

c@ncrete



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

O GraphQL irá substituir o Rest?

5 Coisas que você precisa saber!

Cronograma

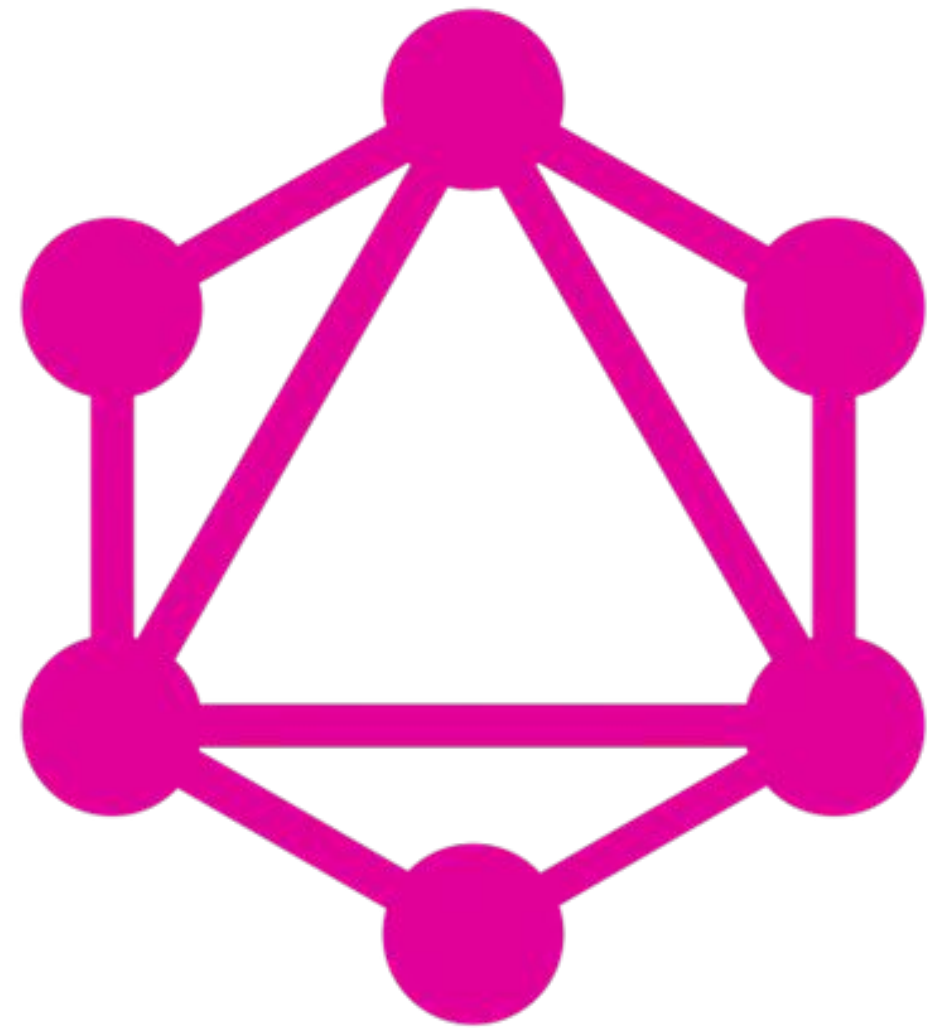
- 1 - O que é o GraphQL?
- 2 - GraphQL e REST quais as semelhanças e diferenças?
- 3 - Os motivos da adoção do GraphQL
- 4 - Casos de uso do GraphQL
- 5 - As desvantagens ao utilizar GraphQL
- 6 - Bônus: Primeiros passos e por onde começar a estudar



