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GraphQL in the real world

Erfahrungen aus 2 Jahren Praxiseinsatz bei der HORNBACH Baumarkt AG


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sagt sorry.
Aber nicht für die 160.000 Artikel.
Floraself

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Steffen Hummel

Softwareentwickler

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Wer kennt GraphQL?

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Was ist GraphQL?

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Wie heißen die Filme, in denen Luke Skywalker mitgespielt hat?

REST

Request:

https://swapi.co/api/people/1

Response:


```
{
        "name": "Luke Skywalker",
        "height": "172",
        "hair_color": "blond",
        "eye_color": "blue",
        "gender": "male",
        "films": [
                "https://swapi.co/api/films/2/",
                "https://swapi.co/api/films/6/",
                "https://swapi.co/api/films/3/",
                "https://swapi.co/api/films/1/",
                "https://swapi.co/api/films/7/"
        ]
        ...
}
```

REST

Request:

https://swapi.co/api/films/2/

Response:


```
{
        "title": "The Empire Strikes Back",
        "episode_id": 5,
        "director": "Irvin Kershner",
        "producer": "Gary Kurtz, Rick McCallum",
        "release_date": "1980-05-17",
        "created": "2014-12-12T11:26:24.656000Z",
        "edited": "2017-04-19T10:57:29.544256Z“,
        ...
}
```

GraphQL

Request:

https://graphql.github.io/swapi-graphql/

```
{
  person(personID: 1){
    name
    filmConnection{
      films{
        title
      }
    }
  }
}
```

Response:


```
{
  "data": {
    "person": {
      "name": "Luke Skywalker",
      "filmConnection": {
        "films": [
          {"title": "A New Hope"},
          {"title": "The Empire Strikes Back"},
          {"title": "Return of the Jedi"},
          {"title": "Revenge of the Sith"},
          {"title": "The Force Awakens"}
        ]
      }
    }
}}
```

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Wie ist GraphQL aufgebaut?

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Schema:

person(personID: ID): Person
deletePerson(personID): Boolean

planet(planetID: ID): Planet
allPlanets(): [Planet]

type Person {…}
type Planet {…}

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Type:

```
type Person {
        personID: ID
        name: String
        birthYear: String
        eyeColor: String
        homeworld: Planet
}

type Planet {
        planetID: ID
        name: String
        gravity: String
        population: Float
}
```

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Query:

```
{
  person(personID: 1){
    name
    birthYear
    eyeColor
  }
}
```

Mutation:

```
{
  deletePerson(personID: 1)
}
```

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Resolver:

```
function person (arguments) {
    return Database.getPerson(arguments.personID)
}
```

Query:

```
{
  person(personID: 1){
    name
    birthYear
    eyeColor
  }
}
```

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Wo wird GraphQL bei HORNBACH eingesetzt?

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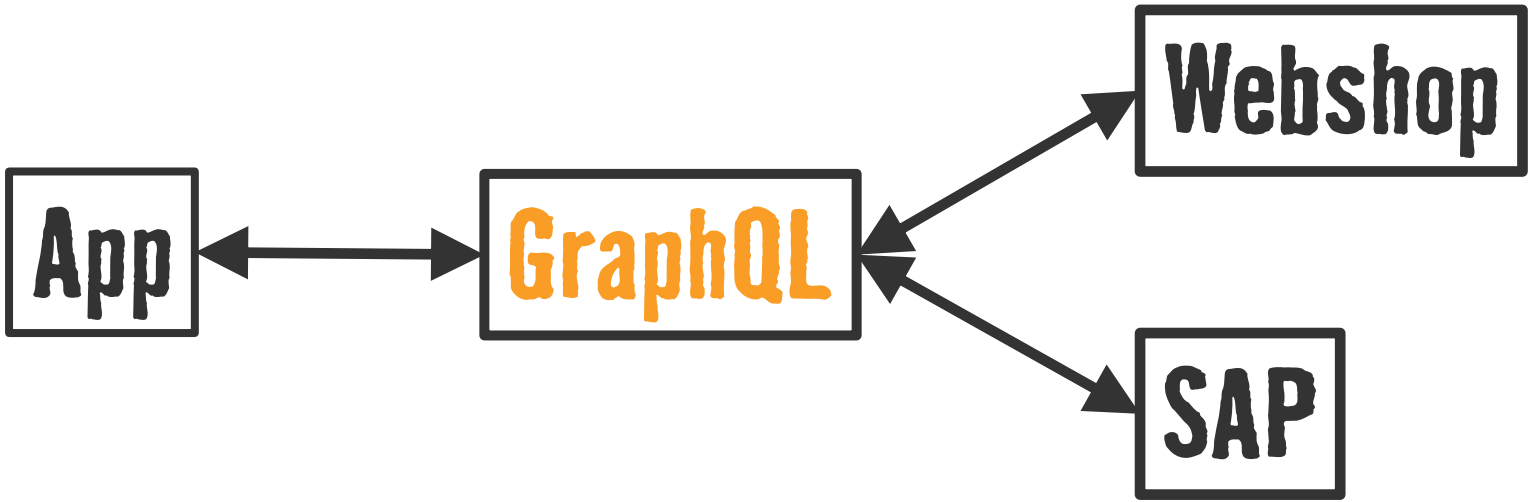

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Was sind unsere Vor- und Nachteile von GraphQL?

