

concrete



Olá galera! Eu sou o Saulo Santiago.
Desenvolvedor Backend - **Concrete Recife** :)

O GraphQL irá substituir o Rest?

5 Coisas que você precisa saber!

Cronograma

- 1 - O que é o GraphQL?
- 2 - GraphQL e REST quais as semelhanças e diferenças?
- 3 - Os motivos da adoção do GraphQL
- 4 - Casos de uso do GraphQL
- 5 - As desvantagens ao utilizar GraphQL
- 6 - Bônus: Primeiros passos e por onde começar a estudar



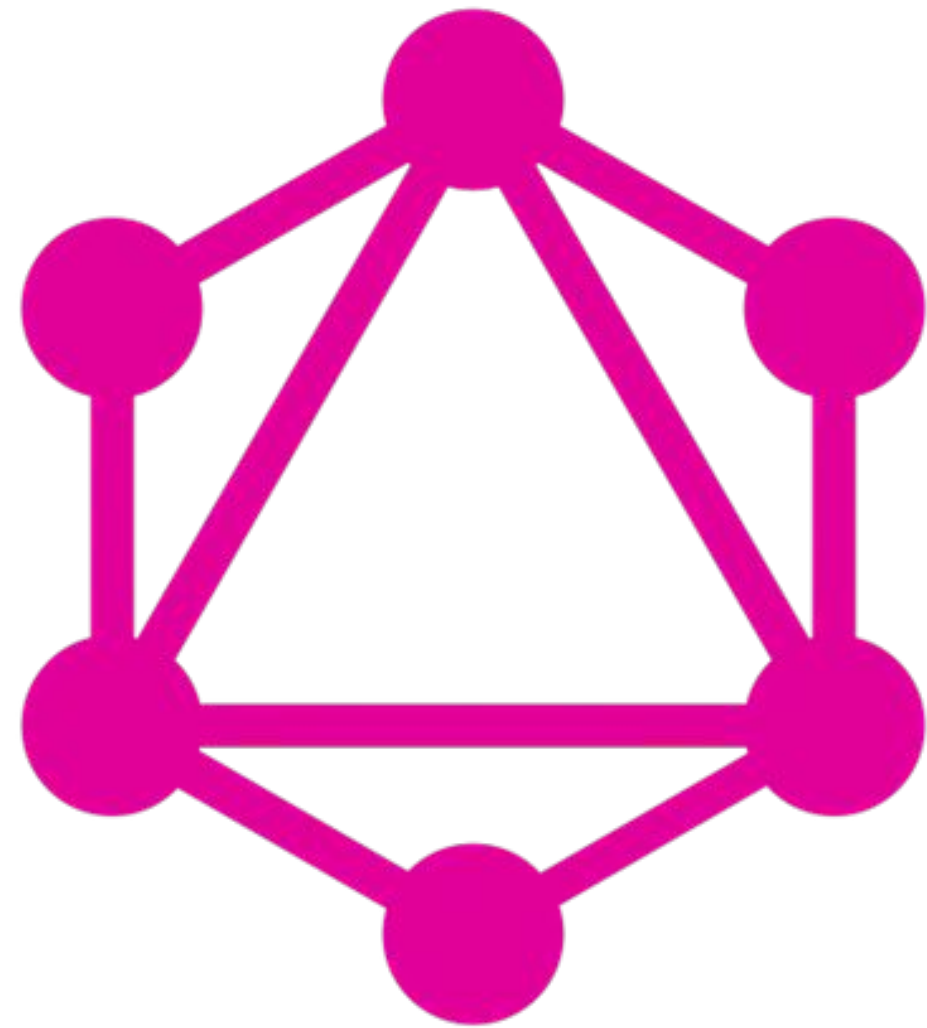
O que é o GraphQL?

"O GraphQL é uma linguagem de consulta para APIs em tempo de execução, para atender essas consultas com os dados existentes..."



graphql.org

Como e porquê o GraphQL surgiu?



GraphQL



Como o GraphQL funciona?



```
type User {  
  uuid: ID!  
  name: String!  
  cpf: String  
  zipcode: String  
  address: Address  
}
```

```
type Address {  
  street_address: [String!]!  
  city: String!  
  state: String!  
}
```

Como o GraphQL funciona?

```
type User {  
  uuid: ID!  
  name: String!  
  cpf: String  
  zipcode: String  
  address: Address  
}
```

```
type Address {  
  street_address: [String!]!  
  city: String!  
  state: String!  
}
```

```
query {  
  User(uuid: "567e05b8-...-381e4f8fdf46") {  
    uuid  
    name  
    address {  
      state  
    }  
  }  
}
```

Como o GraphQL funciona?



```
type User {  
  uuid: ID!  
  name: String!  
  cpf: String  
  zipcode: String  
  address: Address  
}
```

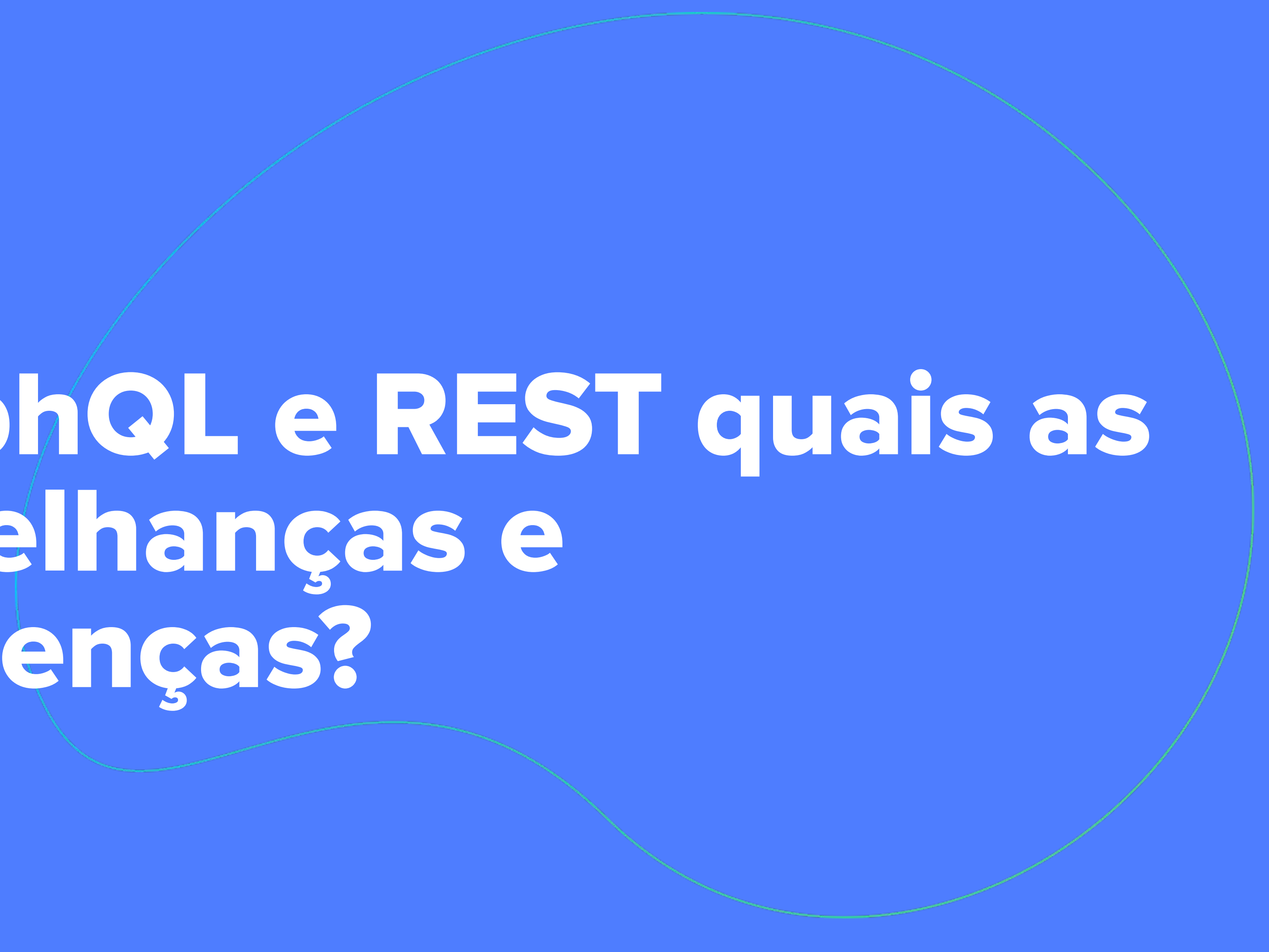
```
type Address {  
  street_address: [String!]!  
  city: String!  
  state: String!  
}
```



```
query {  
  User(uuid: "567e05b8-...-381e4f8fdf46") {  
    uuid  
    name  
    address {  
      state  
    }  
  }  
}
```



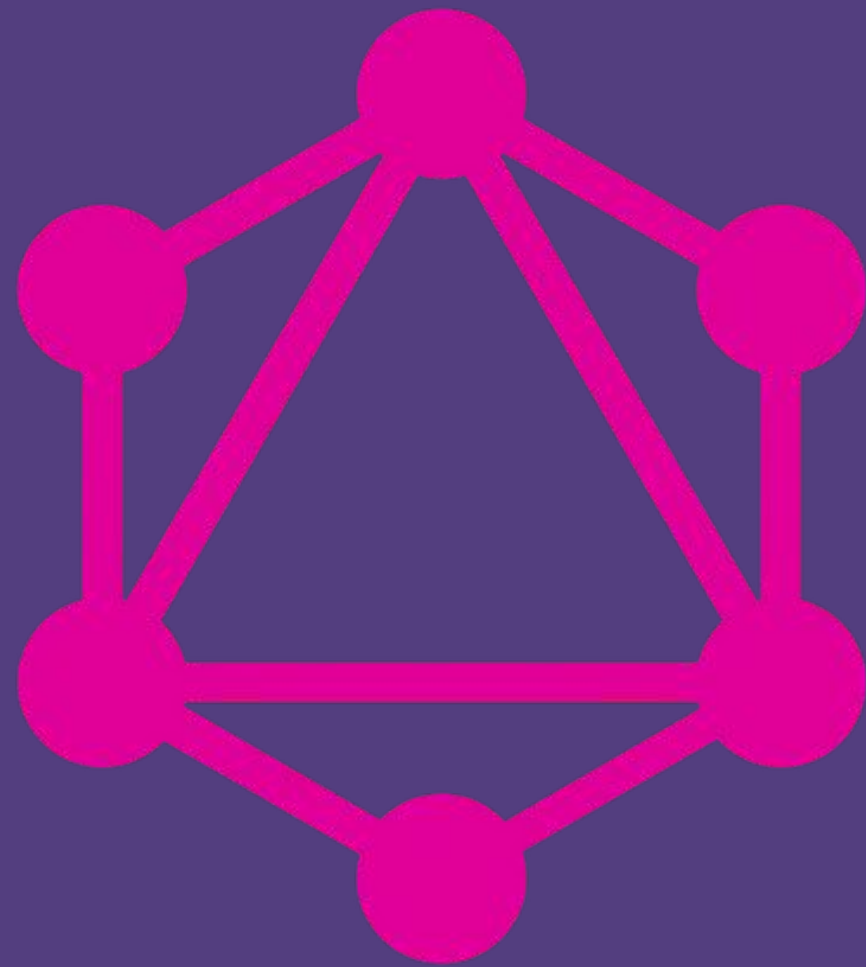
```
const singleUserResolver = (root, args, context) => {  
  const { uuid } = args  
  const { knex } = context  
  
  return knex('users')  
    .where({ uuid })  
    .first()  
}
```



