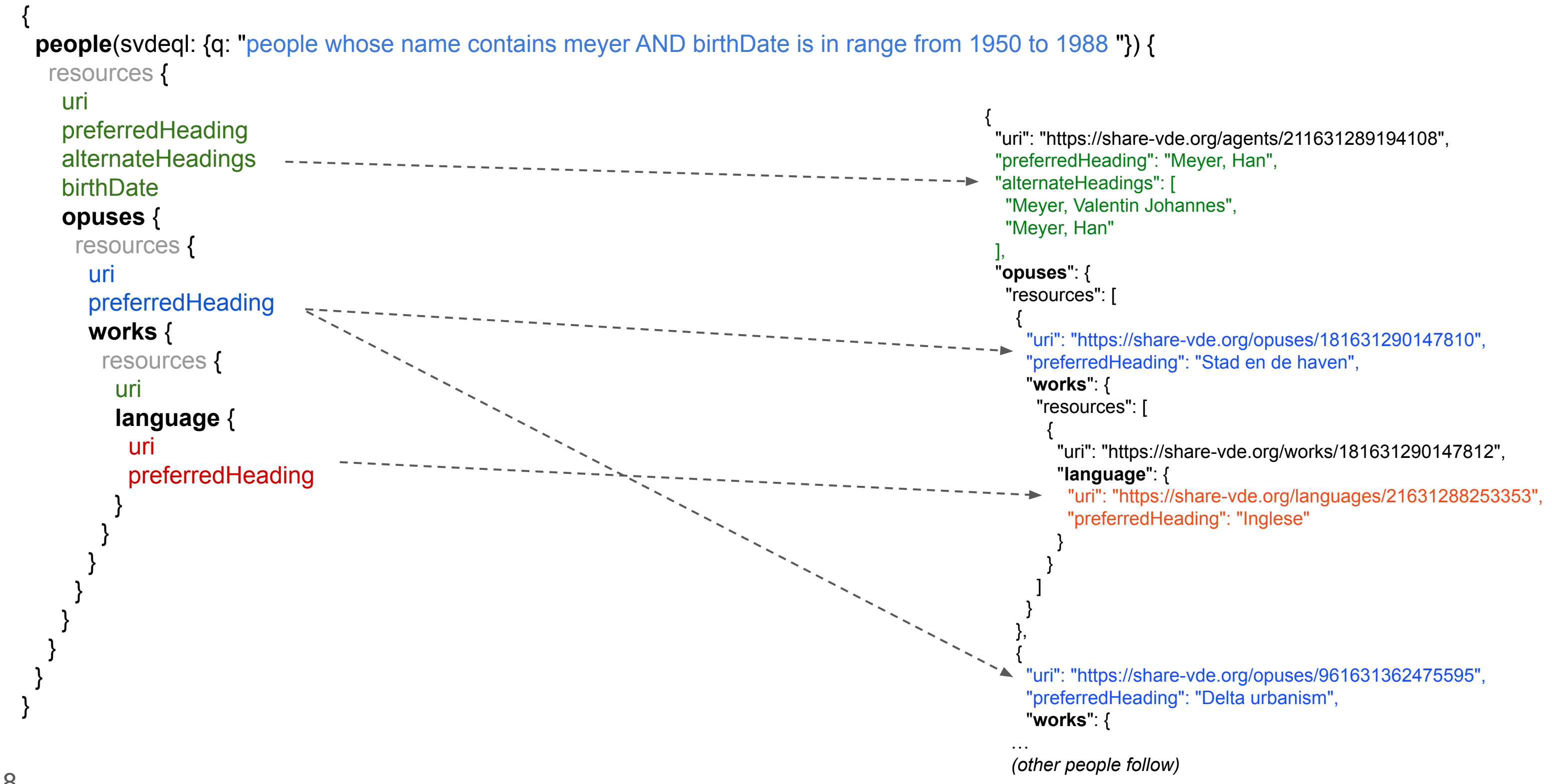
For each person return the opuses he contributed