Komplexität steigt

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GraphQL ist limitiert auf JSON

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GraphQL nutzt keine HTTP Konventionen

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Kein over- and underfetching

Rest-Response:


```
{
        "name": "Luke Skywalker",
        "height": "172",
        "hair_color": "blond",
        "eye_color": "blue",
        "gender": "male",
        "films": [
                "https://swapi.co/api/films/2/",
                "https://swapi.co/api/films/6/",
                "https://swapi.co/api/films/3/",
                "https://swapi.co/api/films/1/",
                "https://swapi.co/api/films/7/"
        ]
        ...
}
```


GraphQL-Response:


```
{
  "data": {
    "person": {
      "name": "Luke Skywalker“
    }
  }
}
```

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Nur ein Request!

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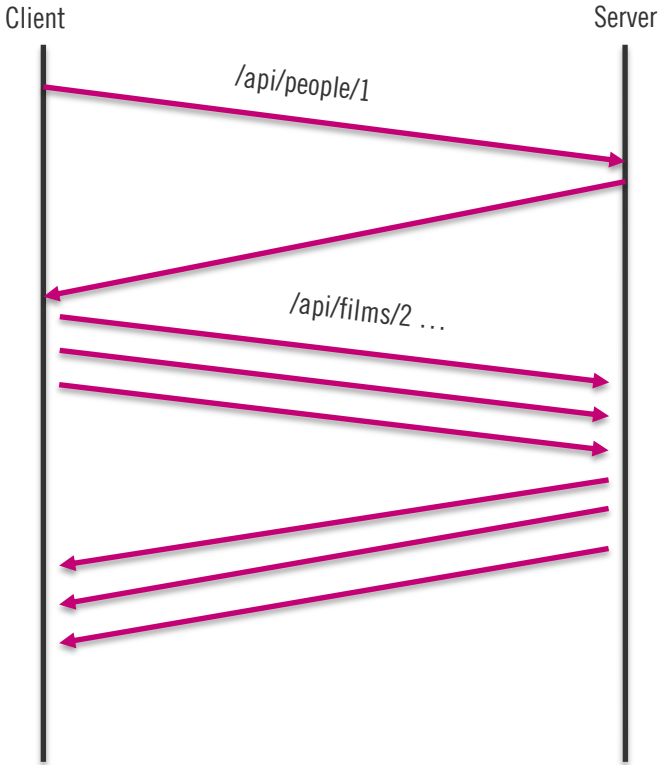
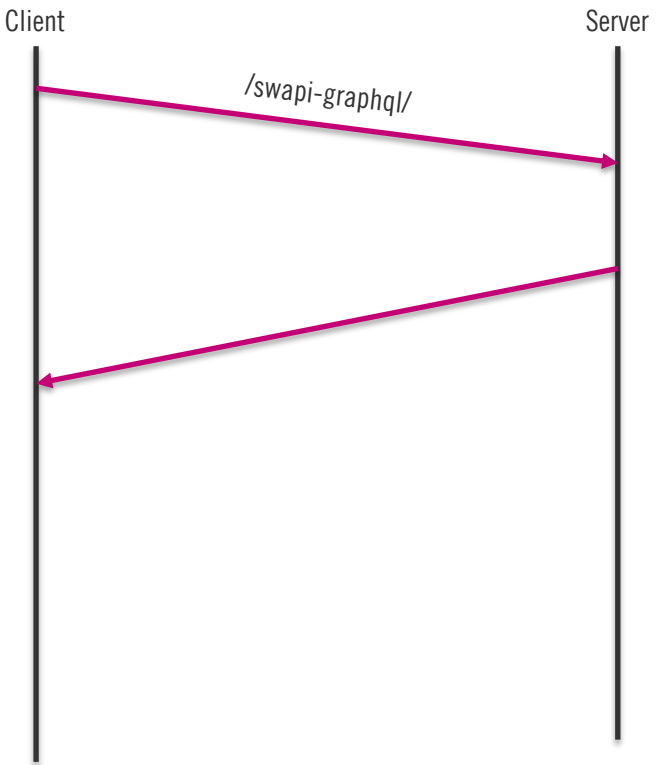
Rest:



GraphQL:



