Apollo Federation with Subscription Service

Problem Space ?

What are we trying to solve with Apollo Federation ?

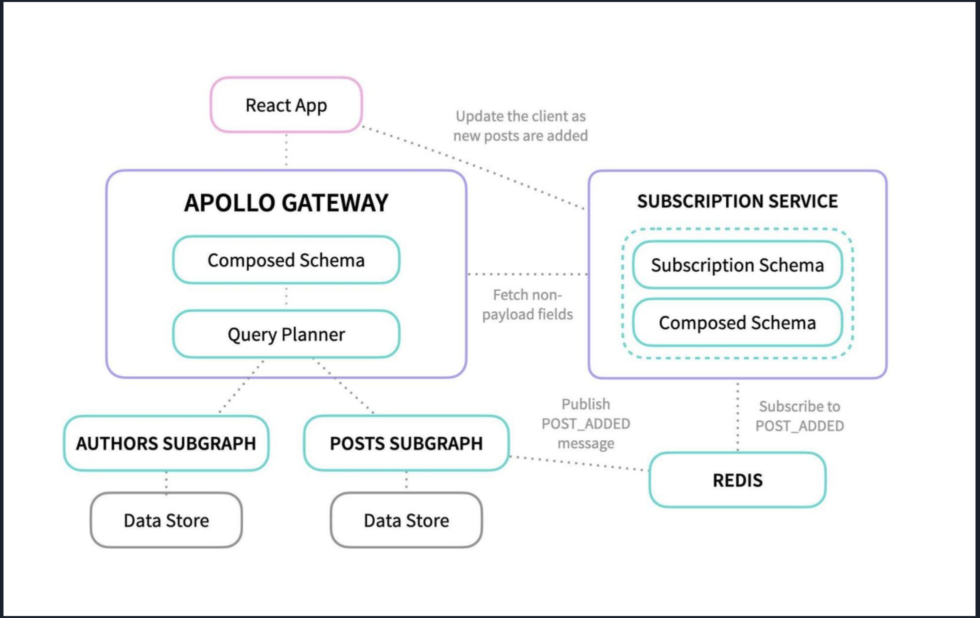
- Smaller connected microservices vs. large monolithic services.
- Consuming developers able to use a familiar graphql query language without trying to piece together where the data lives
- Need for real-time subscription / web socket support

Players in this demo

- User Service - users are stored in their own database, and have their own endpoint/resolvers.
- Post Service - posts are stored in their own database, yet need to know who created the post.
- Gateway Service - the gateway provides a single endpoint for the consumers - this is the federation service
- Subscription Service - apollo federation does not support subscriptions, but we want to have push notifications to the UI.   Redis is the glue.
- ReactApp - consumer of the above services

In an environment like Techscout - posts could represent the Techscout API, or a Techplan API, etc… yet they all need access to the users of the system

Architecture Diagram



Reference: https://www.apollographql.com/blog/backend/federation/using-subscriptions-with-your-federated-data-graph/

How to run the demo

The entire demo can be run with the docker-compose file. A make file is included. The databases used are just sqlite to reduce more database instantiation.

Alternatively you can start each piece individually. Start order is:
1. Post service
2. User service
3. Gateway service
4. Subscription service
5. React App

Each service can be started by going to the directory and typing 'npm start'

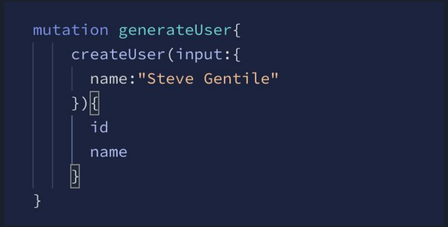
A default user is required to run the application. After everything is started you can goto the gateway apollo playground and add a user:

http://[::1]:4002/api

Run the following mutation:

```
mutation generateUser{

  createUser(input:{
    name:"Steve Gentile"
  }){
    id
    name
  }
}
```



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