**GraphQL e REST quais as
semelhanças e
diferenças?**

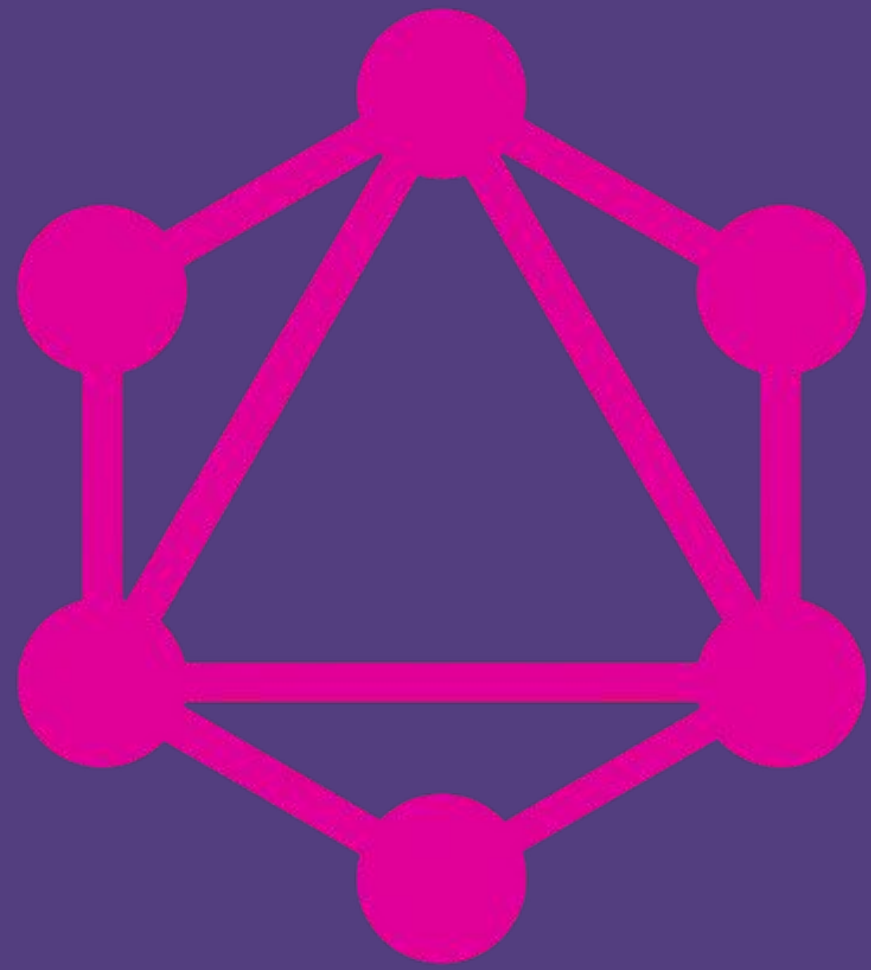
Semelhanças

Semelhanças

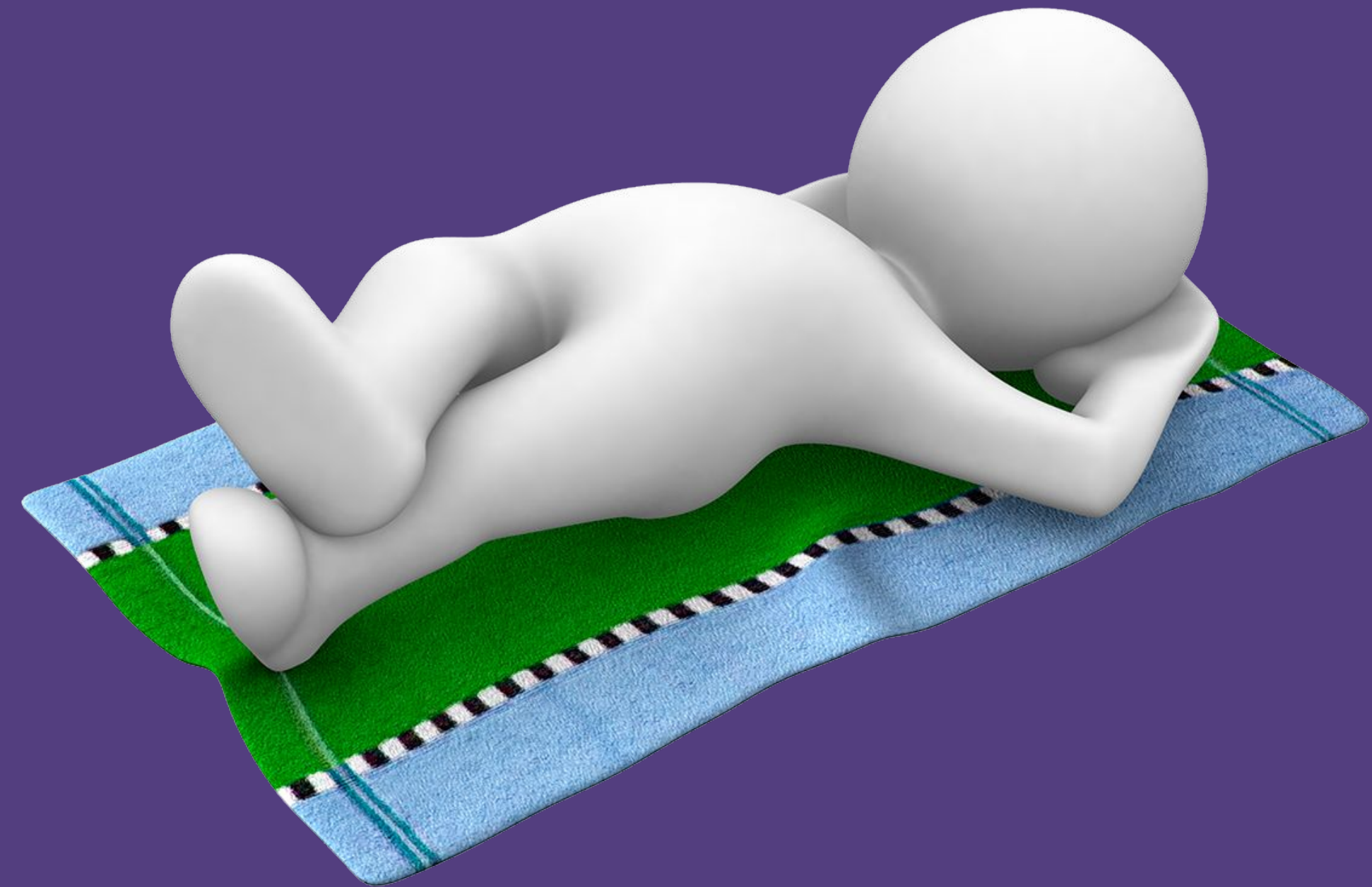


GraphQL

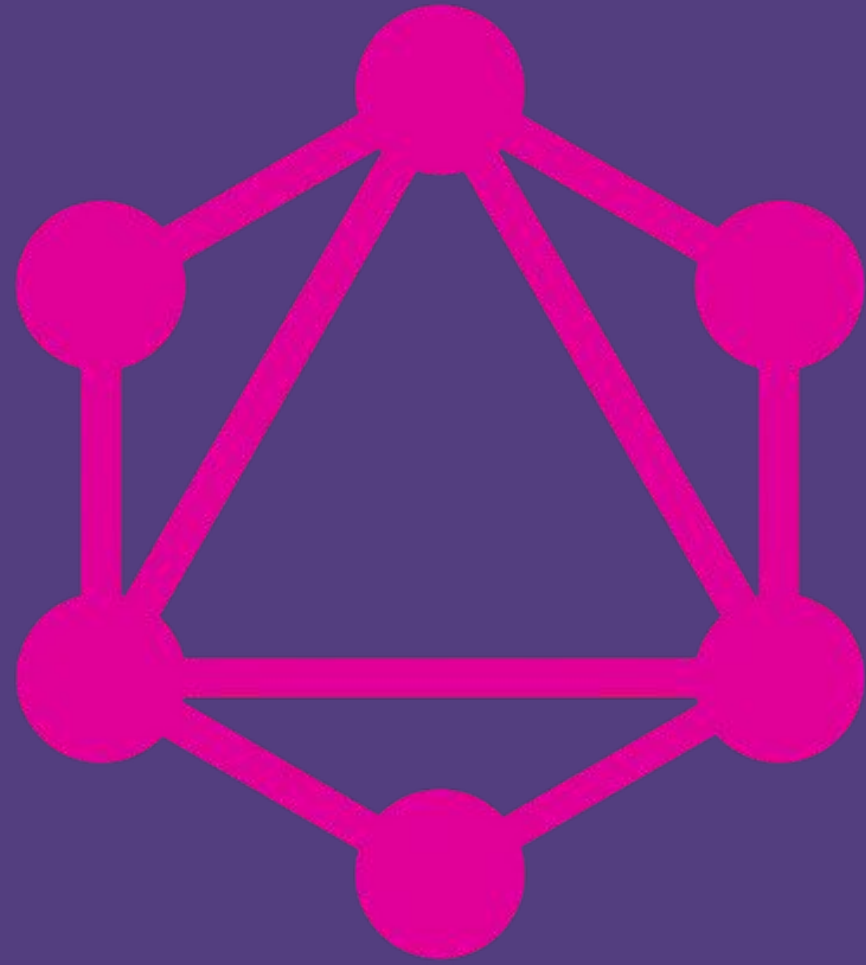
Semelhanças



GraphQL



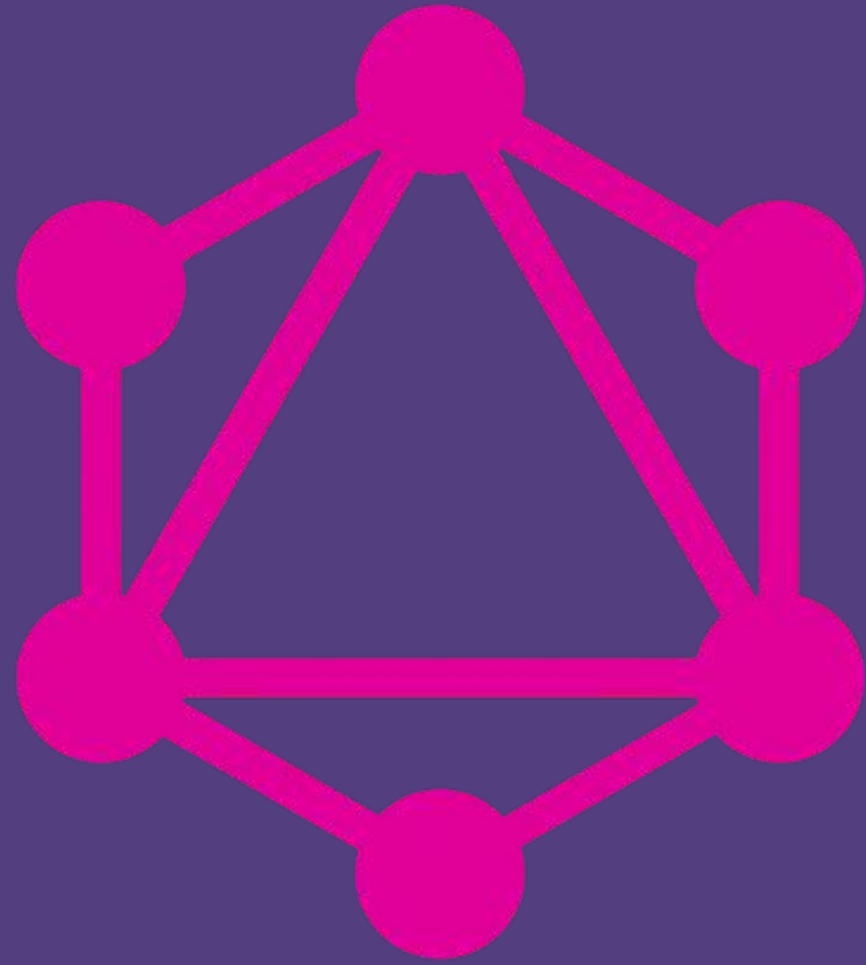
Semelhanças



GraphQL