Typisierung

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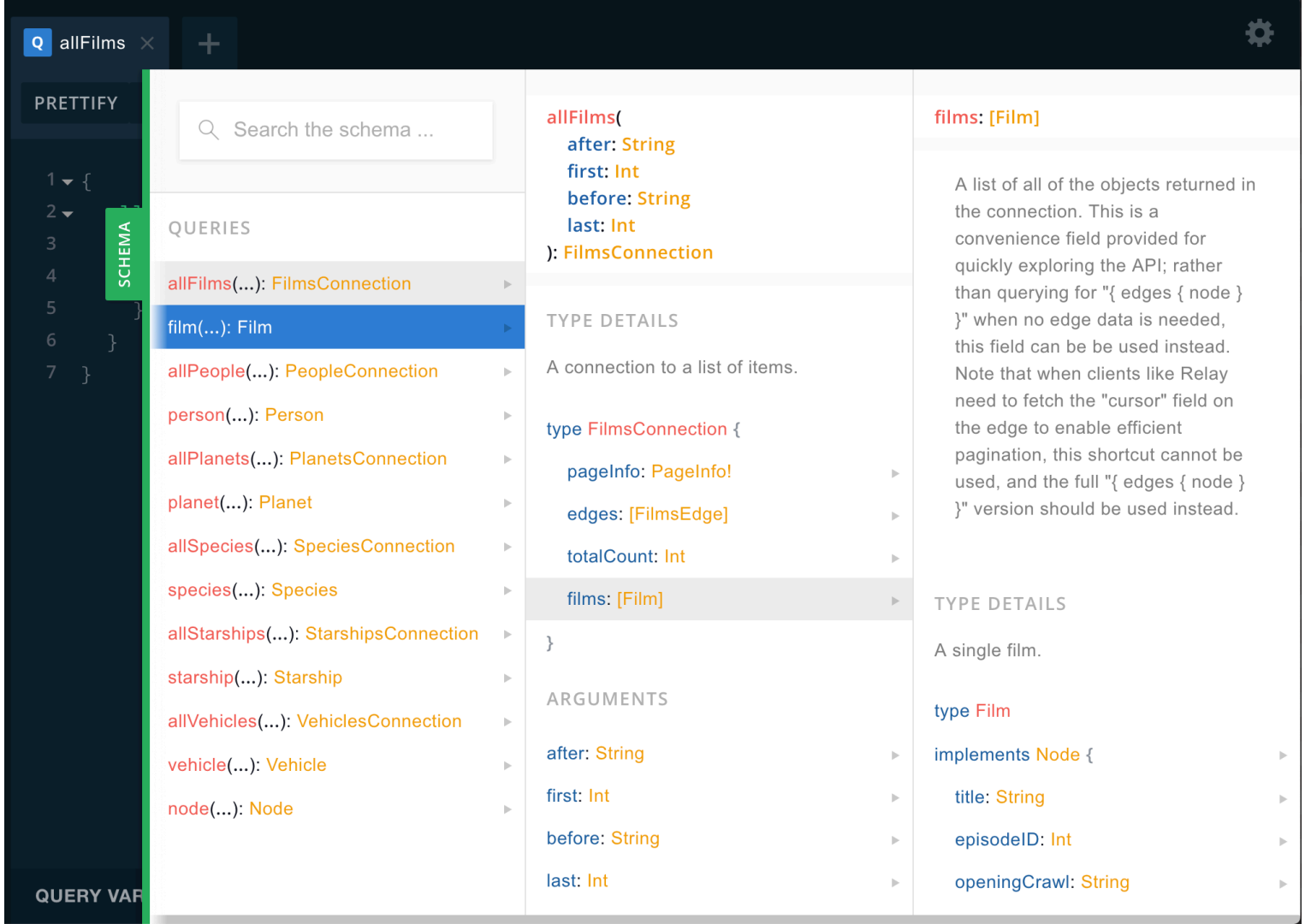
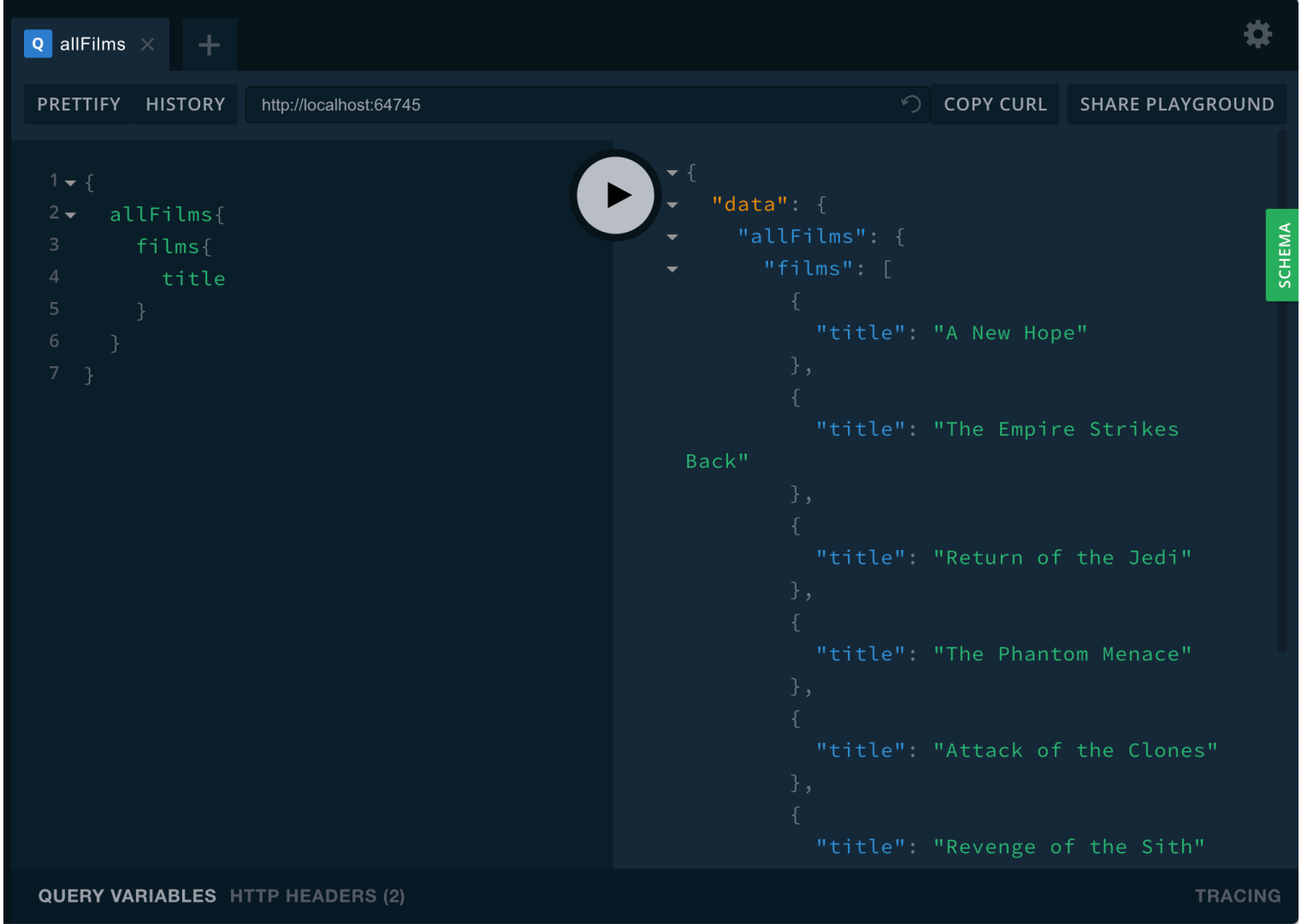
GraphQL ist selbstdokumentierend