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..."

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!  
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}
```



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

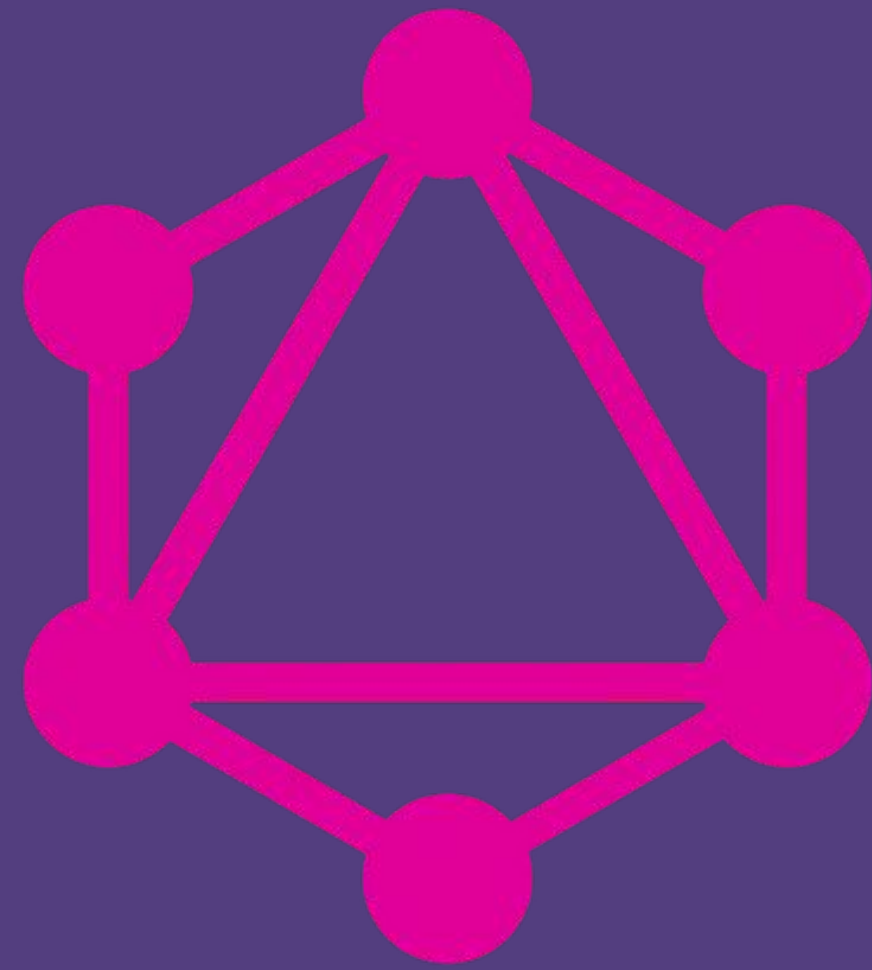


```
const singleUserResolver = (root, args, context) => {  
  const { uuid } = args  
  const { knex } = context  
  
  return knex('users')  
    .where({ uuid })  
    .first()  
}
```