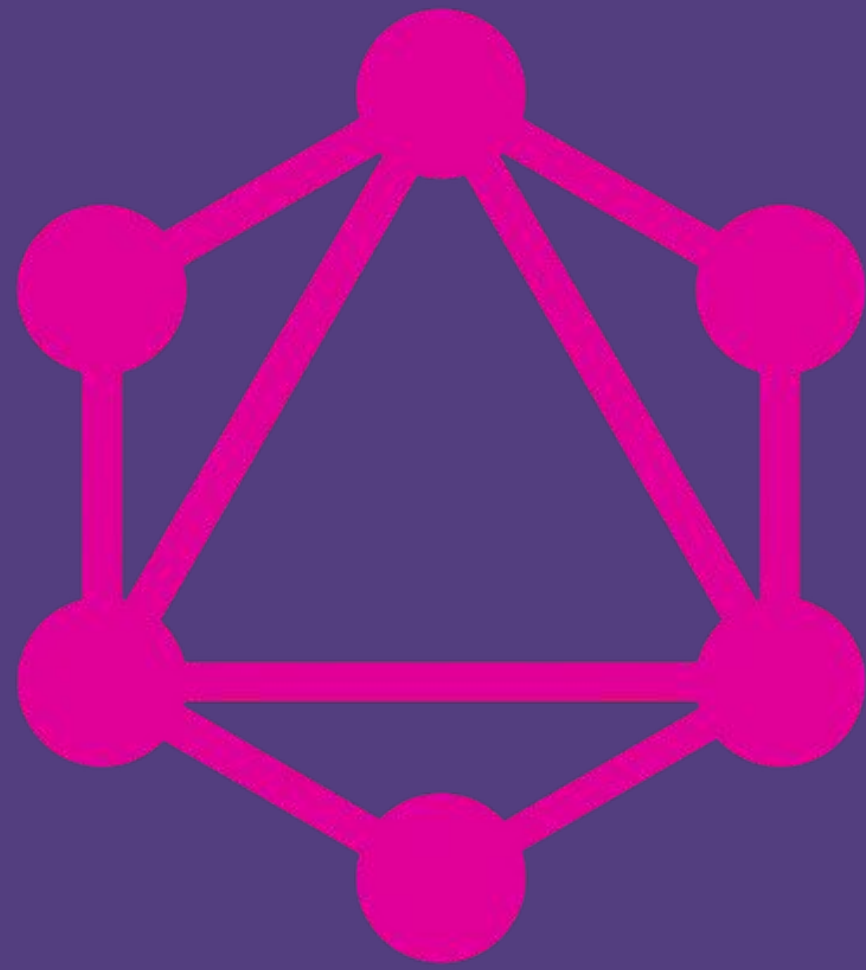
Semelhanças



GraphQL

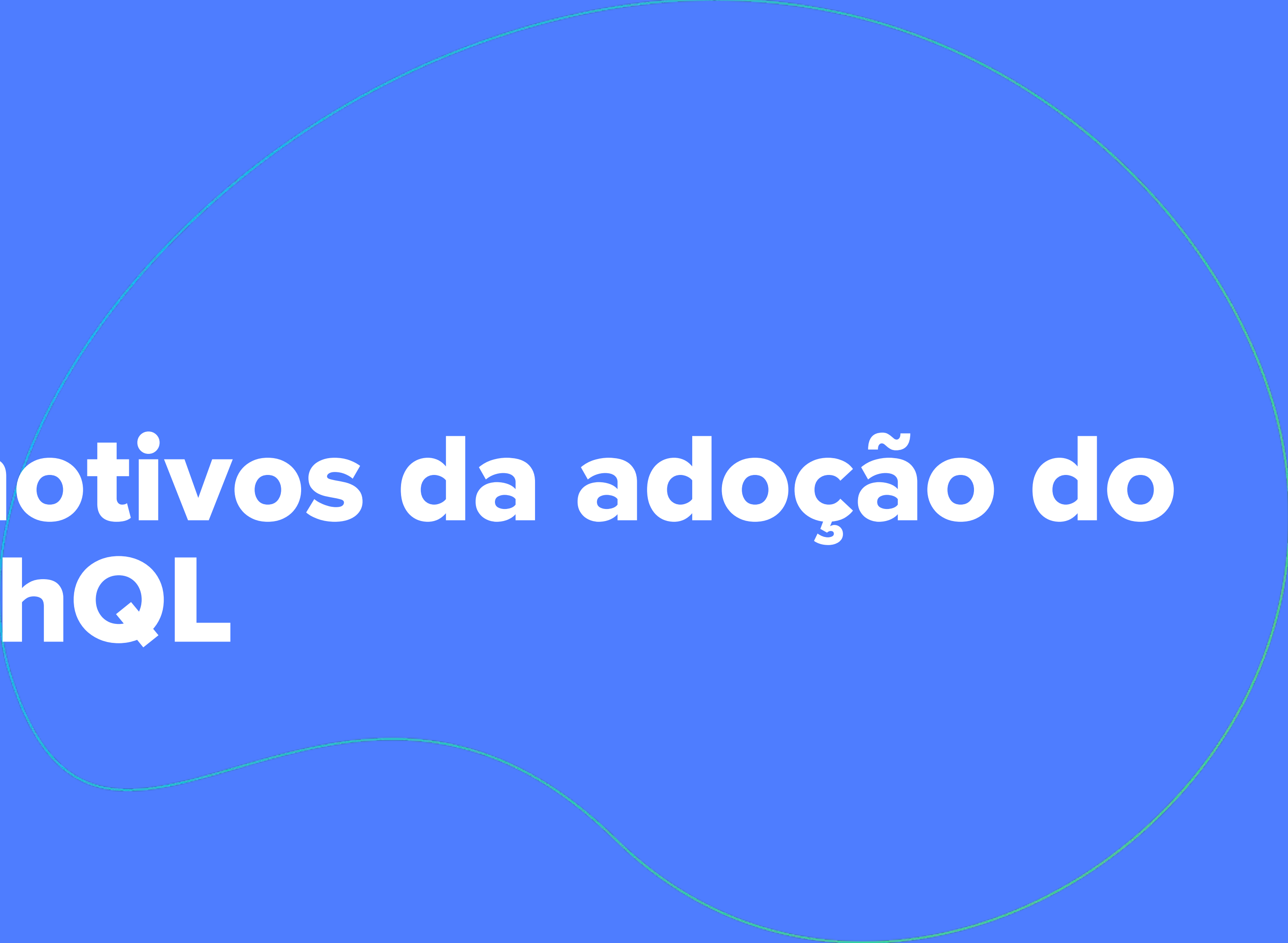


Diferenças



GraphQL



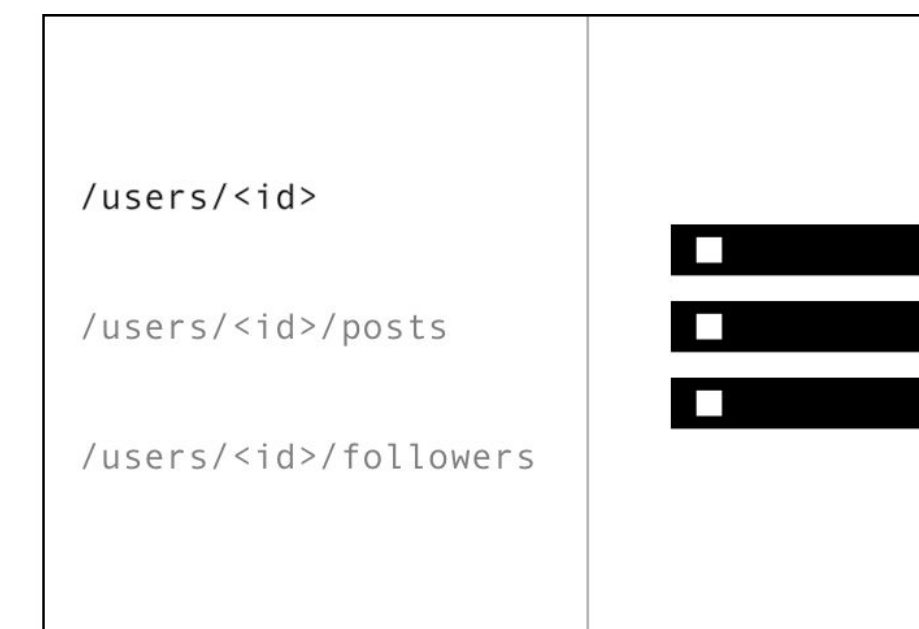
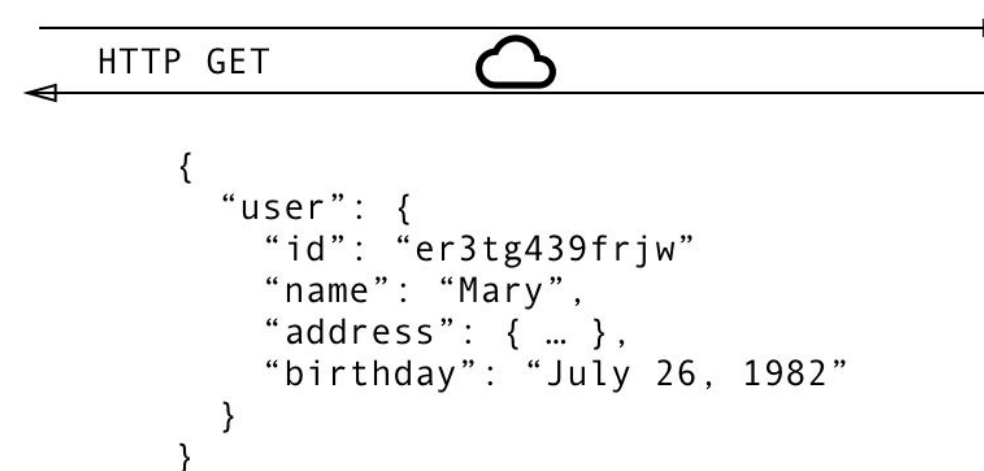
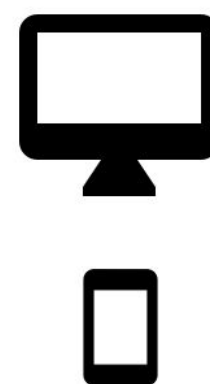


Os motivos da adoção do GraphQL

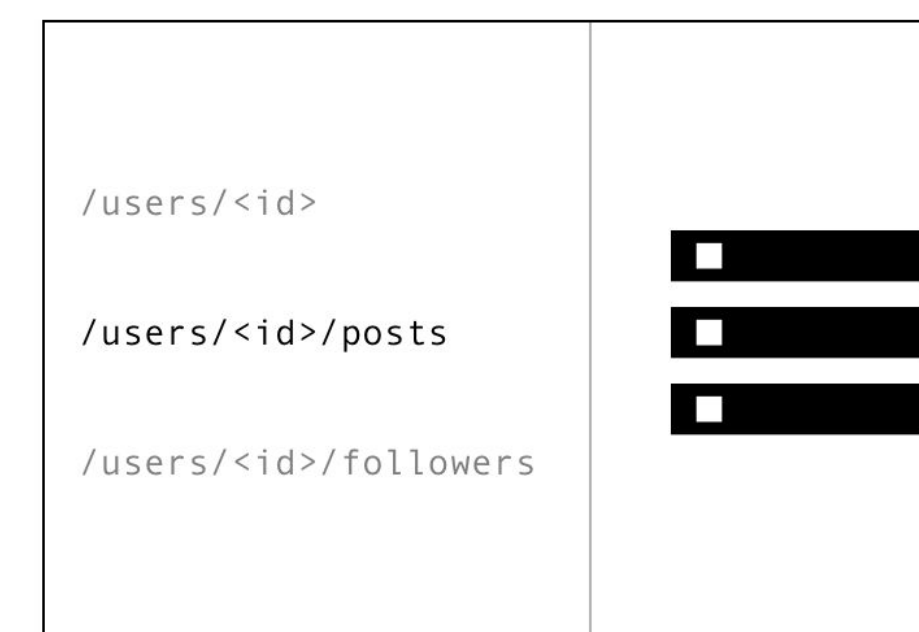