For each opus return these literal attributes

For each opus return the child works

For each work return the language, specifically the URI and the heading

# GraphQL: Example Response (extract)



```
{
 people(svdeql: {q: "people whose name contains meyer AND birthDate is in range from 1950 to 1988 "}) {
  resources {
   uri
   preferredHeading
   alternateHeadings
   birthDate
   opuses {
    resources {
     uri
     preferredHeading
     works {
      resources {
       uri
       language {
        uri
        preferredHeading
       }
      }
     }
    }
   }
  }
 }
}
```

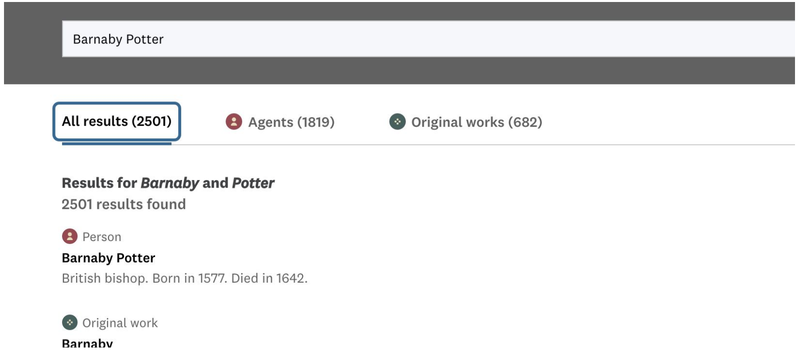
```
{
 "uri": "https://share-vde.org/agents/211631289194108",
 "preferredHeading": "Meyer, Han",
 "alternateHeadings": [
  "Meyer, Valentin Johannes",
  "Meyer, Han"
 ],
 "opuses": {
  "resources": [
   {
    "uri": "https://share-vde.org/opuses/181631290147810",
    "preferredHeading": "Stad en de haven",
    "works": {
     "resources": [
      {
       "uri": "https://share-vde.org/works/181631290147812",
       "language": {
        "uri": "https://share-vde.org/languages/21631288253353",
        "preferredHeading": "Inglese"
       }
      }
     ]
    }
   },
   {
    "uri": "https://share-vde.org/opuses/961631362475595",
    "preferredHeading": "Delta urbanism",
    "works": {
   …
   (other people follow)
```

# Search Features

Share
VDE

# FullText Search

## Simple (terms/phrases) Search



Barnaby Potter

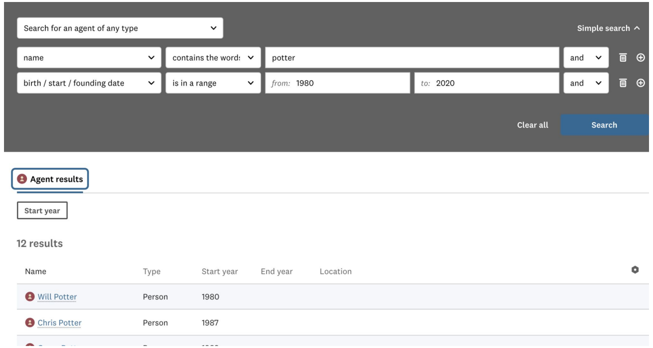
All results (2501) | Agents (1819) | Original works (682)

**Results for *Barnaby* and *Potter***
2501 results found

Person
**Barnaby Potter**
British bishop. Born in 1577. Died in 1642.

Original work
**Barnaby**

## Advanced Search



Search for an agent of any type | Simple search

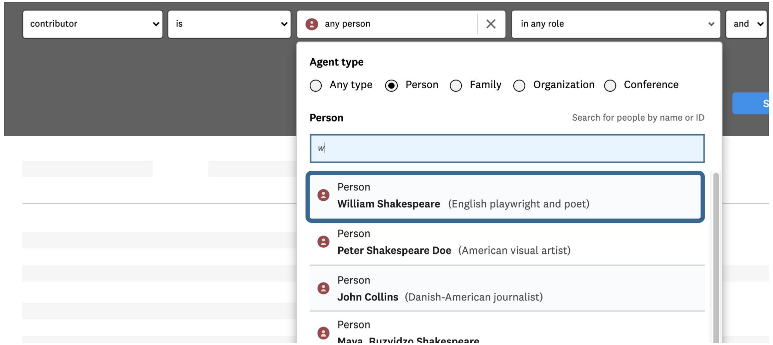
name | contains the word: | potter | and

birth / start / founding date | is in a range | from: 1980 | to: 2020 | and

12 results

| Name | Type | Start year | End year | Location |
|---|---|---|---|---|
| Will Potter | Person | 1980 | | |
| Chris Potter | Person | 1987 | | |