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

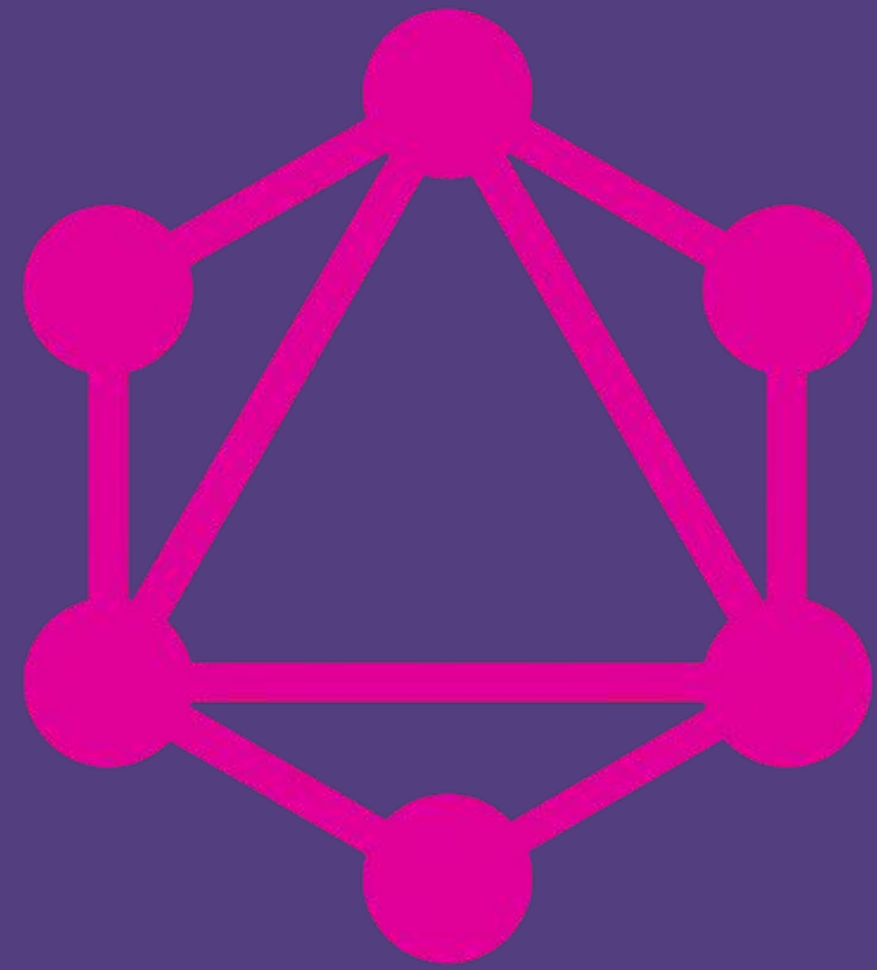
Semelhanças

Semelhanças

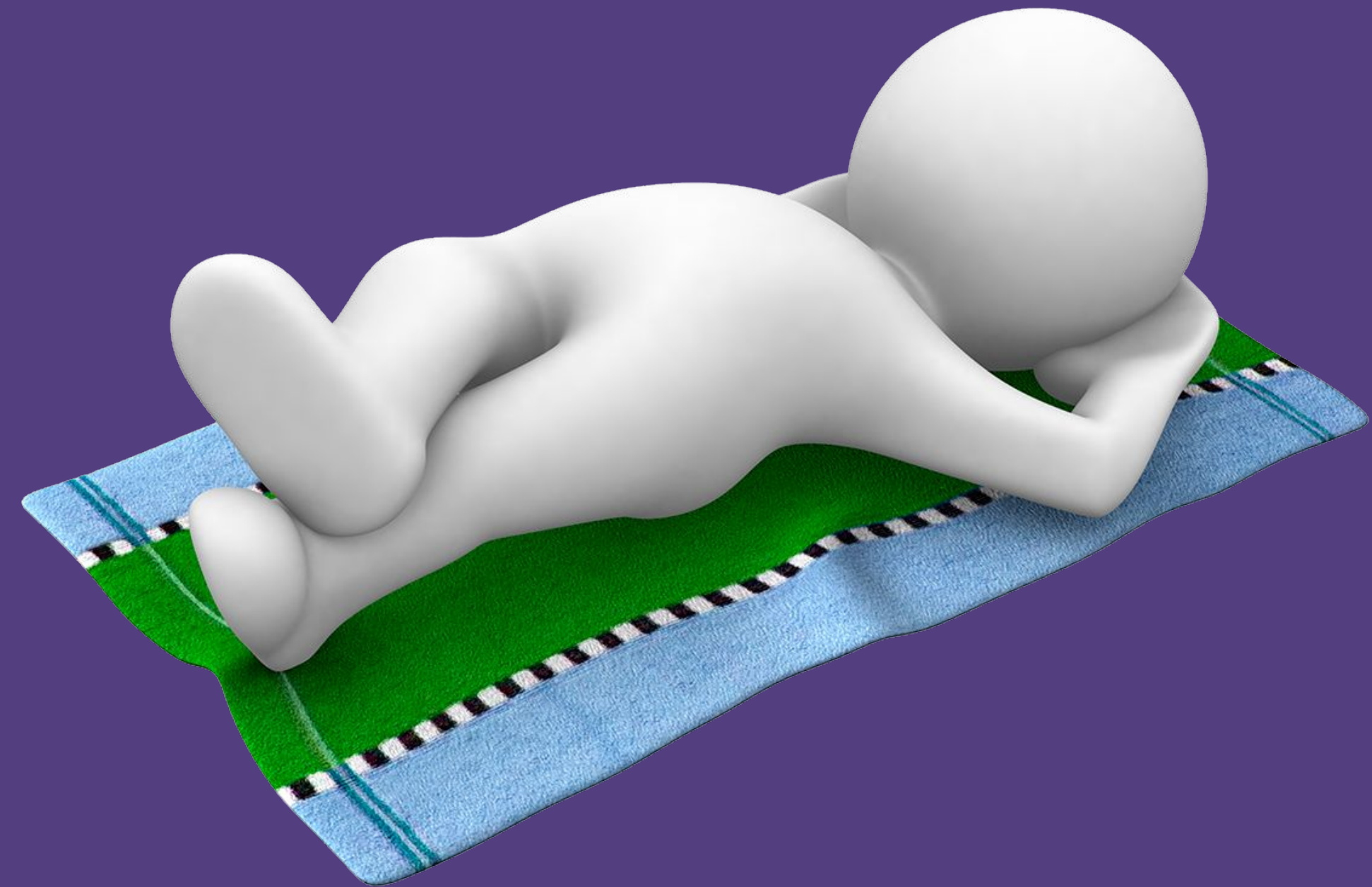


GraphQL

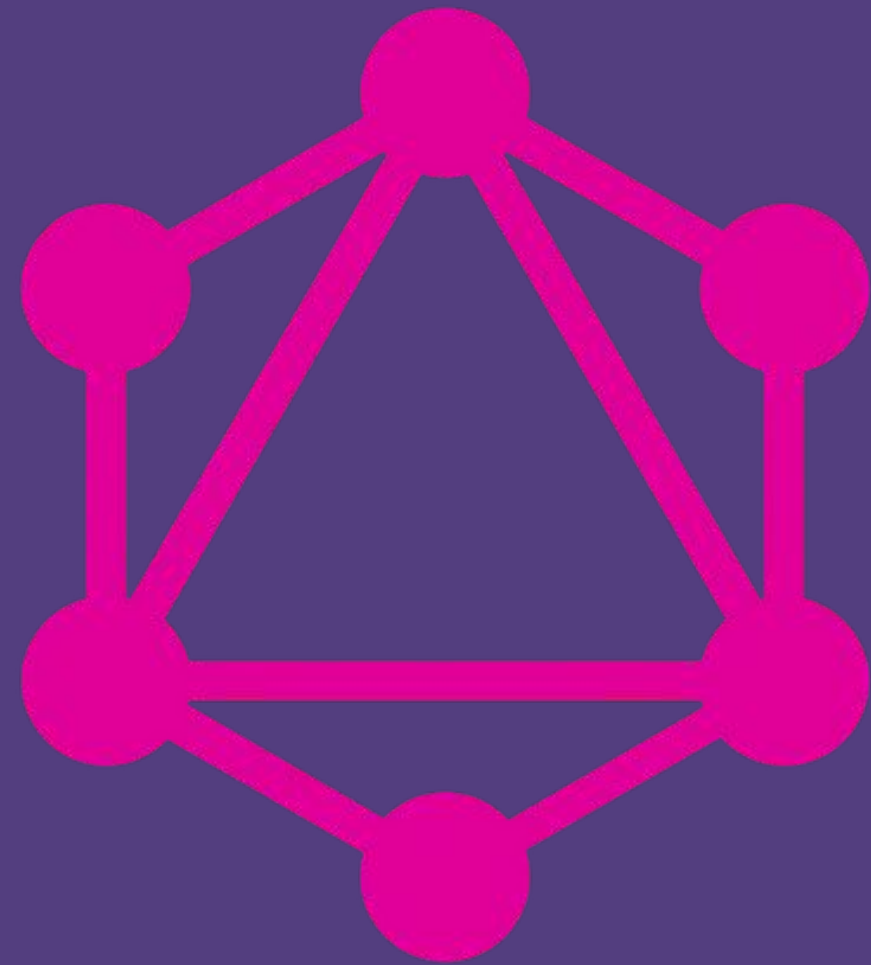
Semelhanças



GraphQL



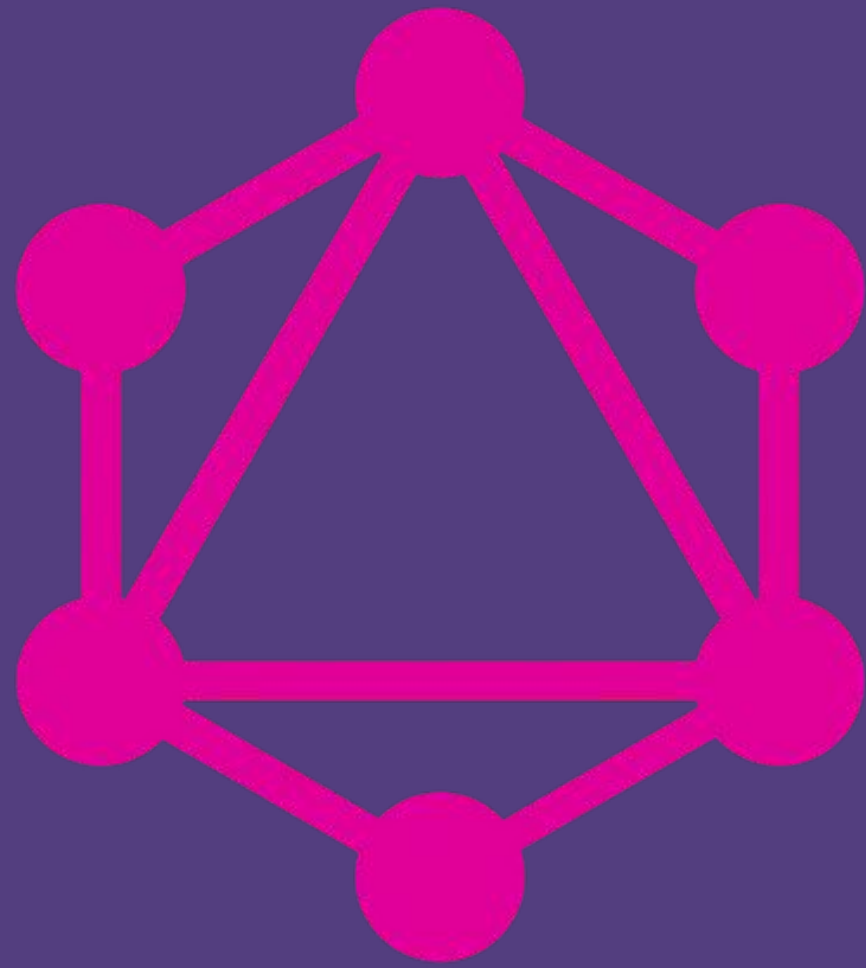
Semelhanças



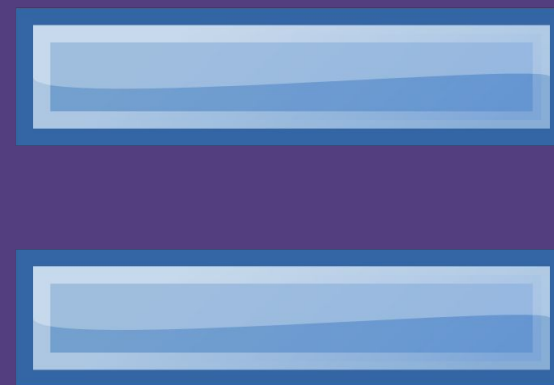
GraphQL



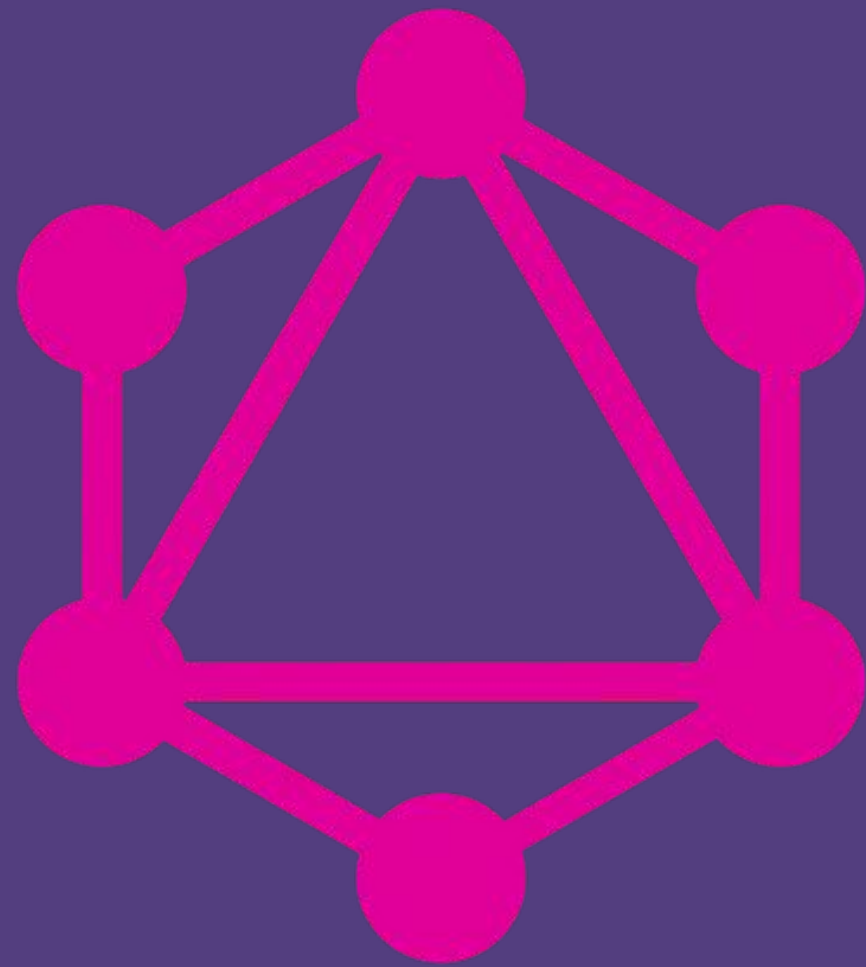
Semelhanças



GraphQL



Diferenças



GraphQL

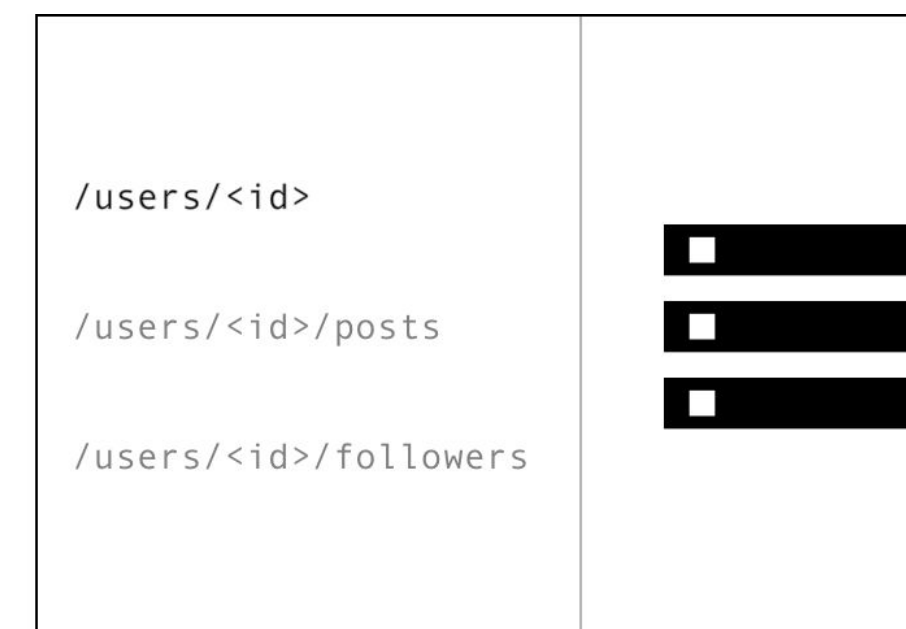