allFilms
PRETTIFY
SCHEMA
Search the schema ...
QUERIES
allFilms(...): FilmsConnection
film(...): Film
allPeople(...): PeopleConnection
person(...): Person
allPlanets(...): PlanetsConnection
planet(...): Planet
allSpecies(...): SpeciesConnection
species(...): Species
allStarships(...): StarshipsConnection
starship(...): Starship
allVehicles(...): VehiclesConnection
vehicle(...): Vehicle
node(...): Node
QUERY VAR
allFilms(
after: String
first: Int
before: String
last: Int
): FilmsConnection
TYPE DETAILS
A connection to a list of items.
type FilmsConnection {
pageInfo: PageInfo!
edges: [FilmsEdge]
totalCount: Int
films: [Film]
}
ARGUMENTS
after: String
first: Int
before: String
last: Int
films: [Film]
A list of all of the objects returned in the connection. This is a convenience field provided for quickly exploring the API; rather than querying for "{ edges { node } }" when no edge data is needed, this field can be be used instead. Note that when clients like Relay need to fetch the "cursor" field on the edge to enable efficient pagination, this shortcut cannot be used, and the full "{ edges { node } }" version should be used instead.
TYPE DETAILS
A single film.
type Film
implements Node {
title: String
episodeID: Int
openingCrawl: String


allFilms
PRETTIFY
HISTORY
http://localhost:64745
COPY CURL
SHARE PLAYGROUND
{
allFilms{
films{
title
}
}
}
{
"data": {
"allFilms": {
"films": [
{
"title": "A New Hope"
},
{
"title": "The Empire Strikes Back"
},
{
"title": "Return of the Jedi"
},
{
"title": "The Phantom Menace"
},
{
"title": "Attack of the Clones"
},
{
"title": "Revenge of the Sith"
SCHEMA
QUERY VARIABLES
HTTP HEADERS (2)
TRACING

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Security

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Client definiert, welche Daten er abrufen möchte

