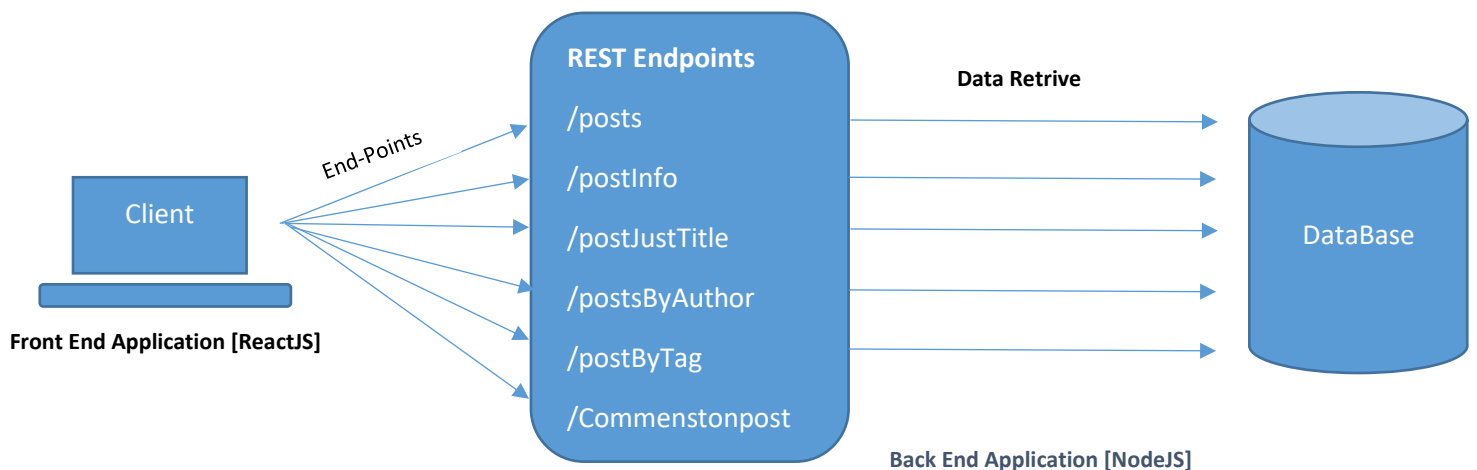


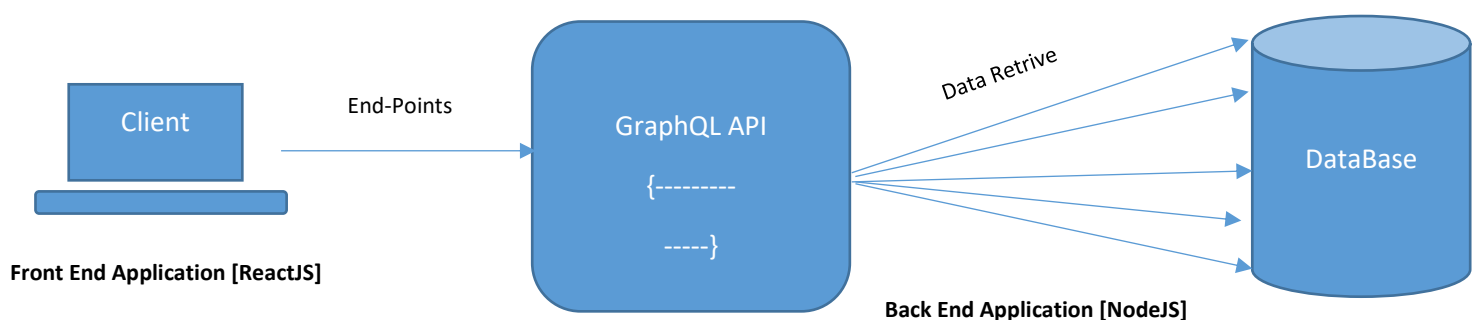
Graph Query Language.

- GraphQL is a query language for APIs and a runtime for fulfilling those queries with your existing data
- A GraphQL query is a string that is sent to a server to be interpreted and fulfilled, which then returns JSON back to the client.
- Client decides what data to receive not the server like in REST
- Schema based
- Developed by Facebook in 2012
- Open sourced in 2005

