Intro to GraphQL: Syllabus

January 13, 2020 / 9:00 PM - 10:30PM EST

Important Links

Workshop Hackpack

Pre-workshop checklist, and resources to explore during and after the workshop.

Hack the North 2020++ Event Schedule

Check this out to stay up-to-date on activities, workshops, and other key happenings this weekend.

Motivator

You've been working with REST APIs for a while now, and you're sick of it. Data fetching is difficult, you can't specify what data you need, adding on features feels tacky... it feels wrong. This is where the future of networking architecture lies: GraphQL! In this workshop, you'll learn what all the hype surrounding this graph-based query language is about, and even how to build hyper scalable APIs using its awesome new data constructs!

Prerequisite Knowledge

In order to get the most out of this workshop you should be comfortable with the following concepts:

- Basic Node & Git commands
- Typescript (you should be very familiar with this language, or any other statically typed language. Typescript is of particular interest, because that's what we'll be building our API in).

Learning Outcomes

This is what you will walk away from the workshop able to do:

- Use a GraphQL API to extract & mutate rich data
- Use fragments & Query Variables to ensure scalable querying
- Create a GraphQL API using the Resolver Architecture

Timeline (1.5 hour)

Time	Module	Description
5 min.	Workshop Introduction	Going through what the workshop will entail, the breakdown of all the different necessities, and introducing myself!
20 min.	Introduction	What is GraphQL? How can we break down the hype behind it? What's the difference between this and REST? Why might we pick one over the other?
25 min.	Using GraphQL APIs	What are Queries & Mutations? How does the type system in GraphQL work? What does introspection mean, and how can we apply it to actually using a real-world API?
5 min.	Q&A / Break	Given the fact that this is an absolutely colossal workshop, we'll be taking a short break and taking some time out to answer any questions you might have about the structure of the GraphQL SDL!
30 min.	Building a scalable GraphQL API	By this point, we'll have gone through all of the basics of the usage of GraphQL; in this section, we'll get into the second project, where we'll be building a full CRU API using Type-GraphQL and Apollo Server. We'll also be learning about how queries are parsed, and the resolver architecture behind APIs.
5 min.	Closing Remarks	Talking through what we've learned, further resources, how you can extend the project we built, and answering final questions!