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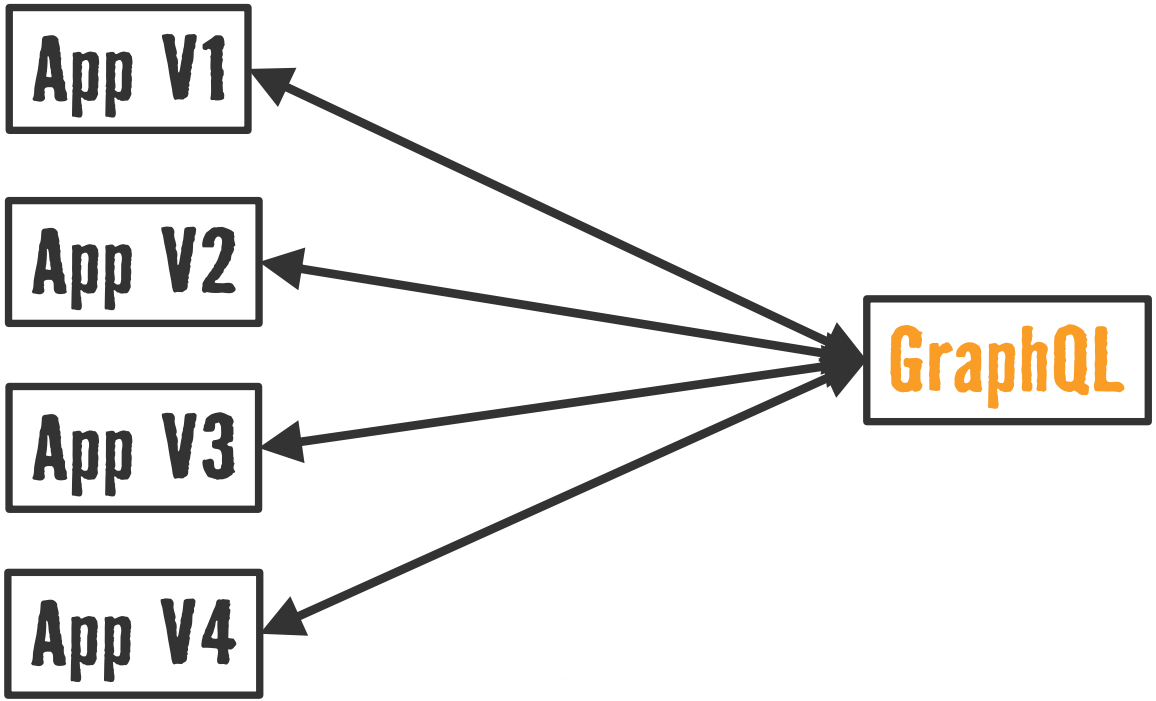

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Versionierung

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fragments

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subscriptions

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Wie bauen wir einen GraphQL Service?

