

Demonstration of GraphQL-LD, Ruben Taelman

GraphQL-LD [1] is an approach for querying RDF datasets using GraphQL queries. Considering the popularity of GraphQL among Web developers, this significantly lowers the barrier for these Web developers to query RDF. In summary, GraphQL-LD lifts regular GraphQL queries to the RDF domain by applying a JSON-LD context.

This allows a GraphQL query and JSON-LD context to be converted into SPARQL queries, so that this can be executed against one or more RDF datasets.

On <http://query.linkeddatafragments.org/>, a demonstration is available using which people can try out

GraphQL-LD queries directly from a Web browser, based on the client-side Comunica SPARQL engine [2].

People can select any of the predefined example queries, or they can write their own GraphQL-LD queries.

[1] <https://comunica.github.io/Article-ISWC2018-Demo-GraphQLLD/>, Taelman, Ruben, Miel Vander Sande, and Ruben Verborgh. "GraphQLLD: Linked Data Querying with GraphQL." ISWC2018, the 17th International Semantic Web Conference. 2018.

[2] Taelman, Ruben, et al. "Comunica: a modular SPARQL query engine for the web." International Semantic Web Conference. Springer, Cham, 2018.



The screenshot shows a web interface for GraphQL-LD. At the top, there is a search bar with the text "Directors of movies starring Brad Pitt with their directors". Below the search bar, there are two tabs: "SPARQL" and "GraphQL-LD". The "GraphQL-LD" tab is active, showing a GraphQL query and a JSON-LD context. The query is:

```
{
  label
  director {
    label
  }
  starring(label_en: "Brad Pitt")
}
```

The JSON-LD context is:

```
{
  "@context": {
    "label": { "@id": "http://www.w3.org/2000/01/rdf-schema#label", "@singular": true },
    "label_en": { "@id": "http://www.w3.org/2000/01/rdf-schema#label", "@language": "en" },
    "director": { "@id": "http://dbpedia.org/ontology/director", "@singular": true },
    "director_label": { "@singular": true },
    "starring": { "@id": "http://dbpedia.org/ontology/starring", "@singular": true }
  }
}
```

Below the context, there is a button "Execute query" and a status "43 results in 5.3s". The "Query results:" section shows a single result:

```
result
{
  "label": "12 Monkeys",
  "director": {
    "label": "Terry Gilliam"
  },
  "starring": "http://dbpedia.org/resource/Brad_Pitt"
}
```