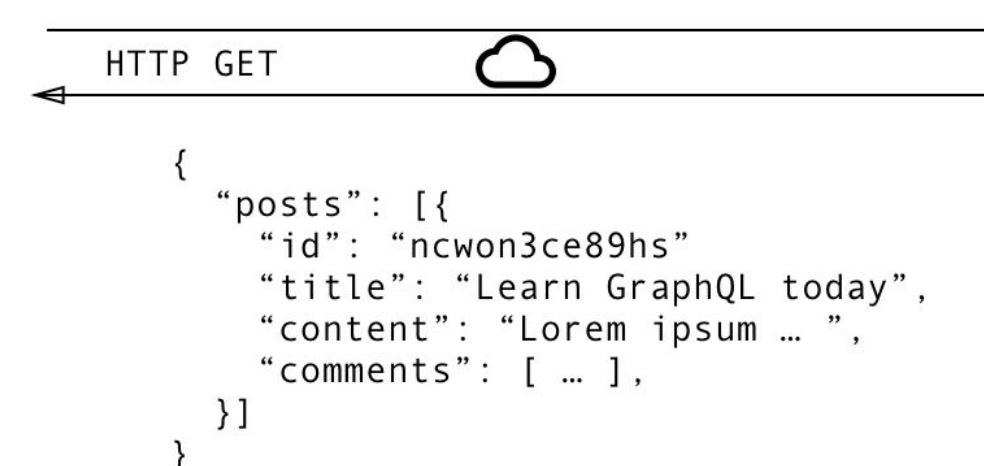
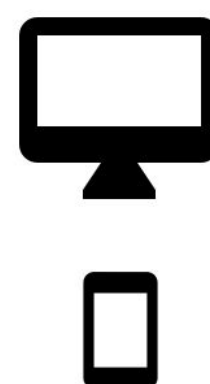
Problemas de OVER e UNDER fetching no REST

As APIs REST expõe tradicionalmente, apenas o contrato definido do endpoint.

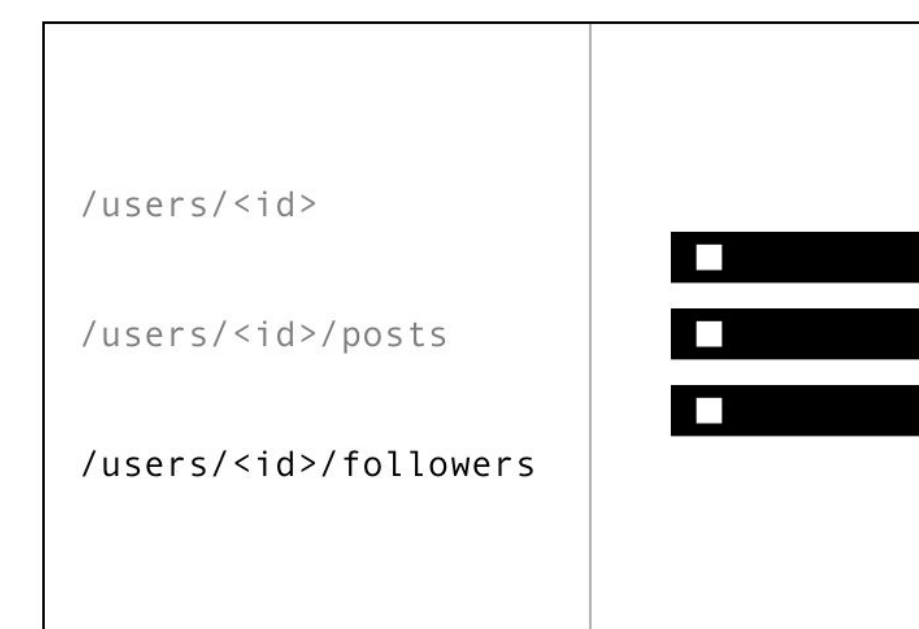
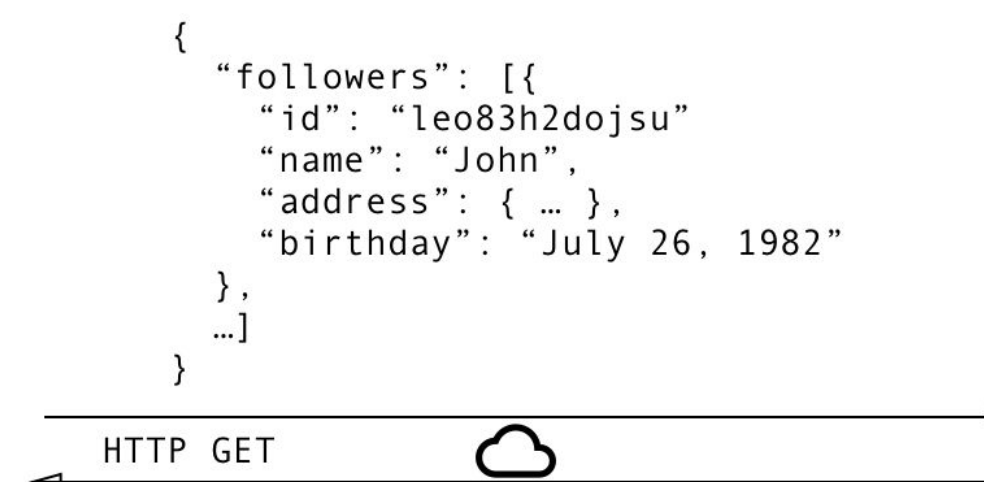
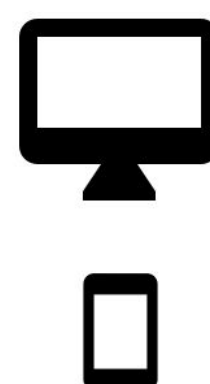
①