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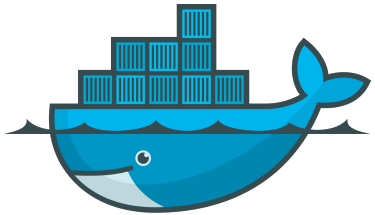
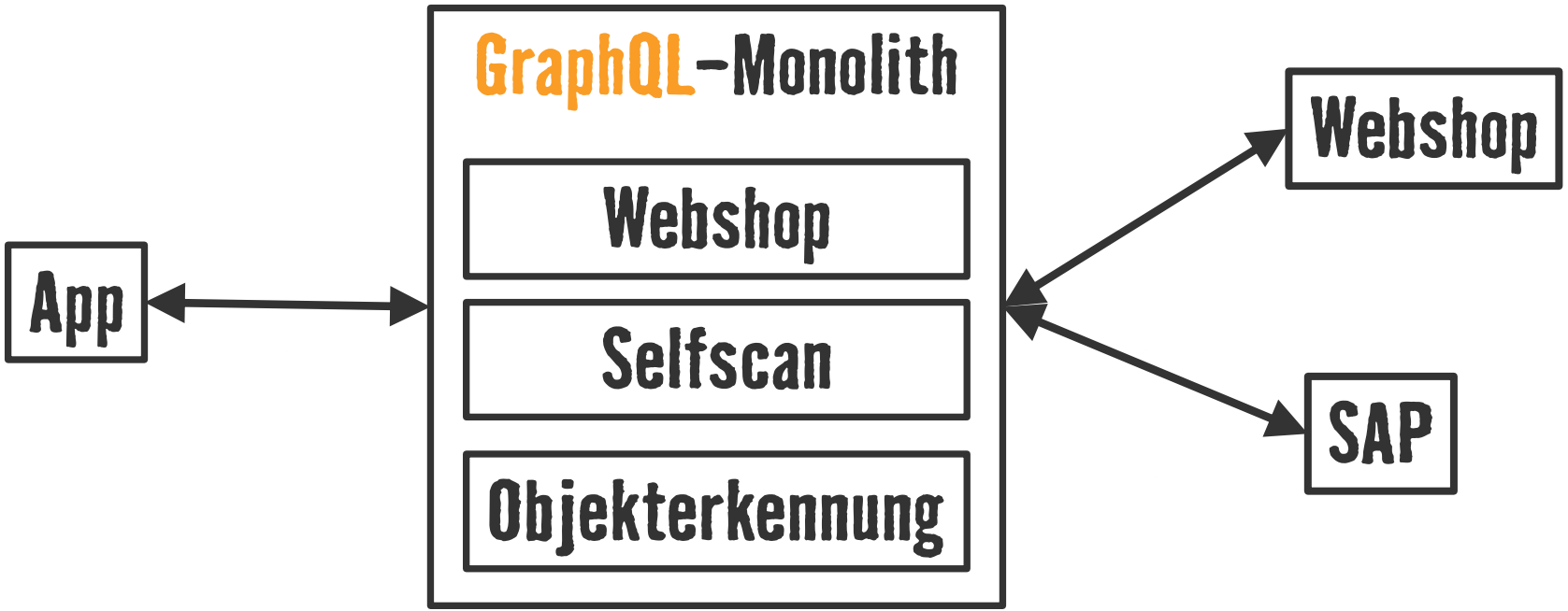
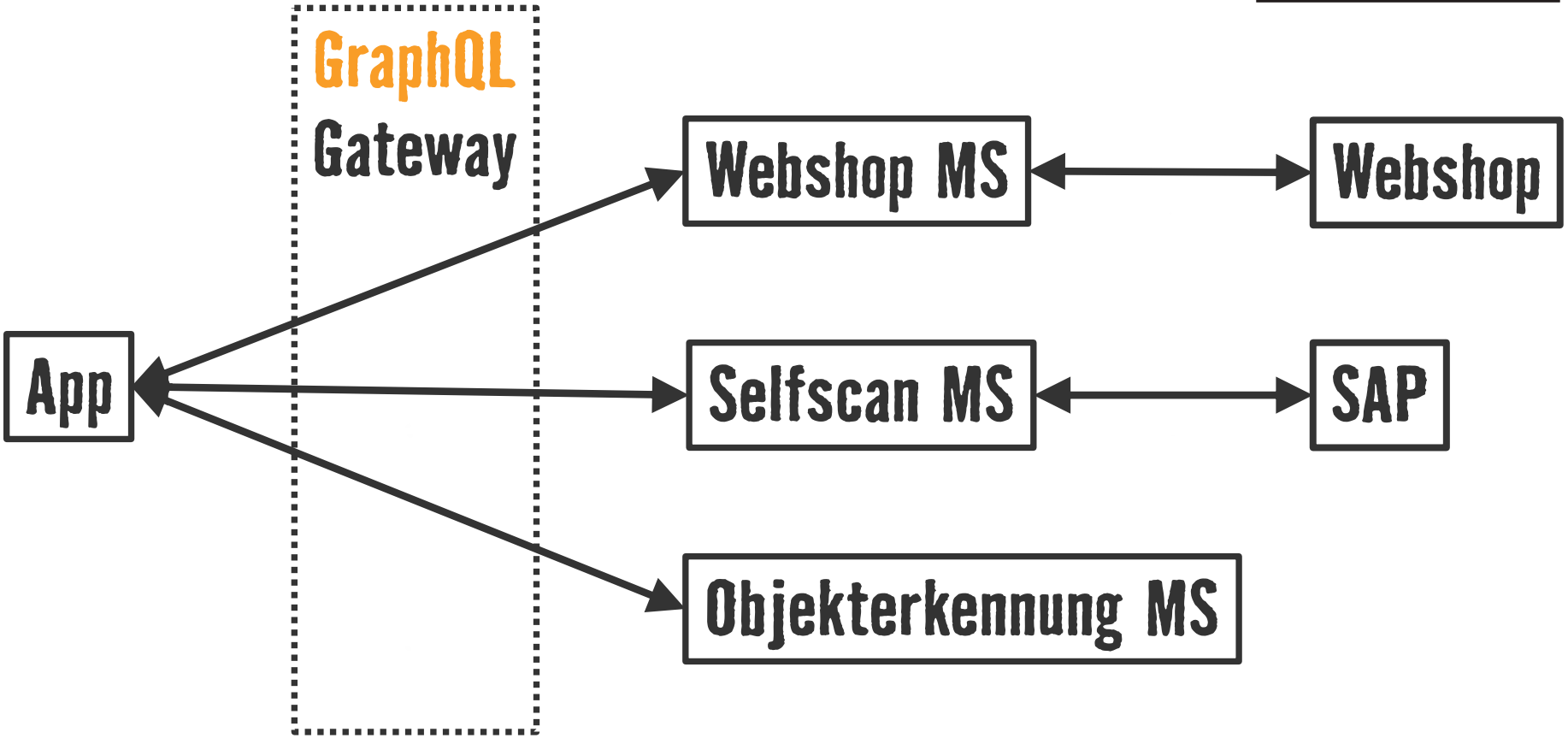
kubernetes



docker

APOLLO


GraphQL-Monolith
Webshop
Selfscan
Objekterkennung
App
Webshop
SAP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GraphQL
Gateway
App
Webshop MS
Webshop
Selfscan MS
SAP
Objekterkennung MS