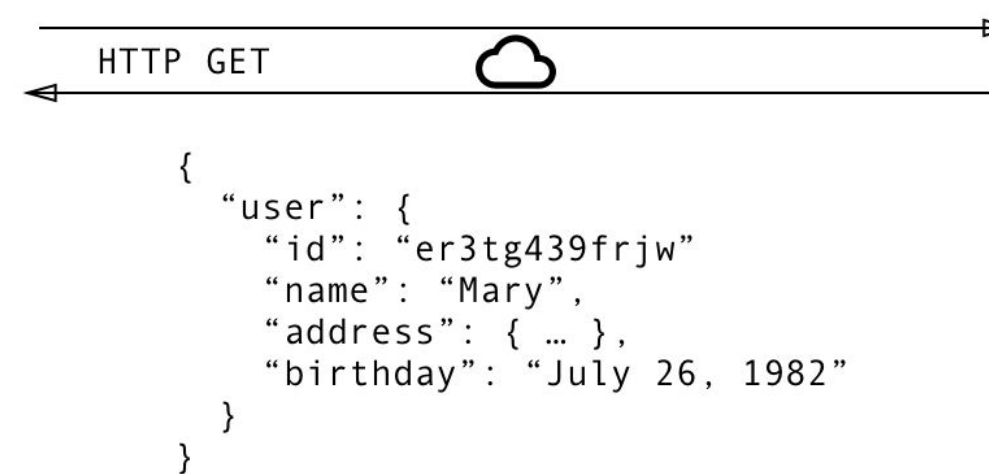
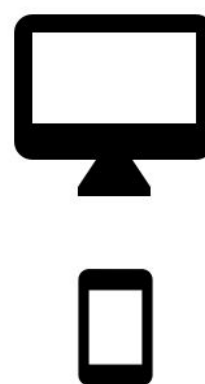


Os motivos da adoção do GraphQL

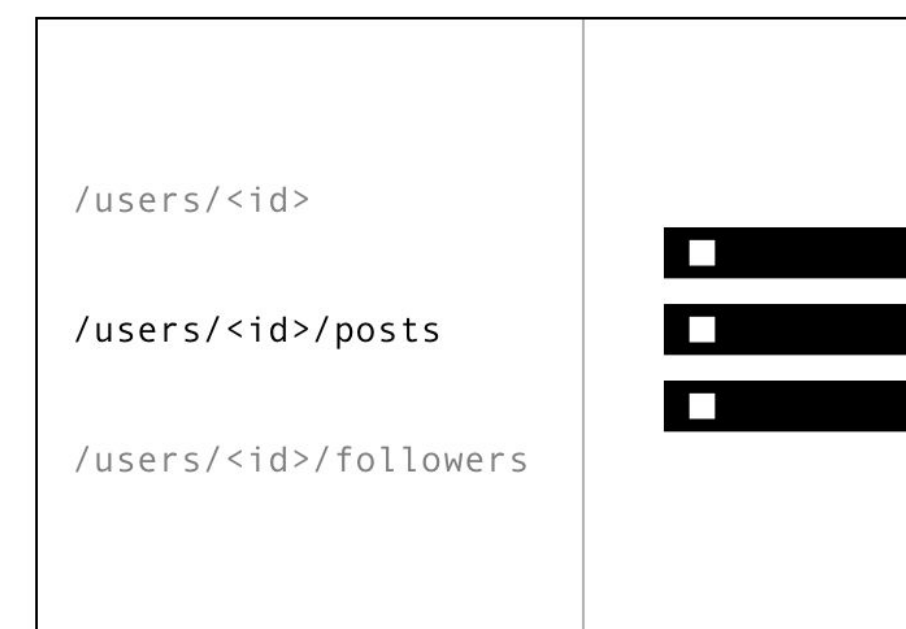
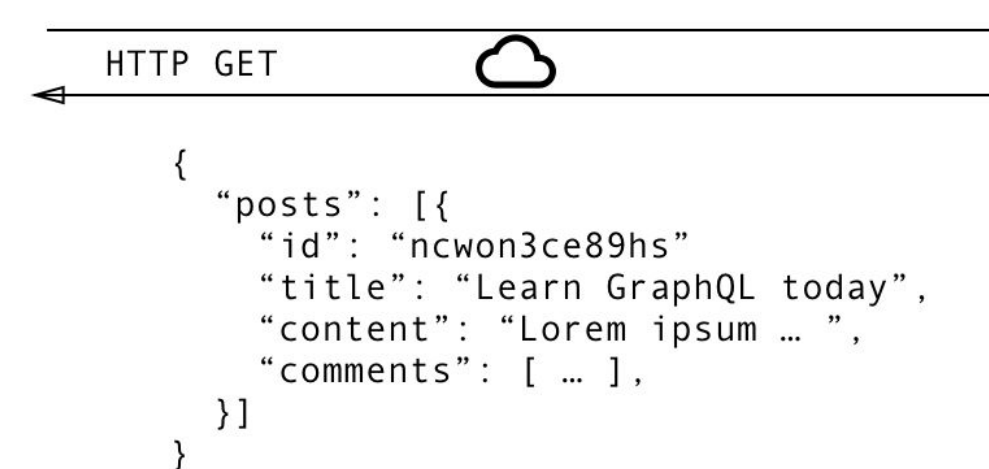
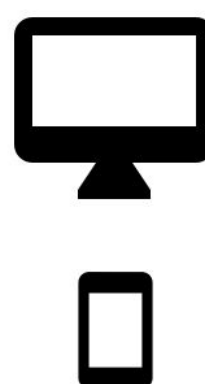
Problemas de OVER e UNDER fetching no REST

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

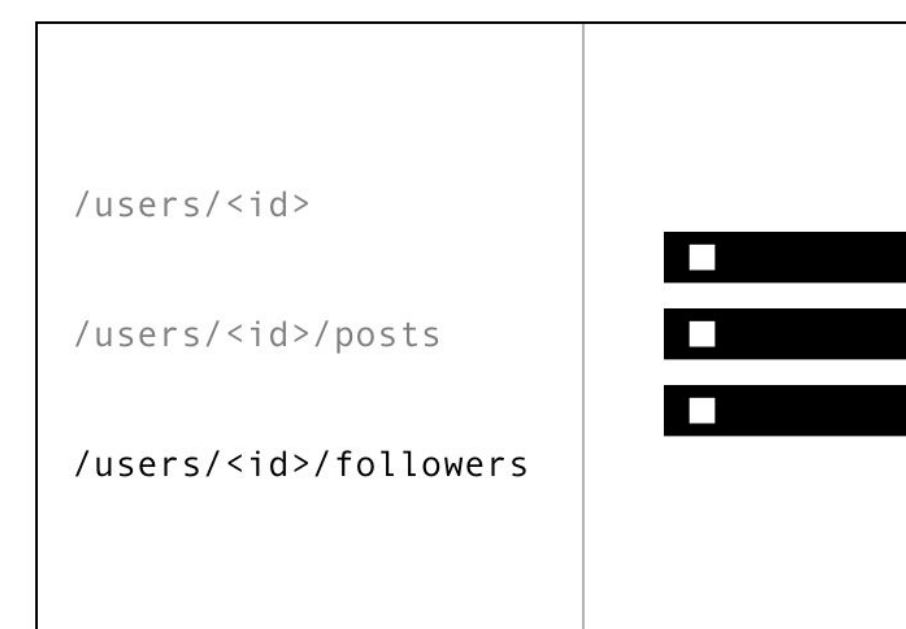
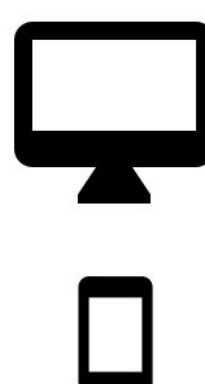