②

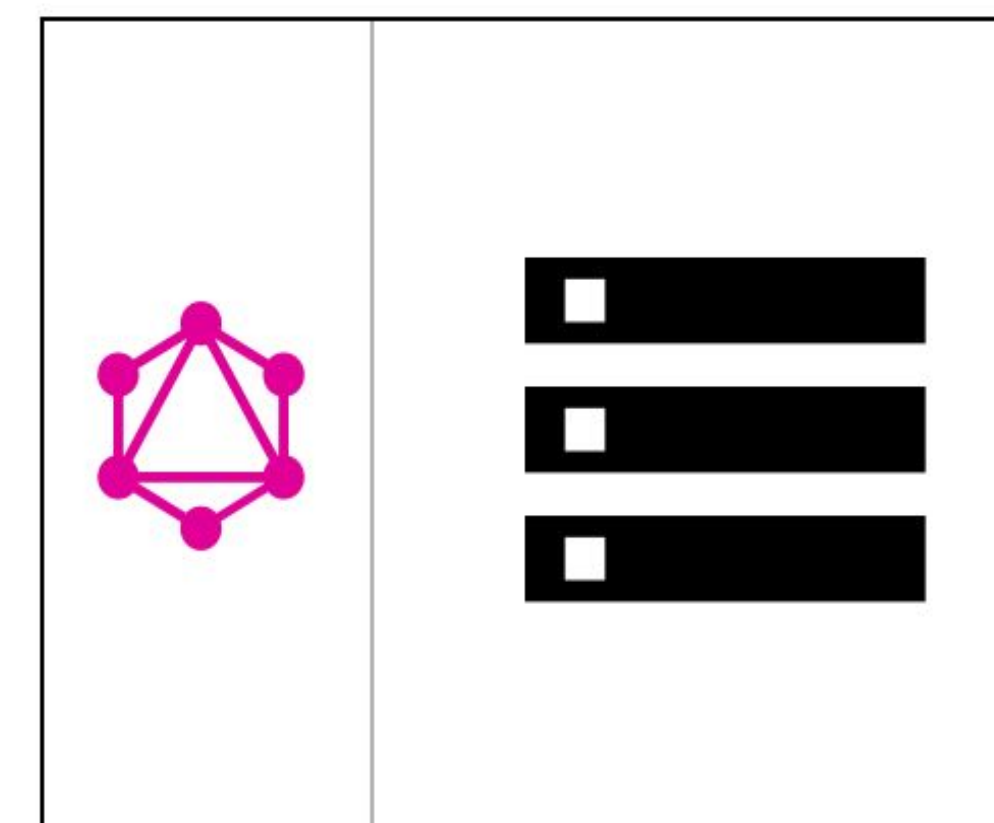
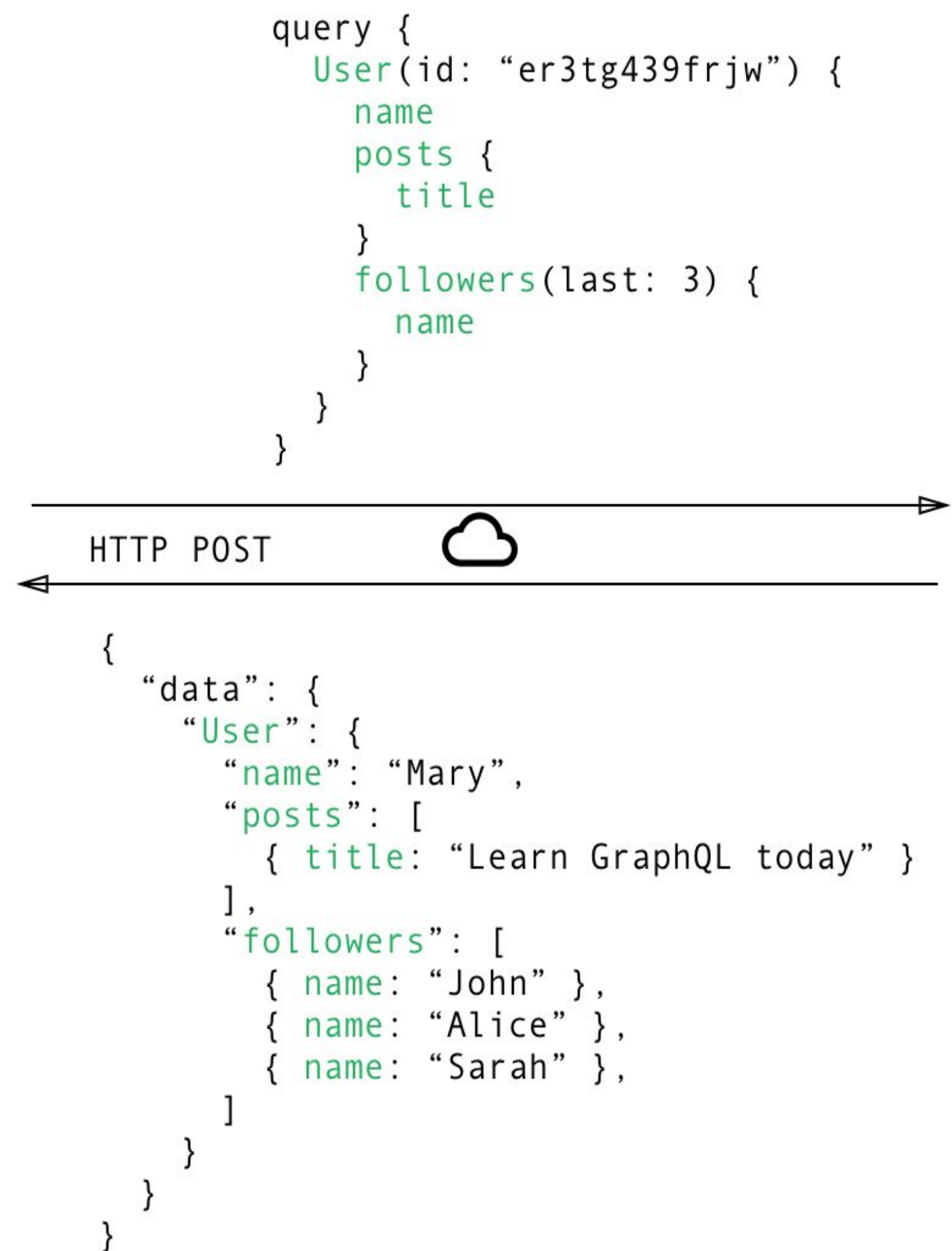
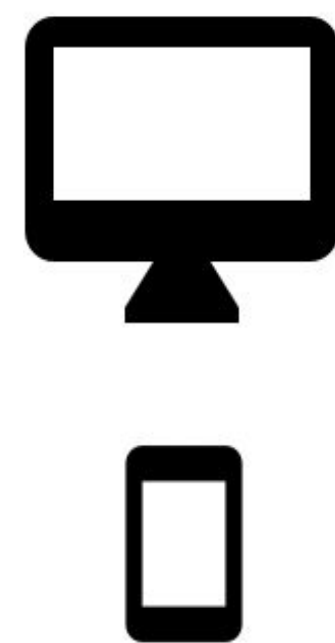


③



Diminuição na quantidade de requisições

Com uma única requisição é possível conseguir exatamente todo o dado que o cliente precisa.



Documentação gerada automaticamente

Com os Types e Schemas, boa parte das implementações de GraphQL já geram a documentação automaticamente.

The screenshot displays the GraphQL Playground interface for the 'airbnb-app' workspace. The left sidebar shows the project structure with 'gateway' selected. The main editor contains a query for 'topExperiences' with fields 'id', 'category', and 'title'. The right panel shows the JSON response, and the bottom panel shows a performance tracing table.

Query:

```
1 {  
2   topExperiences {  
3     id  
4     category {  
5       name  
6     }  
7     title  
8   }  
9 }
```

Response:

```
{  
  "data": {  
    "topExperiences": [  
      {  
        "id": "cja8e0vvg1b060156a13tucfd",  
        "category": null,  
        "title": "Raise a glass to Prohibition"  
      },  
      {  
        "id": "cja8e32k81n5201515yyc35p9",  
        "category": null,  
        "title": "Raise a glass to Prohibition"  
      }  
    ]  
  }  
}
```

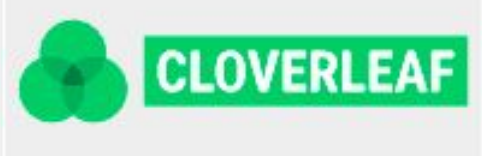
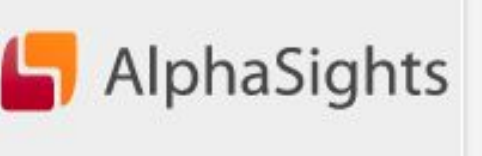
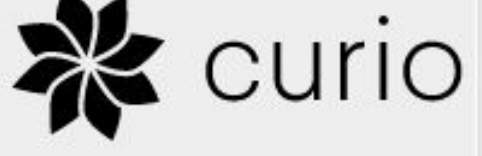
Tracing Table:

Operation	Duration
Request	210 ms
topExperiences	90 ms
0.id	21 μs
0.category	4 μs
0.title	6 μs
1.id	4 μs
1.category	2 μs
1.title	3 μs
Response	12 ms

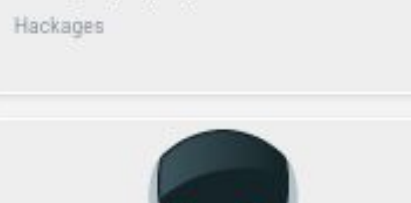
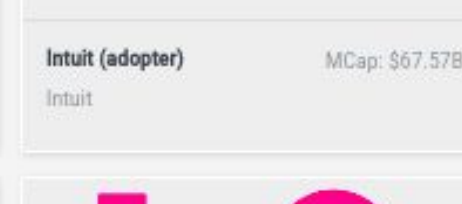
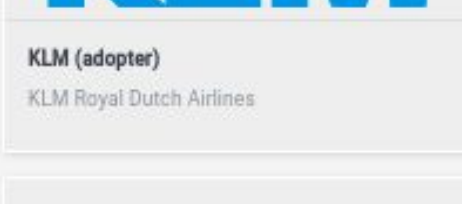
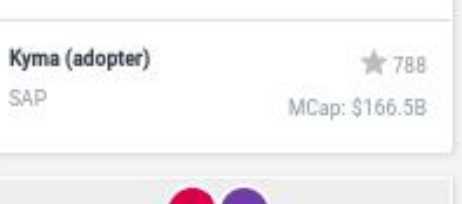


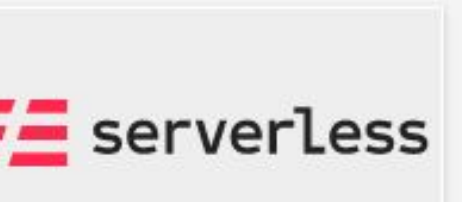
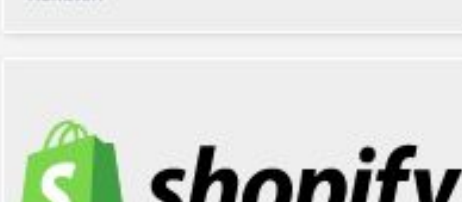
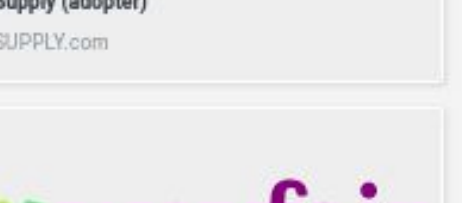
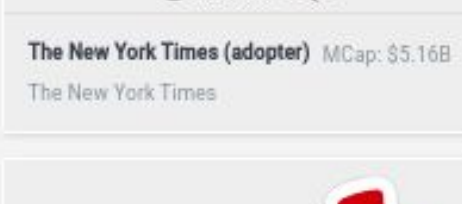
Casos de uso do GraphQL

Quem anda utilizando?