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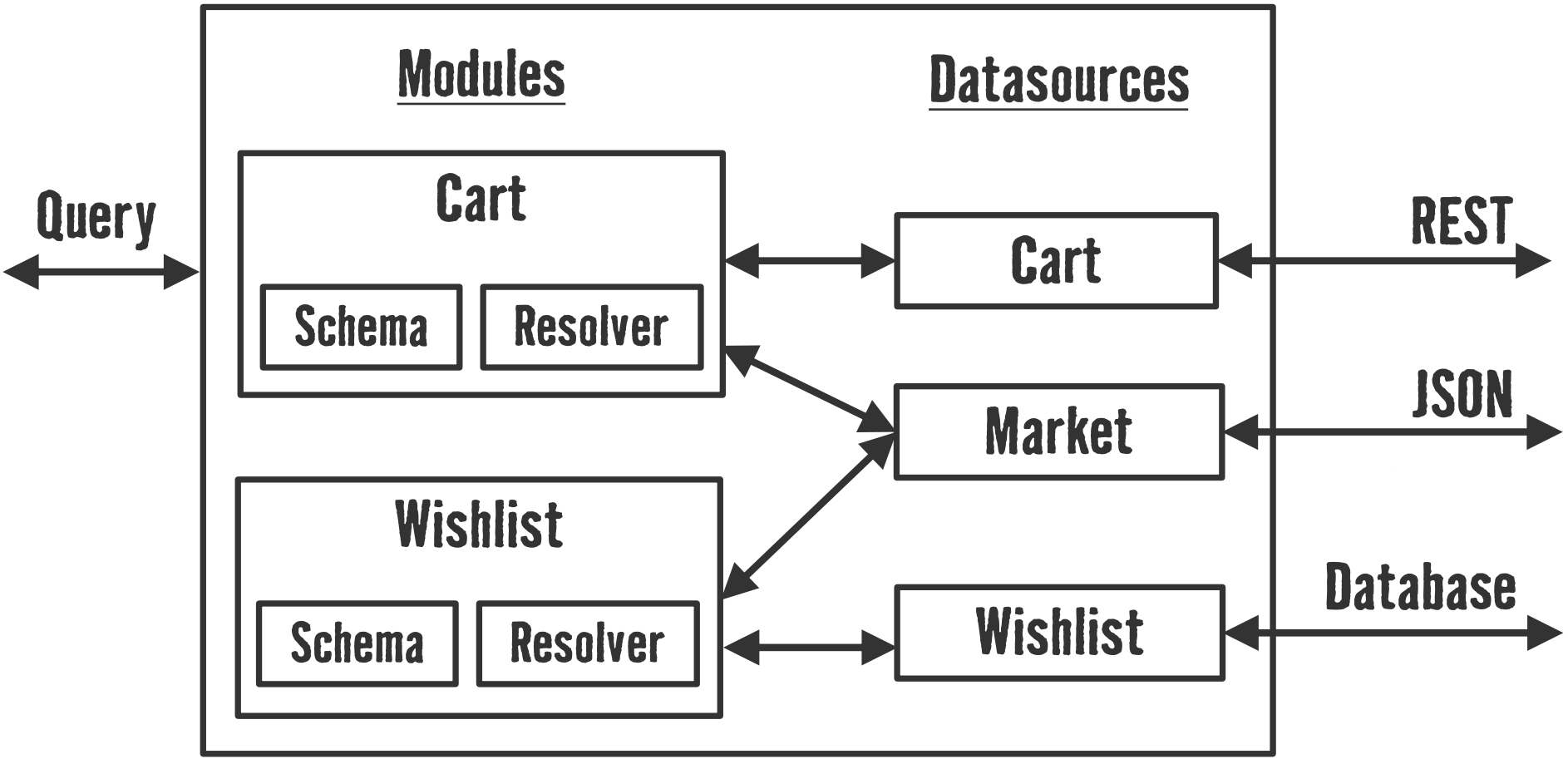
remote schema stitching


Modules
Datasources
Query
Cart
Schema
Resolver
Wishlist
Schema
Resolver
Cart
Market
Wishlist
REST
JSON
Database

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Was haben wir beim Einsatz von GraphQL gelernt?