Traditional Method



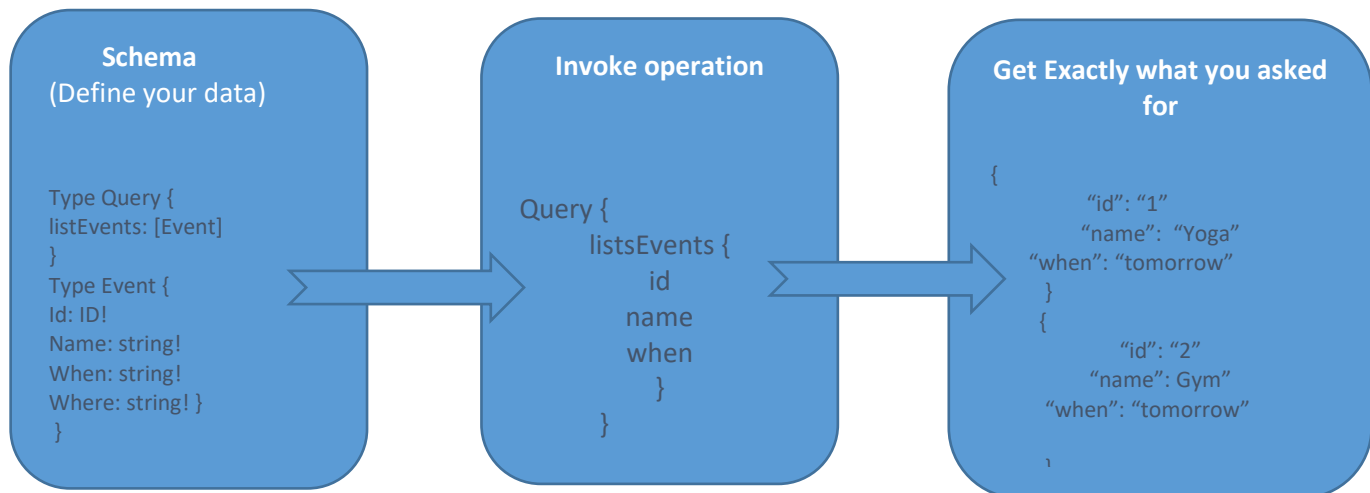
GraphQL Method



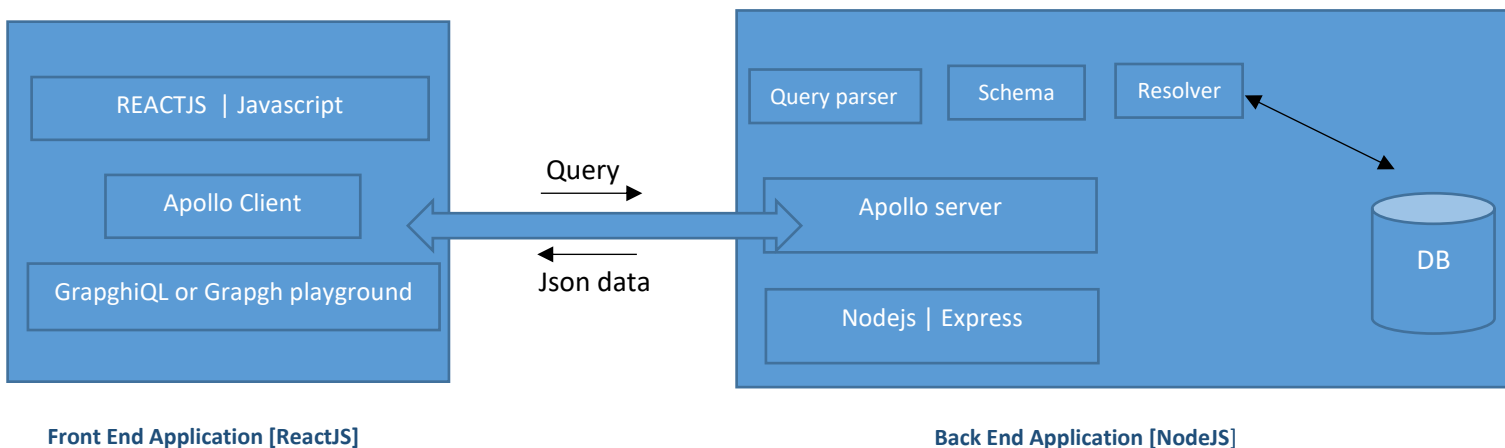
GraphQL Operations



How to use GraphQL?



Architecture



Queries : Read data

Mutation : Create, update & delete the data

Subscription: Real time data fetch

Schema: Defines server API

Resolver: Executes Schema

Apolo: Platform for GraphQL API

Companies using Apolo : ,

- **Airbnb**
- **Twitch T**
- **The New York Times**
- **KLM, Medium**

Who Using GrapghQL ?

FACEBOOK	TWITTER	PAYPAL
GIT-HUB	SHOPIFY	COURSERA
THE NEW YORK TIMES	STACKSHARE	STARTBUCKS
MICROSOFT	YELP	CIRCLECI

Available Tools in the market

GrapghQL Servers	GrapghQL Client	GrapghQL IDE
Apolo server	Apolo client	GraphiQL
Prisma	Relay	Grapgh-Playground
Grapghql Yoga		

AWS service for Grapghql : **AWS Appsync**

Query and Data Modification Operations : 4\$ per million query & data modification

Real Time updates : \$2.00 per million Real-time Updates & \$0.08 per million minutes of connection to the AWS AppSync service

Caching : Based on instance type

GRAPHQL VS REST API

CONSTRAINT	REST API	GRAPHQL
Endpoints	Multiple [get/users,post/product,..]	Single [post /grapghql]
Data	Over/under fetching	Fetch exactly what we need
Error handling	Starightforward	Error handling complecated
Cacheable	Yes	No
Code on demand	Yes	No
Basic operation	Get post put delete	Query mutation subscription
Security	Schema Exposed	Schema not Exposed
Scalabilty	Yes	No
Portalbility	Yes	Yes
Consistency	No	Yes
Ease of server/client development	No	Yes
Active community	Limited	Large
Network Performance	Low	High
Data Speed	Faster	Slow
Who using it ?	Netflix, zalando, eyasys	Facebook, twitter, github