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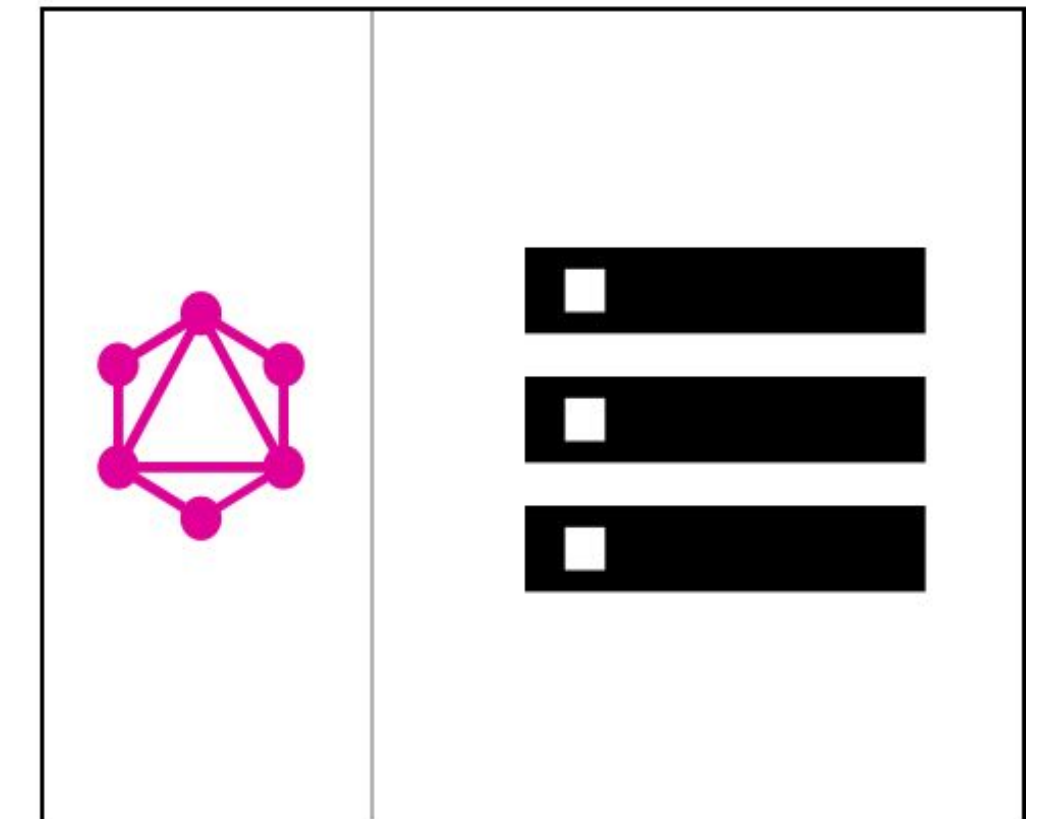
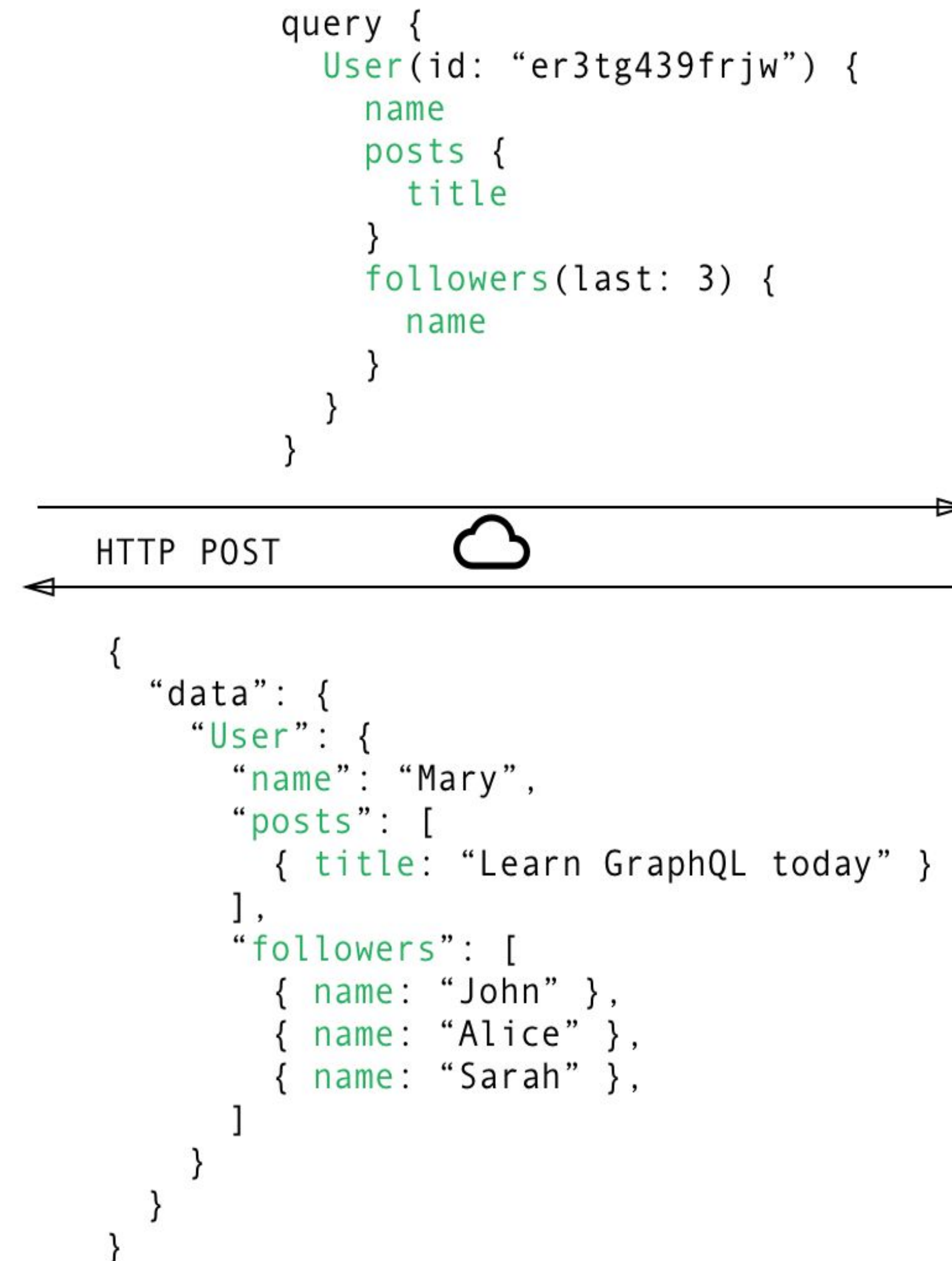
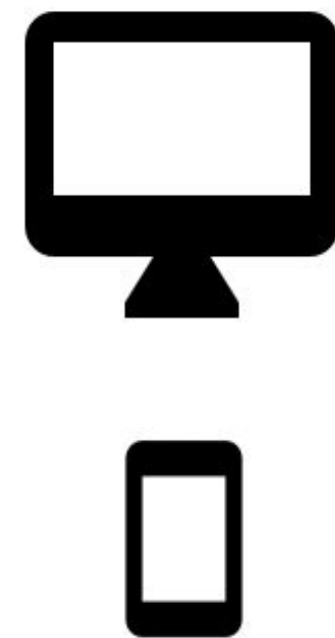


3



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 a GraphQL playground interface with the following components:

- Left Panel:** A sidebar with a tree view showing the project structure: `airbnb-app` (gateway, prod, dev), `database` (prod, dev), and a `+ NEW WORKSPACE` button at the bottom.