 1stdibs (adopter) 1stdibs Funding: \$253M	 99designs (adopter) 99designs Funding: \$45M	 Adayroi (adopter) A day roi	 Airbnb (adopter) Airbnb Funding: \$4.4B	 CircleHD (adopter) CircleHD	 Cloverleaf (adopter) Cloverleaf.me Funding: \$50K	 ClubMed (adopter) Club Med	 Colectica (adopter) Colectica Funding: \$350K
 Alembic (adopter) Alembic	 Allocine (adopter) Allocine	 AlphaSights (adopter) AlphaSights	 Amplitude (adopter) Amplitude Funding: \$136M	 CommerceTools (adopter) commercetools Funding: \$167.67M	 Compara (adopter) ComparaOnline Funding: \$33.05M	 Conduit (adopter) Conduit Analytics	 Configure One (adopter) Configure One
 Ants (adopter) ANTS	 Appier (adopter) Appier Funding: \$81.5M	 Arangodb (adopter) ArangoDB Funding: \$19.22M	 Artsy (adopter) Artsy Funding: \$100.91M	 Coursera (adopter) Coursera Funding: \$313.1M	 Credit Karma (adopter) Credit Karma Funding: \$868M	 Curio (adopter) Curio	 DailyMotion (adopter) Dailymotion Funding: \$68.5M
 Atlassian (adopter) Atlassian MCap: \$30.76B	 Attendify (adopter) Attendify Funding: \$2.1M	 Audi (adopter) Audi	 Bazinga! (adopter) bazinga! Technologies Funding: \$4.89M	 Directlyrics (adopter) Directlyrics	 Drift (adopter) Drift Funding: \$107M	 DueDil (adopter) DueDil Funding: \$53.38M	 Easy Carros (adopter) Easy Carros Funding: \$311.23K
 Braintree (adopter) Braintree MCap: \$119.5B	 Buildkite (adopter) Buildkite	 Bynder (adopter) Bynder Funding: \$22.2M	 Cheddar (adopter) Cheddar Funding: \$54M	 Ediket (adopter) Ediket	 eventOne (adopter) eventOne	 Expert360 (adopter) Expert360 Funding: \$12.93M	 Facebook (adopter) Facebook MCap: \$566.98B

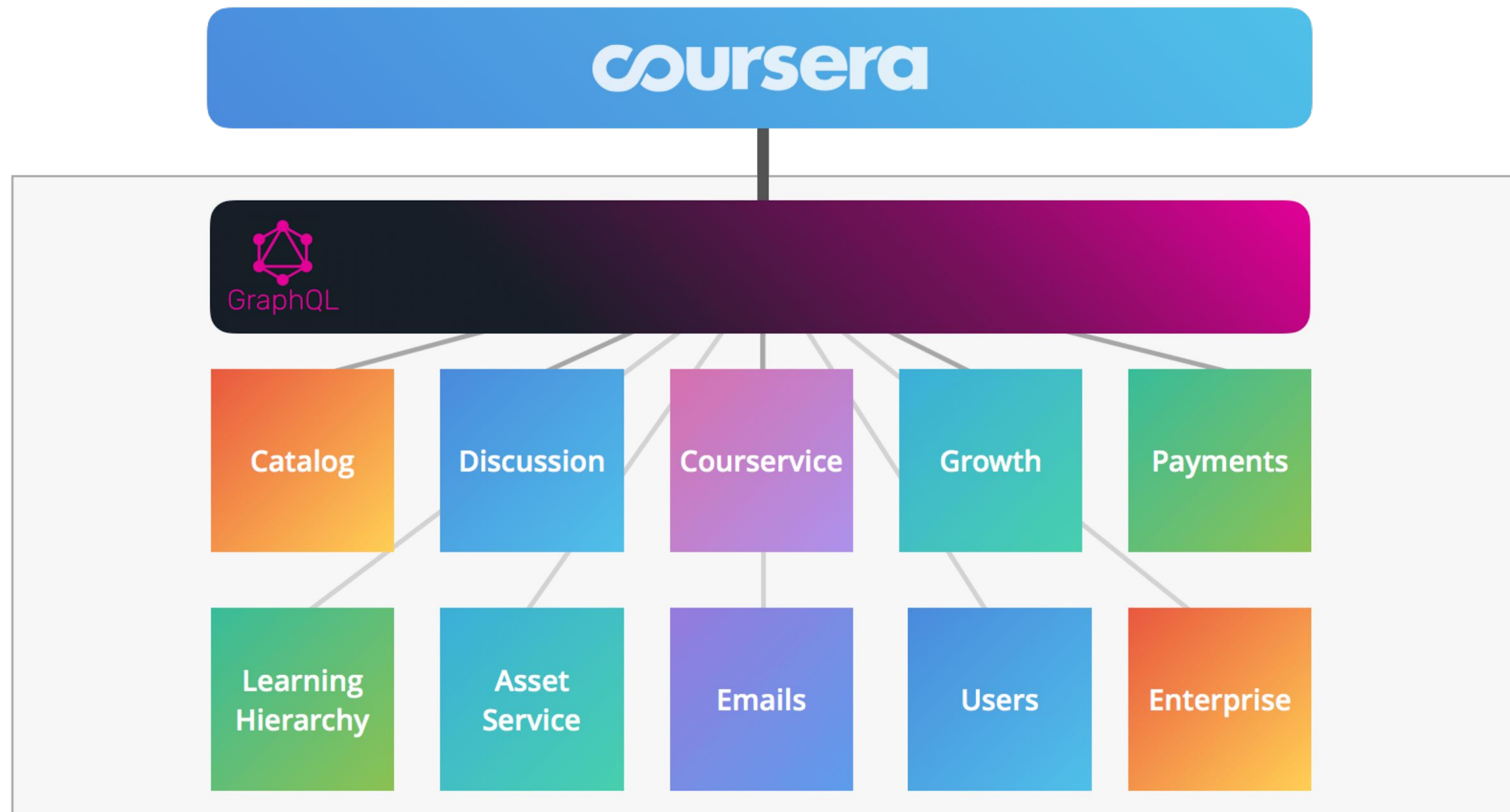
Quem anda utilizando?

 Fairfax Media (adopter) Fairfax Media	 FileJet (adopter) FileJet	 Gentux (adopter) Generation Tux Funding: \$25M	 GetNinjas (adopter) GetNinjas Funding: \$16.79M
 GitHub (adopter) GitHub MCap: \$1.14T	 Goalify (adopter) Goalify	 GraphCMS (adopter) GraphCMS Funding: \$1M	 GraphCool (adopter) Prisma Funding: \$4.5M
 Hackages (adopter) Hackages	 Hijup (adopter) HijUp Funding: \$50K	 Housing Anywhere (adopter) HousingAnywhere Funding: \$13.61M	 Hudl (adopter) Hudl Funding: \$108.85M
 Instana (adopter) Instana Funding: \$57M	 Intuit (adopter) Intuit MCap: \$67.57B	 KLM (adopter) KLM Royal Dutch Airlines	 Kyma (adopter) SAP ★ 788 MCap: \$166.5B
 Loggi (adopter) Loggi Funding: \$295M	 Lyft (adopter) Lyft MCap: \$13.83B	 Magento (adopter) Magento Commerce MCap: \$144.88B	 NBC News Digital (adopter) NBCUniversal MCap: \$203.81B

 New Relic (adopter) New Relic MCap: \$3.93B	 PayPal (adopter) PayPal MCap: \$119.5B	 Pinterest (adopter) Pinterest MCap: \$10.41B	 Pluralsight (adopter) Pluralsight MCap: \$2.51B
 Rakuten Rakuten MCap: \$11.78B	 Salsify (adopter) Salsify Funding: \$97.6M	 Satispay (adopter) Satispay Funding: \$50.59M	 Serverless Serverless Funding: \$13M
 Shopify (adopter) Shopify MCap: \$36.48B	 Stackshare (adopter) StackShare Funding: \$7M	 Starbucks (adopter) Starbucks MCap: \$98.81B	 Supply (adopter) SUPPLY.com
 The New York Times (adopter) The New York Times MCap: \$5.16B	 Twitter Twitter MCap: \$23.31B	 Vazco (adopter) Vazco	 Wayfair (adopter) Wayfair MCap: \$7.89B
 Yelp Yelp MCap: \$2.48B			