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Sauberes Datenmodell

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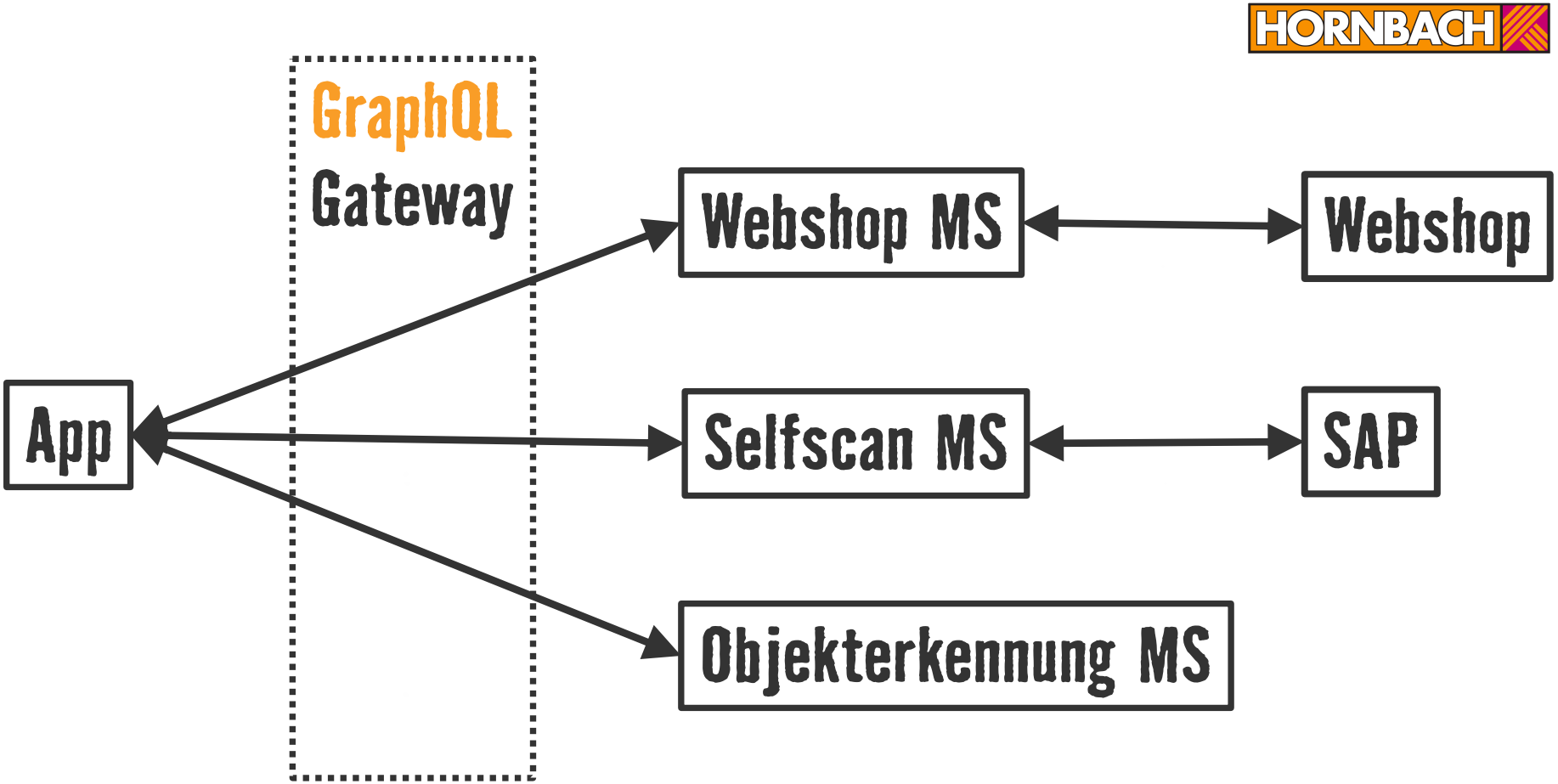
Fachliche Domänen trennen


HORNBACH
GraphQL
Gateway
App
Webshop MS
Webshop
Selfscan MS
SAP
Objekterkennung MS

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developer experience

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GraphQL in der Zukunft?

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Prisma

🚀🚀🚀 Optimize page loads with @defer 🚀🚀🚀

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Without @defer

• • •

With @defer

• • •

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@apollo/federation

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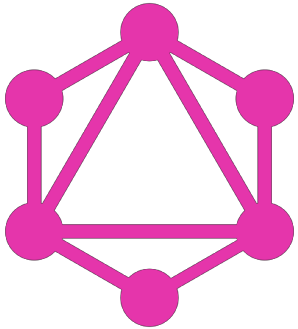

Fazit

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ES GIBT IMMER WAS ZU TUN!

steffen.hummel@hornbach.com

andrena
OBJECTS

Bitte geben Sie uns jetzt Ihr Feedback!

GraphQL in the real world - Erfahrungen aus 2 Jahren Praxiseinsatz bei der HORNBACH Baumarkt AG
Steffen Hummel

Nächste Vorträge in diesem Raum

11:45 Mit Pact REST-Schnittstellen innerhalb und außerhalb des Teams definieren und stabilisieren, *Dr. Eva Ziebarth, Marvin Kranz*
13:30 Event Sourcing - Wahrscheinlich machen Sie es falsch, *David Schmitz*
14:30 Verbesserte Observability unter Verwendung offener, OpenCensus-basierter Application-Monitoring-Lösungen, *Dr. Alexander Wert*