



Open source with Haskell

Marion Schleifer
@rubydwarf

My job...

Developer Experience Engineer



HASURA

In my free time...



On weekends...



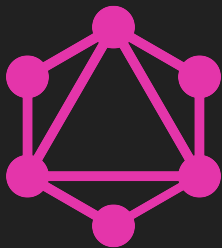
Remote speaker



Alexis King

@lexi_lambda

Agenda



GraphQL



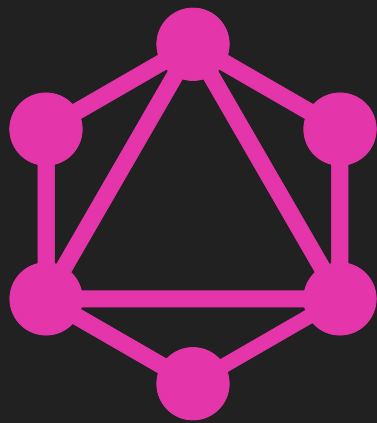
Build an API



**Server
architecture**

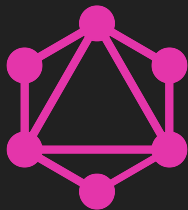


Contribute



GraphQL

GraphQL



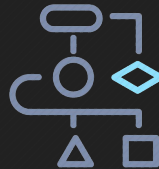
**Typed query
language**



One endpoint



**Nested
resources**



Workflow



**Get exact
results**

Describe your data

```
type Project {  
  name: String  
  tagline: String  
  contributors: [User]  
}
```

Describe your data

```
type Project {  
  name: String  
  tagline: String  
  contributors: [User]  
}
```

Ask for what you want

```
{  
  project(name: "GraphQL") {  
    tagline  
  }  
}
```


Describe your data

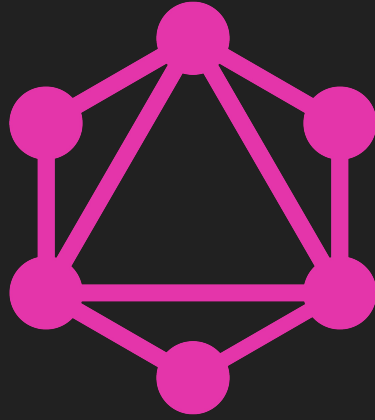
```
type Project {  
  name: String  
  tagline: String  
  contributors: [User]  
}
```

Ask for what you want

```
{  
  project(name: "GraphQL") {  
    tagline  
  }  
}
```

Get predictable results

```
{  
  "project": {  
    "tagline": "A query language for APIs"  
  }  
}
```



REST vs. GraphQL

REST vs. GraphQL

REST

- Endpoint for every resource (chaining)
- Different HTTP methods (GET, POST etc.)
- Overfetching / underfetching

GraphQL

- One endpoint
- Always POST request
- Get only needed data

In late 1981, Albus Dumbledore, Minerva McGonagall, and Rubeus Hagrid, professors of Hogwarts School of Witchcraft and Wizardry, deliver a recently orphaned infant named Harry Potter to his only remaining relatives, the Dursleys.

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Harry Potter spends the summer with The Dursleys without receiving letters from his Hogwarts friends. In his room, Harry meets Dobby, a house-elf who warns him of a peril that will take shape if he returns to Hogwarts. Dobby reveals that he intercepted his friends' letters.

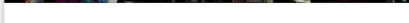
[READ MORE](#)

Harry Potter has been spending another dissatisfying summer with The Dursleys. When Harry's Aunt Marge insults his parents, he loses his temper and silently wills her to bloat up and float away. Fed up, Harry then flees the Dursleys with his luggage.

[READ MORE](#)



<https://localhost:3000/movies>





<https://localhost:3000/movies/5/characters>

Harry Potter Actors



Daniel Radcliffe

Daniel Jacob Radcliffe was born on July 23, 1989 in Fulham, London, England, to casting agent Marcia Gresham (née Jacobson) and literary agent Alan Radcliffe. His father is from a Northern Irish Protestant background, while his mother was born in South Africa, to a Jewish family

[READ MORE](#)



Evanna Lynch

Evanna Patricia Lynch is an Irish actress. Born in the town of Termonfeckin in Ireland, she is one of four children to Donal and Marguerite Lynch. Her acting career began in 2007 when she competed in an open audition against nearly 15,000 girls, and won the coveted role of Luna Lovegood

[READ MORE](#)



Alan Rickman

Alan Rickman was born on a council estate in Acton, West London, to Margaret Doreen Rose (Bartlett) and Bernard Rickman, who worked at a factory. He had English, Irish, and Welsh ancestry. Alan had an older brother David, a younger brother Michael and a younger sister Sheila.

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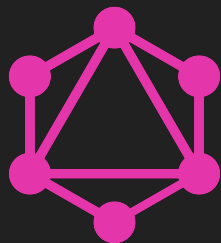


<https://localhost:3000/movies/5/characters/2/actors>



Hasura

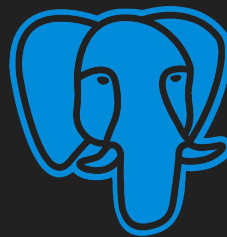
Hasura



Realtime
GraphQL API



Open source



Postgres

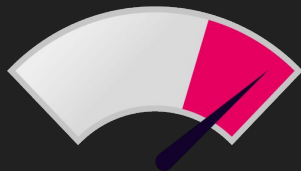


Haskell

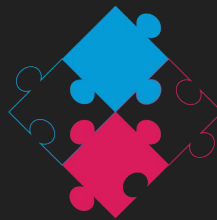
The goals are to have...



**Low
latency**



**High
throughput**



**Light on
resources**

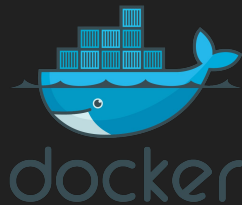
Features



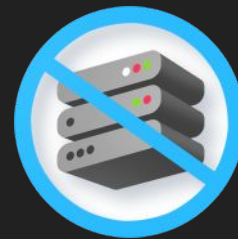
Authentication



Authorization



Data security



Business logic

Demo



Server architecture



Alexis King

@lexi_lambda



Contribute



We're hiring Haskell engineers



Thank you

@rubydwarf

hasura.io

github.com/hasura/graphql-engine