- Top Bar:** Includes tabs for `topExperiences` and `book`, a URL `https://airbnb.now.sh`, and buttons for `PRETTIFY`, `HISTORY`, `COPY CURL`, and `SHARE PLAYGROUND`.
- Query Editor:** Contains a GraphQL query:











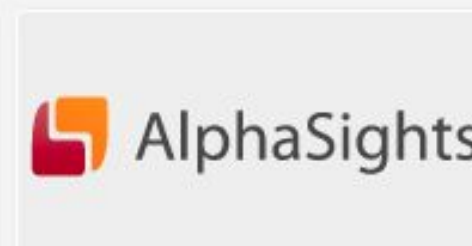





















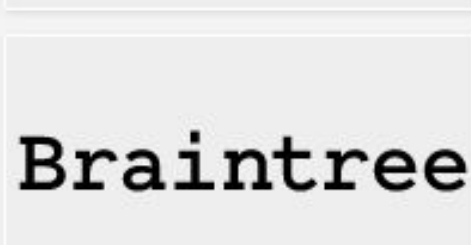







```
1 {
2   topExperiences {
3     id
4     category {
5       name
6     }
7     title
8   }
9 }
```
- Response Viewer:** Shows the JSON response after clicking the play button:

```
{
  "data": {
    "topExperiences": [
      {
        "id": "cja8e0vvg1b060156a13tucfd",
        "category": null,
        "title": "Raise a glass to Prohibition"
      },
      {
        "id": "cja8e32k81n5201515yyc35p9",
        "category": null,
        "title": "Raise a glass to Prohibition"
      }
    ]
  }
}
```
- Tracing Panel:** A table showing performance metrics for the request and its nested fields:





















Field	Time
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
- Bottom Bar:** Includes a `SCHEMA` button on the right and tabs for `QUERY VARIABLES` and `HTTP HEADERS (1)` on the left.


















Casos de uso do GraphQL

Quem anda utilizando?

 <p>Istdibs 1stdibs (adopter) 1stdibs Funding: \$253M</p>	 <p>99designs 99designs (adopter) 99designs Funding: \$45M</p>	 <p>adâyrô! Adayroi (adopter) A day roi Funding: \$4.4B</p>	 <p>airbnb Airbnb (adopter) Airbnb Funding: \$4.4B</p>	 <p>CircleHD CircleHD (adopter) CircleHD Funding: \$50K</p>	 <p>CLOVERLEAF Cloverleaf (adopter) Cloverleaf.me Funding: \$50K</p>	 <p>Club Med ClubMed (adopter) Club Med Funding: \$350K</p>	 <p>colectica Colectica (adopter) Colectica Funding: \$350K</p>
 <p>ALEMBIC Alembic (adopter) Alembic Funding: \$136M</p>	 <p>ALLOCINÉ Allocine (adopter) Allocine Funding: \$136M</p>	 <p>AlphaSights AlphaSights (adopter) AlphaSights Funding: \$136M</p>	 <p>Amplitude Amplitude (adopter) Amplitude Funding: \$136M</p>	 <p>commercetools CommerceTools (adopter) commercetools Funding: \$167.67M</p>	 <p>Compara Compara (adopter) ComparaOnline Funding: \$33.05M</p>	 <p>Conduit Conduit (adopter) Conduit Analytics Funding: \$33.05M</p>	 <p>CONFIGURE ONE Configure One (adopter) Configure One Funding: \$33.05M</p>
 <p>ANTS Ants (adopter) ANTS Funding: \$81.5M</p>	 <p>Appier Appier (adopter) Appier Funding: \$81.5M</p>	 <p>ArangoDB Arangodb (adopter) ArangoDB Funding: \$100.91M</p>	 <p>ARTSY Artsy (adopter) Artsy Funding: \$100.91M</p>	 <p>coursera Coursera (adopter) Coursera Funding: \$868M</p>	 <p>credit karma Credit Karma (adopter) Credit Karma Funding: \$868M</p>	 <p>curio Curio (adopter) Curio Funding: \$68.5M</p>	 <p>dailymotion DailyMotion (adopter) Dailymotion Funding: \$68.5M</p>
 <p>ATLASSIAN Atlassian (adopter) Atlassian MCap: \$30.76B</p>	 <p>attendify Attendify (adopter) Attendify Funding: \$2.1M</p>	 <p>Audi Audi (adopter) Audi Funding: \$4.89M</p>	 <p>bazinga! Bazinga! (adopter) bazinga! Technologies Funding: \$4.89M</p>	 <p>Directlyrics Directlyrics (adopter) Directlyrics Funding: \$107M</p>	 <p>Drift Drift (adopter) Drift Funding: \$107M</p>	 <p>DueDil DueDil (adopter) DueDil Funding: \$53.38M</p>	 <p>easy carros Easy Carros (adopter) Easy Carros Funding: \$311.23K</p>
 <p>Braintree Braintree (adopter) Braintree MCap: \$119.5B</p>	 <p>Buildkite Buildkite (adopter) Buildkite Funding: \$22.2M</p>	 <p>bynder Bynder (adopter) Bynder Funding: \$22.2M</p>	 <p>cheddar Cheddar (adopter) Cheddar Funding: \$54M</p>	 <p>ediket Ediket (adopter) Ediket Funding: \$12.93M</p>	 <p>eventOne eventOne (adopter) eventOne Funding: \$12.93M</p>	 <p>EXPERT 360 Expert360 (adopter) Expert360 Funding: \$566.98B</p>	 <p>FACEBOOK Facebook (adopter) Facebook MCap: \$566.98B</p>

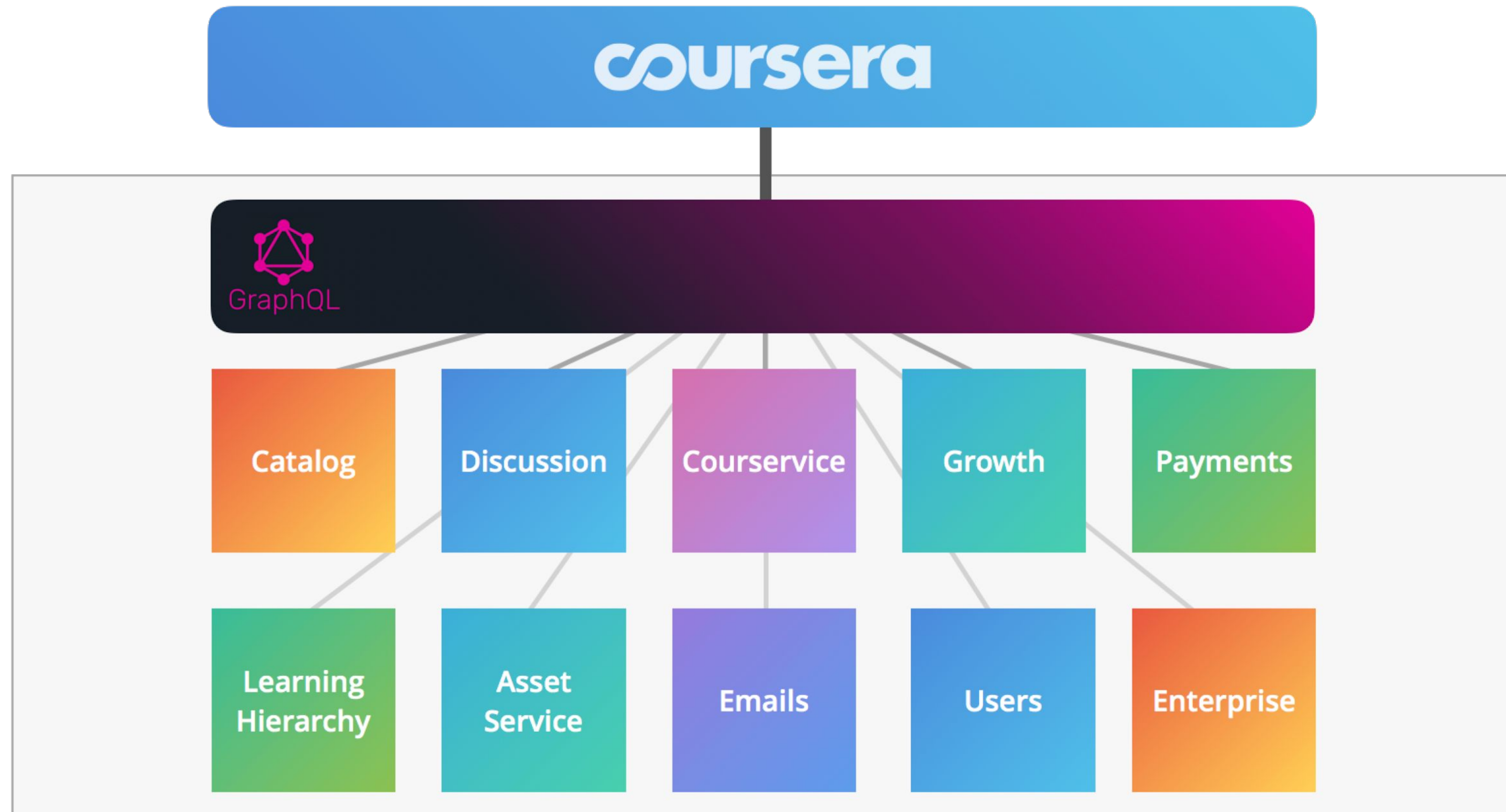
Quem anda utilizando?