## Typeahead Search



contributor | is | any person | in any role | and

**Agent type**

○ Any type ● Person ○ Family ○ Organization ○ Conference

**Person** Search for people by name or ID

w

Person
**William Shakespeare** (English playwright and poet)

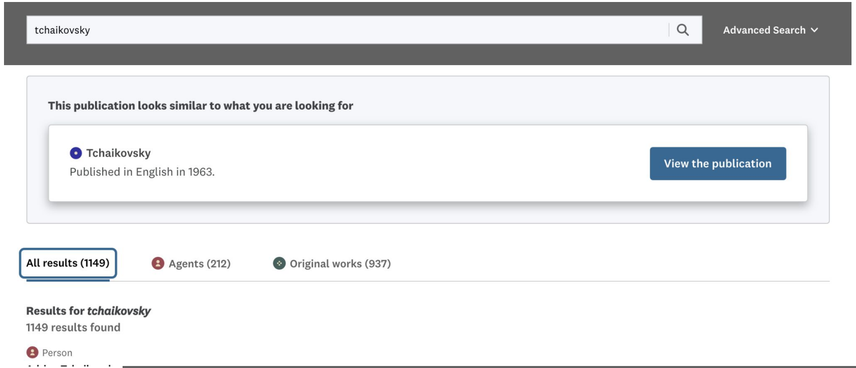
Person
**Peter Shakespeare Doe** (American visual artist)

Person
**John Collins** (Danish-American journalist)

Person
**Maya Ruzvidzo Shakespeare**

# Exact Match Suggestions

A search which targets only entities whose headings or identifiers exactly match the query, partially or totally.



tchaikovsky

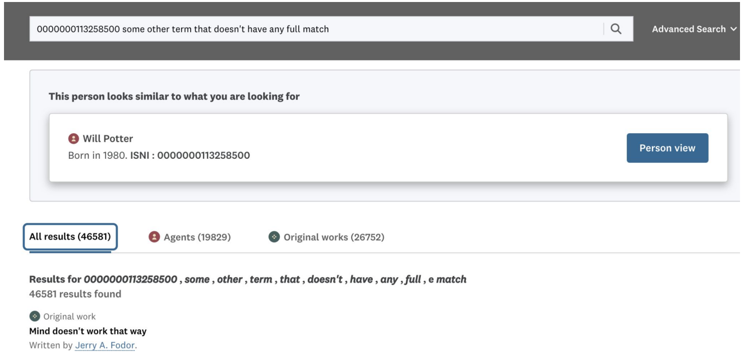
This publication looks similar to what you are looking for

Tchaikovsky
Published in English in 1963.

Results for *tchaikovsky*
1149 results found

Person

```
{
  exactMatches(q: "tchaikovsky") {
    resources {
      ... (other )
    }
  }
}
```



0000000113258500 some other term that doesn't have any full match

This person looks similar to what you are looking for

Will Potter
Born in 1980. **ISNI : 0000000113258500**

Results for *0000000113258500 , some , other , term , that , doesn't , have , any , full , e match*
46581 results found

Original work
**Mind doesn't work that way**
Written by Jerry A. Fodor.

```
{
  exactMatches(q: "0000000113258500 ...") {
    resources {
      ... (other )
    }
  }
}
```

# Query Explanation

A virtual explanation entity, associated to a core entity (e.g. Agent, Opus) which provides insights about the reason why a given resource has been included in search results.

*“tell me what the agent 981631362140359 has to do with the term populonia”*

*Request*

*/meetings/**981631362140359**/explanation?terms=**populonia***

*Response*

```
"meta": {
  "aut": {
    "type": "Role",
    "language": "eng",
    "label": "author"
  }
},
"aut": [
  {
    "title": "Corsica e <b>Populonia</b>"
  }
],
```

*which means*

*“The term Populonia occurs in the title of an Opus where the Meeting contributed as an author”*

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# Share VDE - Backend

Thank you!

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