O caso que nós vamos falar

O caso que nós vamos falar



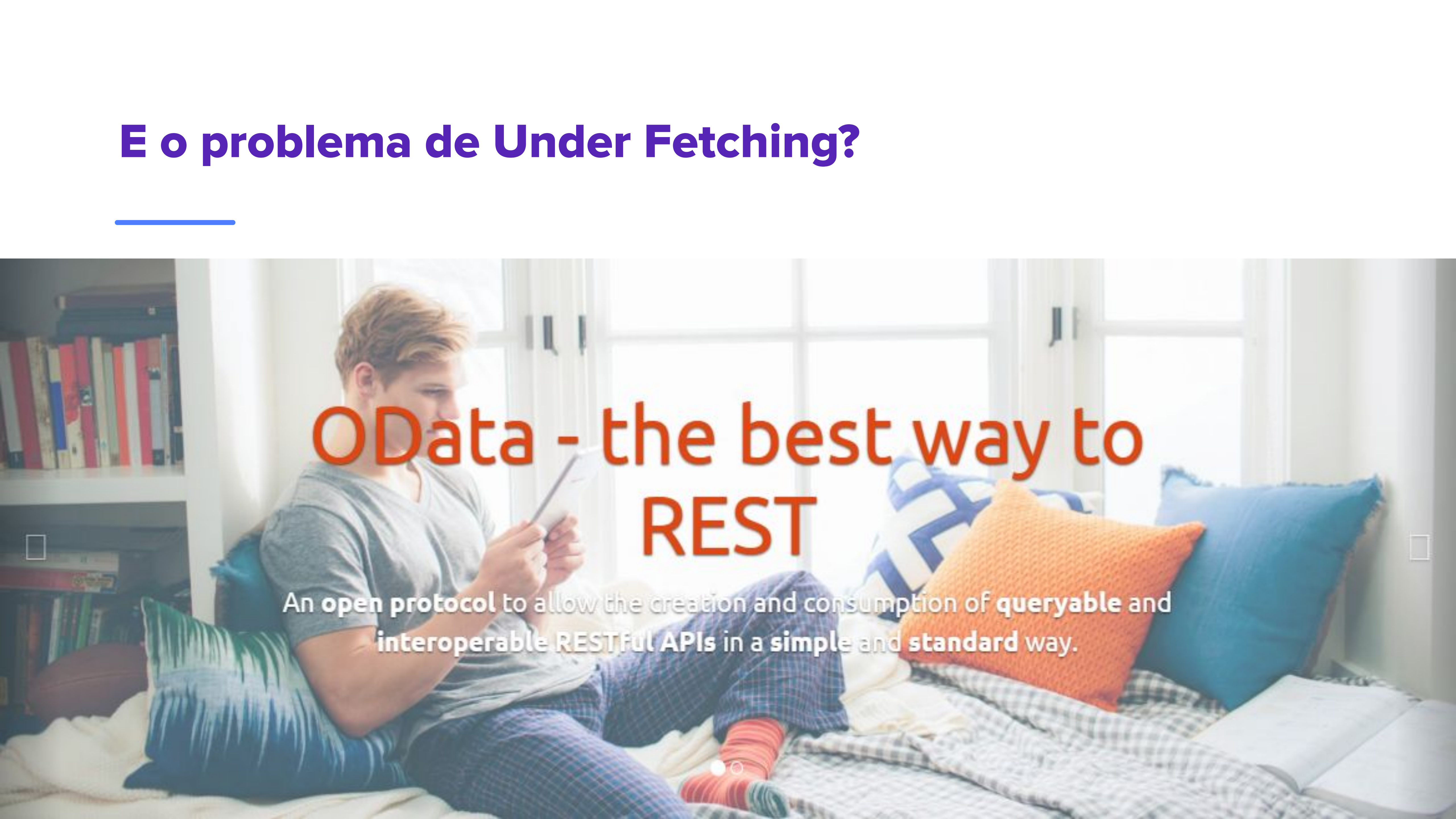


As vantagens ao utilizar GraphQL

O REST pode fazer muito do que o GraphQL faz

```
GET /books/1492030716?fields=title,pageCount
```

E o problema de Under Fetching?

A young man with short brown hair is sitting on a bed, looking down at a tablet computer he is holding with both hands. He is wearing a grey t-shirt and blue plaid pajama pants. The bed has several colorful pillows: a blue one with a white geometric pattern, a solid orange one, and a solid blue one. A checkered blanket is draped over the bed. In the background, there is a white bookshelf filled with books and a large window with white frames. The scene is brightly lit, suggesting daytime.

OData - the best way to REST

An **open protocol** to allow the creation and consumption of **queryable** and **interoperable RESTful APIs** in a **simple** and **standard** way.

E a documentação gerada automaticamente?

[Specification](#)[Learn](#)[Implementations](#)[Join our Slack](#)

JSON Schema

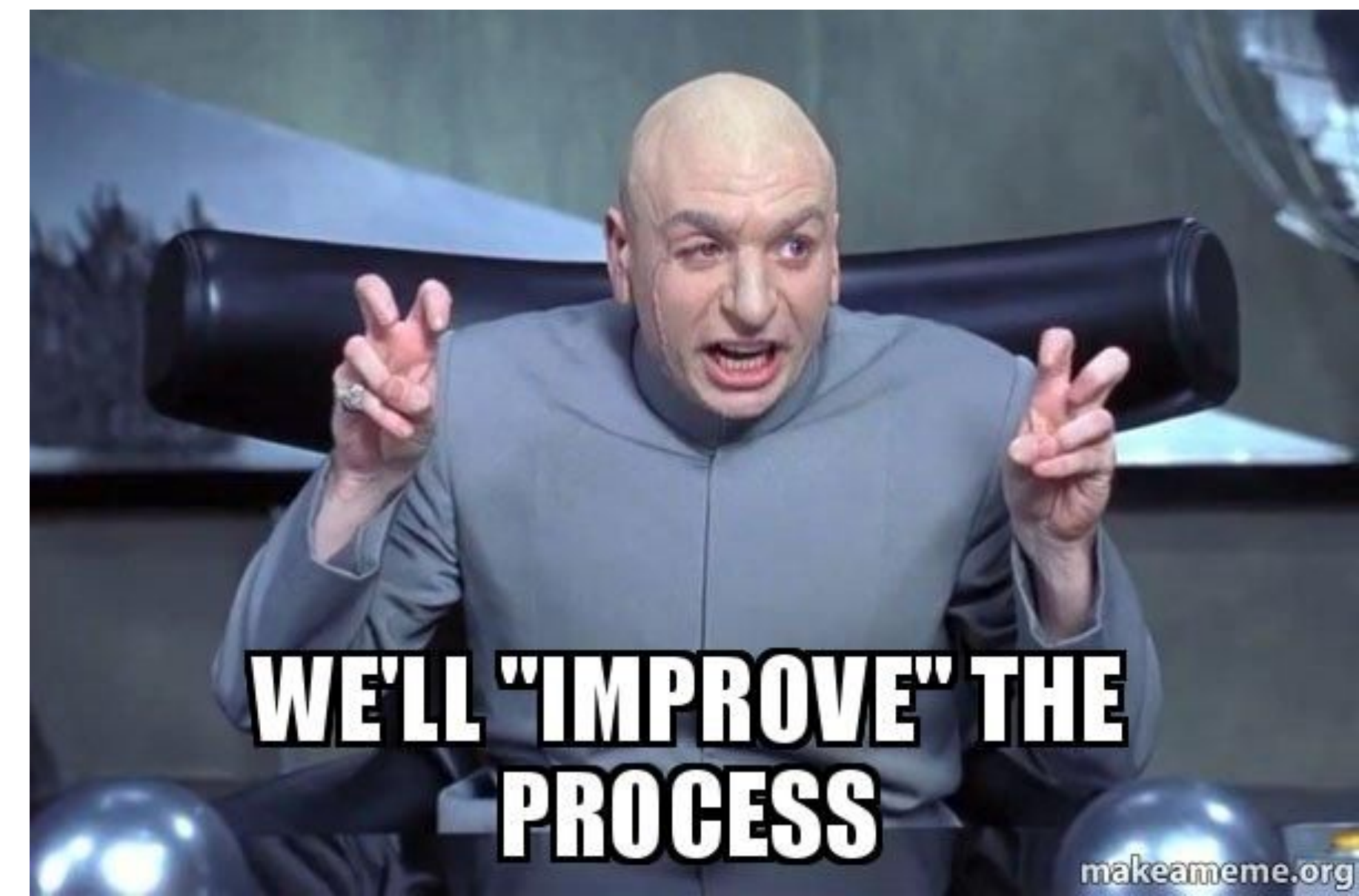
NEW DRAFT PUBLISHED!

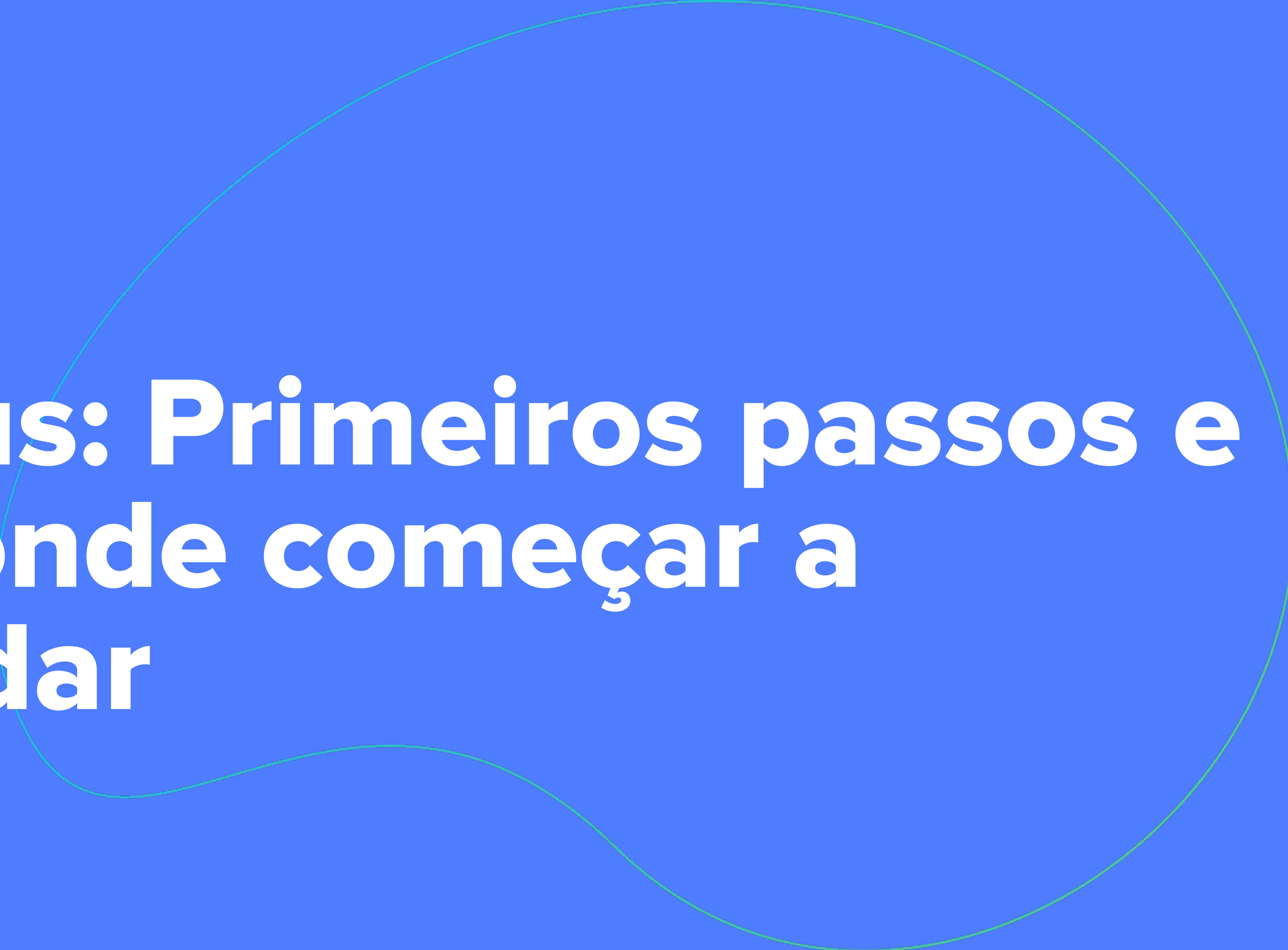
The current version is [2019-09!](#)

JSON Schema is a vocabulary that allows you to **annotate** and **validate** JSON documents.

O que o GraphQL ainda tem a melhorar

- 1 - Cache
- 2 - Problemas de performance
- 3 - Dificuldade em certas tarefas





**Bônus: Primeiros passos e
por onde começar a
estudar**

Por onde começar

- Quanto custa? É caro?
- Onde eu procuro ajuda?
- Quais exemplos eu posso me inspirar?
- Onde tem curso legal?