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

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

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?

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?



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JSON Schema

NEW DRAFT PUBLISHED!

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

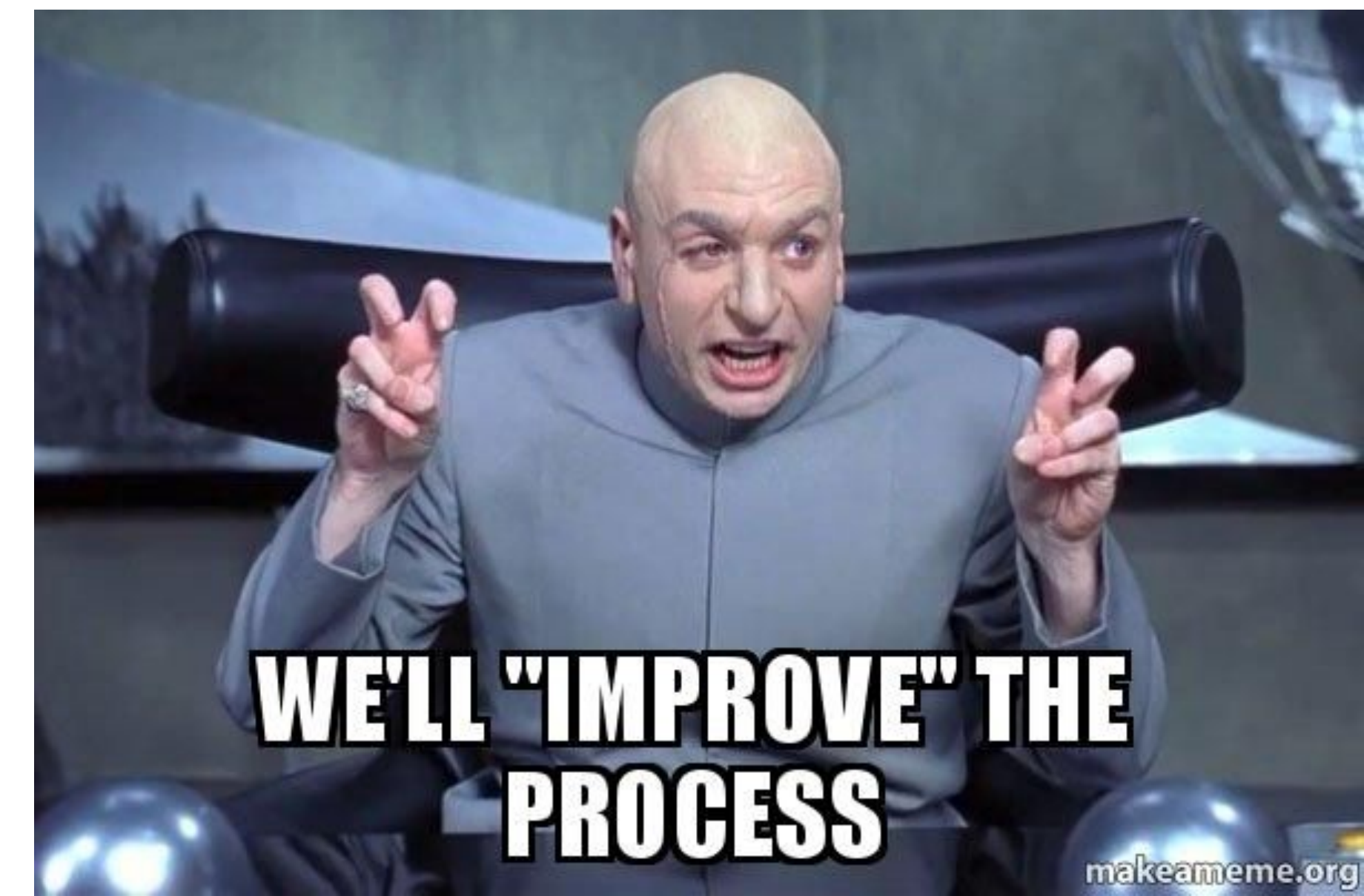
JSON Schema is a vocabulary that allows you to **annotate** and **validate** JSON documents.

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?



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graphql-slack.now.sh



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

you@yourdomain.com



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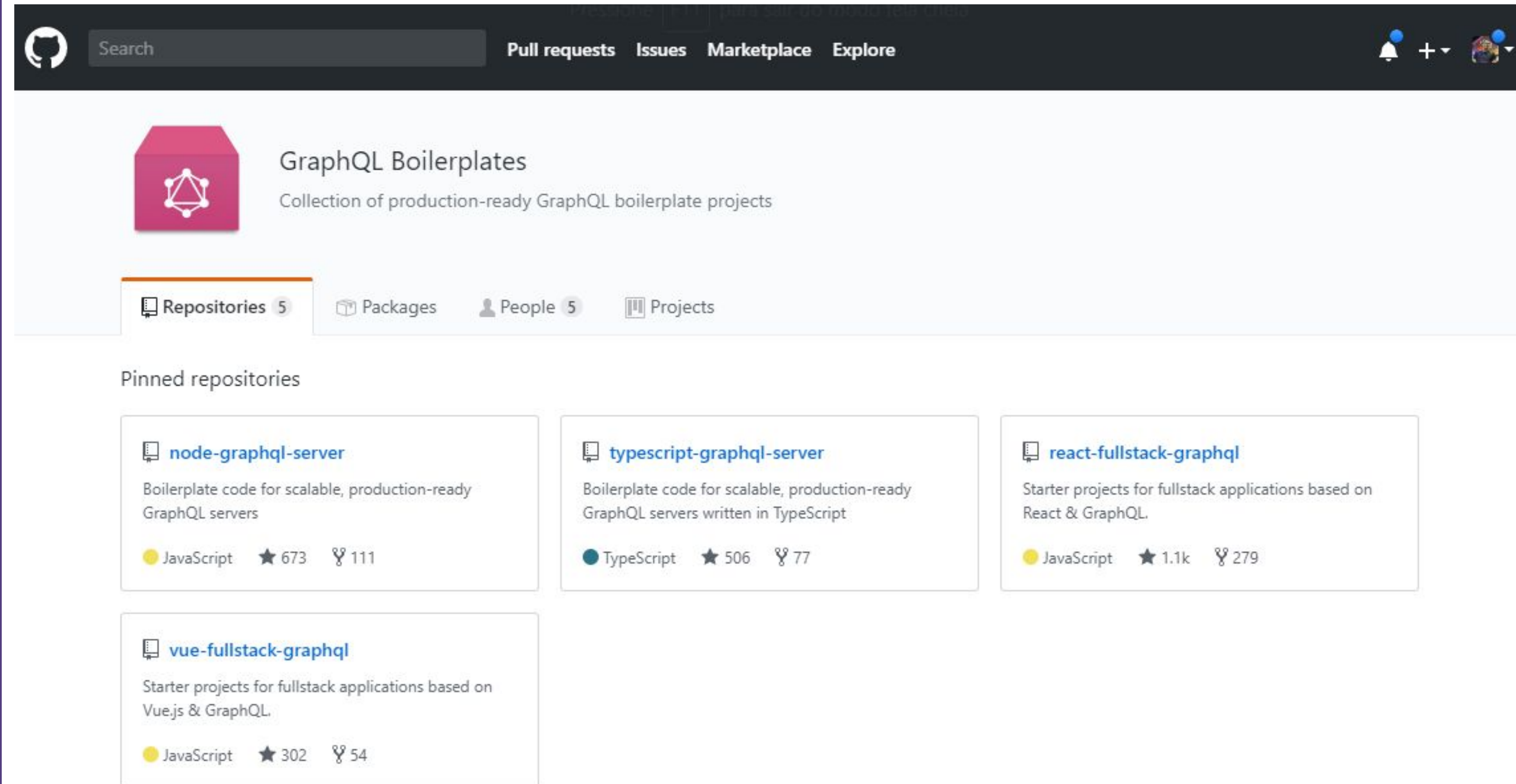
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Por onde começar

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The screenshot shows the GitHub repository page for 'graphql-boilerplates'. The repository is described as a 'Collection of production-ready GraphQL boilerplate projects'. It features four pinned repositories:

- node-graphql-server**: Boilerplate code for scalable, production-ready GraphQL servers. JavaScript, 673 stars, 111 forks.
- typescript-graphql-server**: Boilerplate code for scalable, production-ready GraphQL servers written in TypeScript. TypeScript, 506 stars, 77 forks.
- react-fullstack-graphql**: Starter projects for fullstack applications based on React & GraphQL. JavaScript, 1.1k stars, 279 forks.
- vue-fullstack-graphql**: Starter projects for fullstack applications based on Vue.js & GraphQL. JavaScript, 302 stars, 54 forks.

Por onde começar

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- Quais exemplos eu posso me inspirar?
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Apollo GraphQL

APOLLO

Apollo GraphQL
15.6K subscribers

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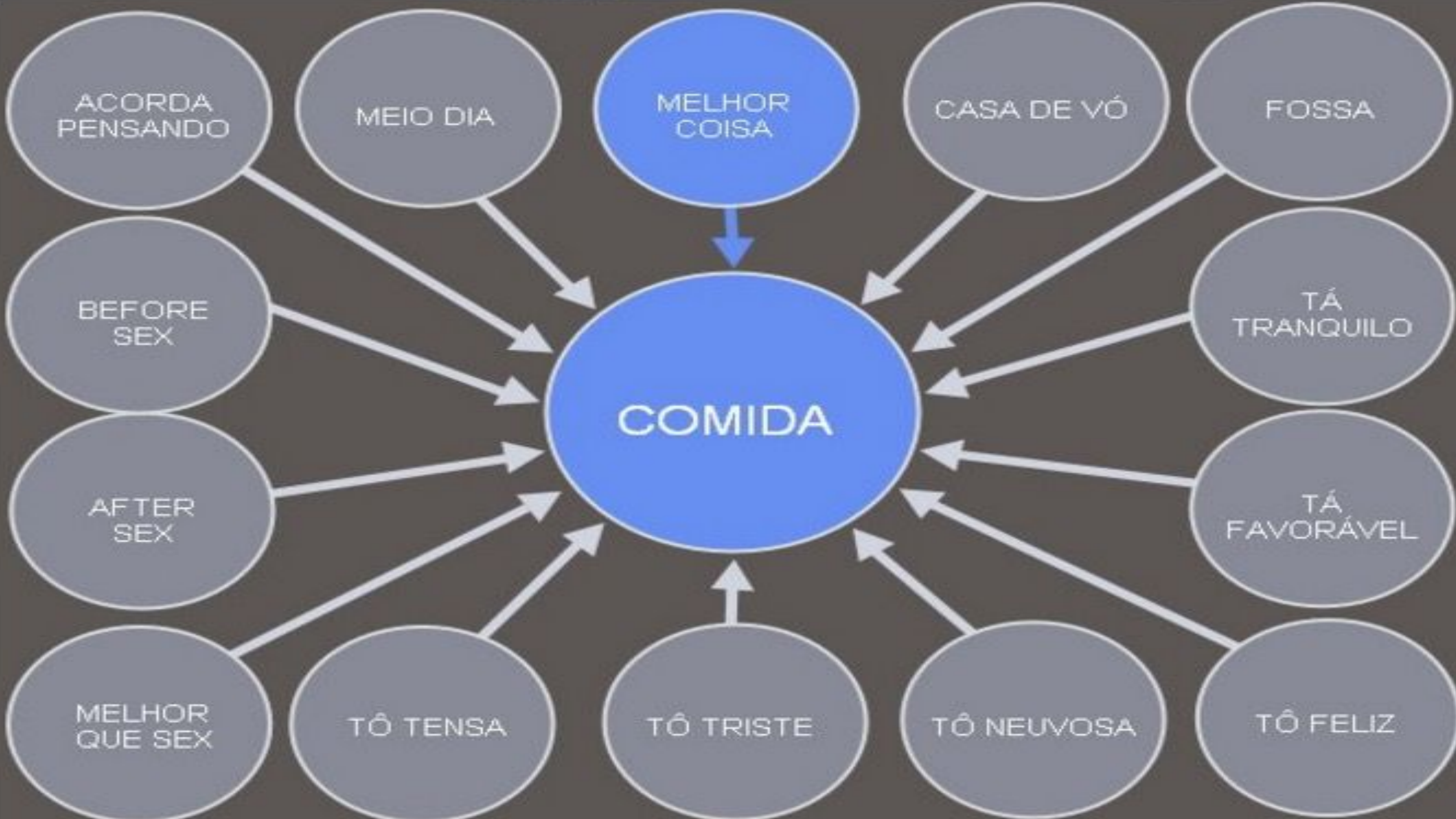
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Video Title	Views	Upload Date
Migrating Apollo's Data Graph from Schema stitching to...	518 views	2 weeks ago
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Fine Tuning Apollo Client Caching for Your Data Grap...	1.2K views	3 weeks ago
How We Scaled GraphQL at New York Times (JAMES...)	947 views	3 weeks ago
Migrating to Apollo + GraphQL at Airbnb (BRIE...)	1.4K views	3 weeks ago



Conclusão





Duvidas?

Obrigado!

concrete



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NÓS MOVEMOS O MUNDO.

RJ

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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>