Por onde começar

- Quanto custa? É caro?
- Onde eu procuro ajuda?
- Quais exemplos eu posso me inspirar?
- Onde tem curso legal?

graphql-slack.now.sh



Join **GraphQL Brasil** on Slack.
293 users are registered so far.

you@yourdomain.com



I'm not a robot



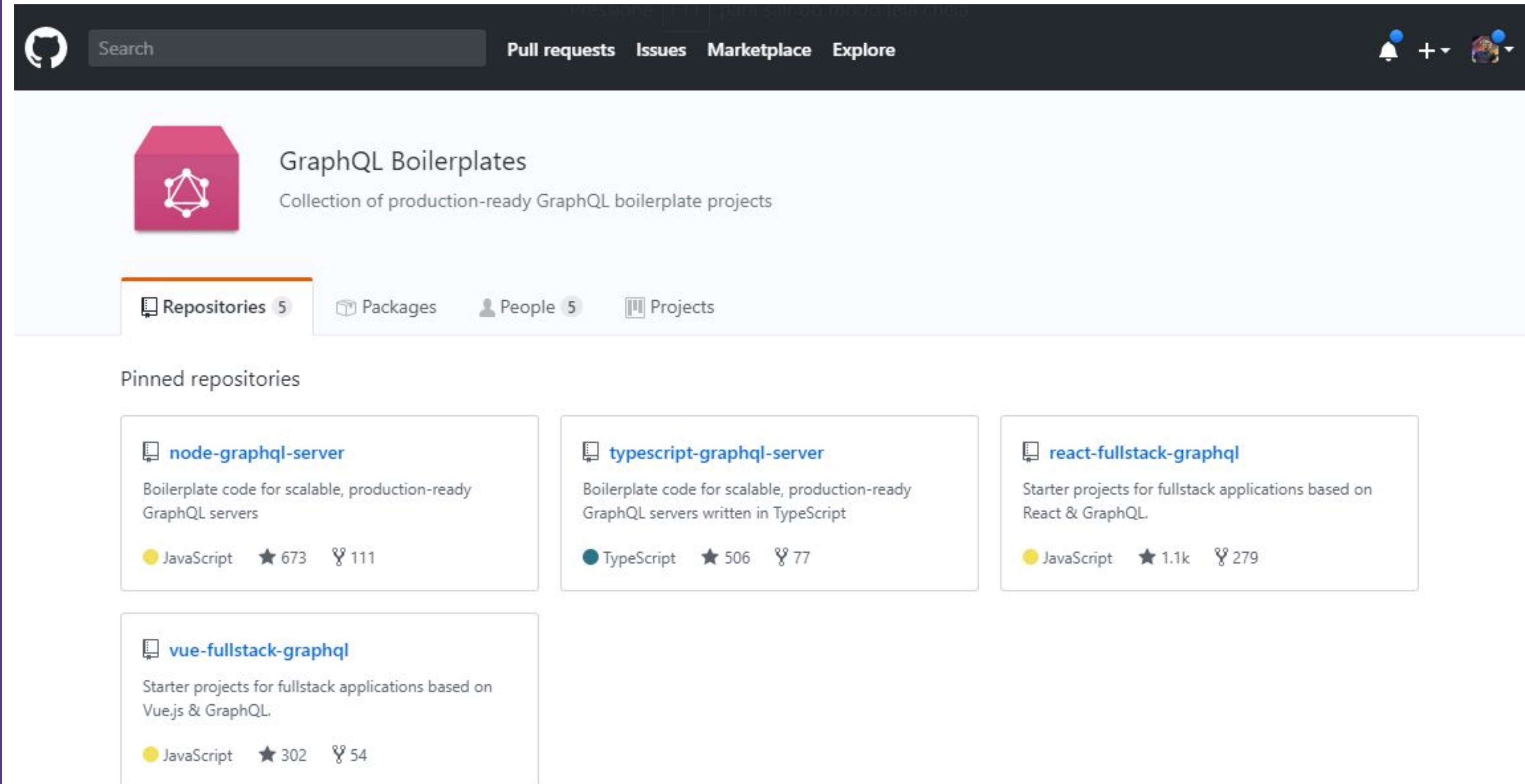
reCAPTCHA
[Privacy](#) • [Terms](#)

GET MY INVITE

or [sign in](#).

Por onde começar

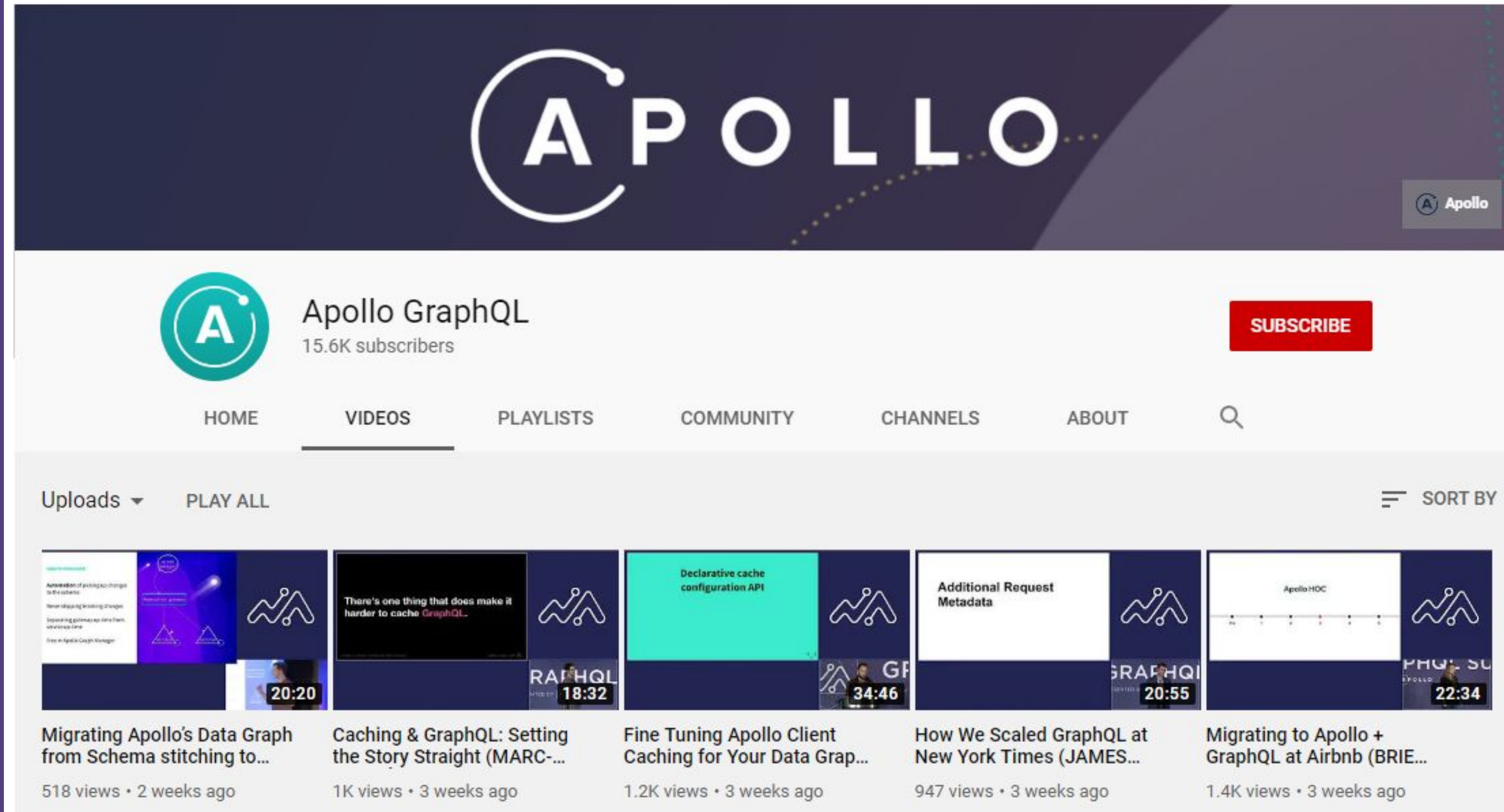
- Quanto custa? É caro?
- Onde eu procuro ajuda?
- Quais exemplos eu posso me inspirar?
- Onde tem curso legal?



Por onde começar

- Quanto custa? É caro?
- Onde eu procuro ajuda?
- Quais exemplos eu posso me inspirar?
- Onde tem curso legal?

Apollo GraphQL



The screenshot shows the Apollo GraphQL YouTube channel page. At the top is a banner with the Apollo logo. Below the banner is the channel name "Apollo GraphQL" with "15.6K subscribers" and a red "SUBSCRIBE" button. A navigation bar includes links for HOME, VIDEOS, PLAYLISTS, COMMUNITY, CHANNELS, and ABOUT, with a search icon on the right. Below the navigation bar, there's a section for "Uploads" with a "PLAY ALL" button and a "SORT BY" dropdown. The main content area displays a grid of video thumbnails. Each thumbnail includes a title, a duration, and view information.

Video Title	Duration	Views	Time Ago
Migrating Apollo's Data Graph from Schema stitching to...	20:20	518 views	2 weeks ago
Caching & GraphQL: Setting the Story Straight (MARC-...	18:32	1K views	3 weeks ago
Fine Tuning Apollo Client Caching for Your Data Grap...	34:46	1.2K views	3 weeks ago
How We Scaled GraphQL at New York Times (JAMES...	20:55	947 views	3 weeks ago
Migrating to Apollo + GraphQL at Airbnb (BRIE...	22:34	1.4K views	3 weeks ago



Conclusão

Obrigado!

concrete



[linkedin.com/in/saulo4](https://www.linkedin.com/in/saulo4)



[@SauloSantiago3](https://twitter.com/SauloSantiago3)



[SauloSantiago4](https://www.instagram.com/SauloSantiago4)

NÓS MOVEMOS O MUNDO.

RJ

Centro

Av. Presidente Wilson,
231 - 29º andar
(21) 2240-2030

SP

Cidade Monções

Av. Nações Unidas,
11.541 - 3º andar
(11) 4119-0449

BH

Savassi

Av. Getúlio Vargas, 671
Sala 800 - 8º andar
(31) 3360-8900

www.concrete.com.br

Referências

<https://blog.logrocket.com/5-reasons-you-shouldnt-be-using-graphql-61c7846e7ed3/>

<https://goodapi.co/blog/rest-vs-graphql>

<https://graphql.org/users/>

<https://medium.com/novvum/how-companies-are-using-graphql-and-what-they-migrated-from-844b1d8a164b>

<https://blog.apollographql.com/courseras-journey-to-graphql-a5ad3b77f39a>

<https://medium.com/airbnb-engineering/how-airbnb-is-moving-10x-faster-at-scale-with-graphql-and-apollo-aa4ec92d69e2>