AWS re:Invent

What are we going to build?

- Start from a plain react/react-native app

- Configure this app to use AWS Amplify

- Add user authentication

- Add backend

- Add authorization

All this in under 30 minutes and with a few keystrokes!

What do all applications need?

Development:

User Management & Authorization

Real-time APIs

Client SDK and Tooling

Deployment:

Multiple Environments

Hosting & CI/CD

Analytics

Amplify framework

Download and set up Amplify CLI

```
$ npm install -g @aws-amplify/cli

$ amplify configure
```

Download Amplify library

```
$ npm install aws-amplify

$ npm install aws-amplify-react/aws-amplify-angular/aws-amplify-vue
```

Amplify CLI makes project setup easy

```
$ amplify init              Initialize a project and environment

$ amplify add auth          Add an Amazon Cognito user pool

$ amplify add analytics     Create an Amazon Pinpoint endpoint

$ amplify add api           Provision an API and data infrastructure

$ amplify push              Deploy via AWS CloudFormation
```
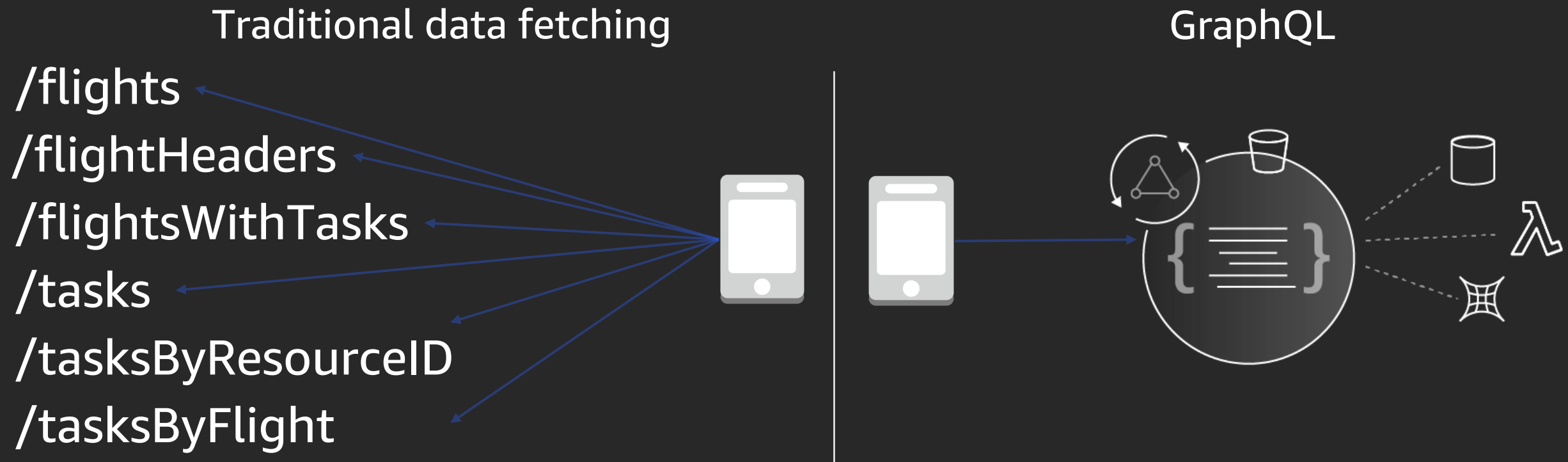
APIs for frontend systems

aws

APIs for frontend systems

- How to build an **API backend** for our frontend?

- Which **technology** should we use?

- How do we **authorize** the use of this API?

What is GraphQL?

- Open, declarative data-fetching specification
- != Graph database
- Use NoSQL, relational, HTTP, etc.

Traditional data fetching

/flights
/flightHeaders
/flightsWithTasks
/tasks
/tasksByResourceID
/tasksByFlight

GraphQL

A query language for APIs . . .

Queries

```
query GetPost {
  getPost(id: ”1”) {
    id
    title
  }
}
```
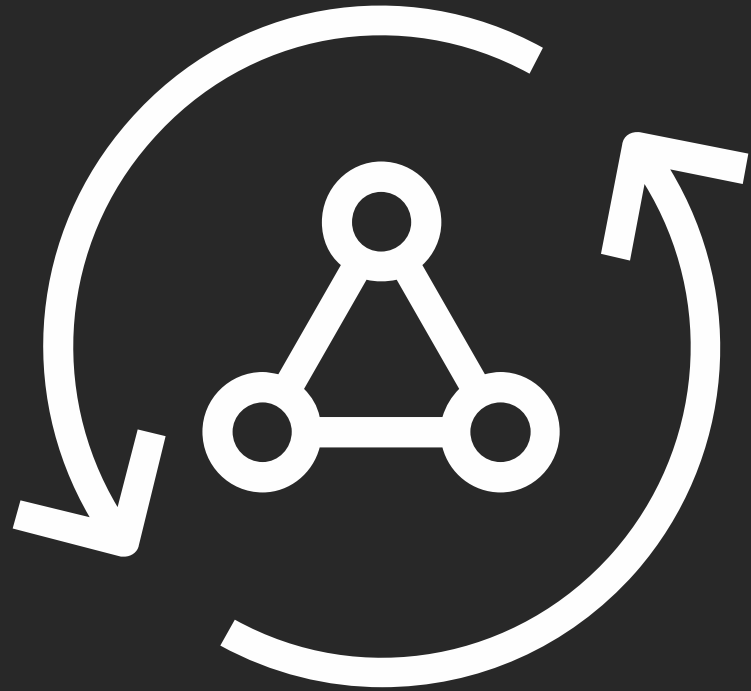
Mutations

```
mutation CreatePost {
  createPost(title: “TLV Summit”) {
    id
    title
  }
}
```

Subscriptions

```
subscription OnCreatePost
{
  onCreatePost {
    id
    title
  }
}
```
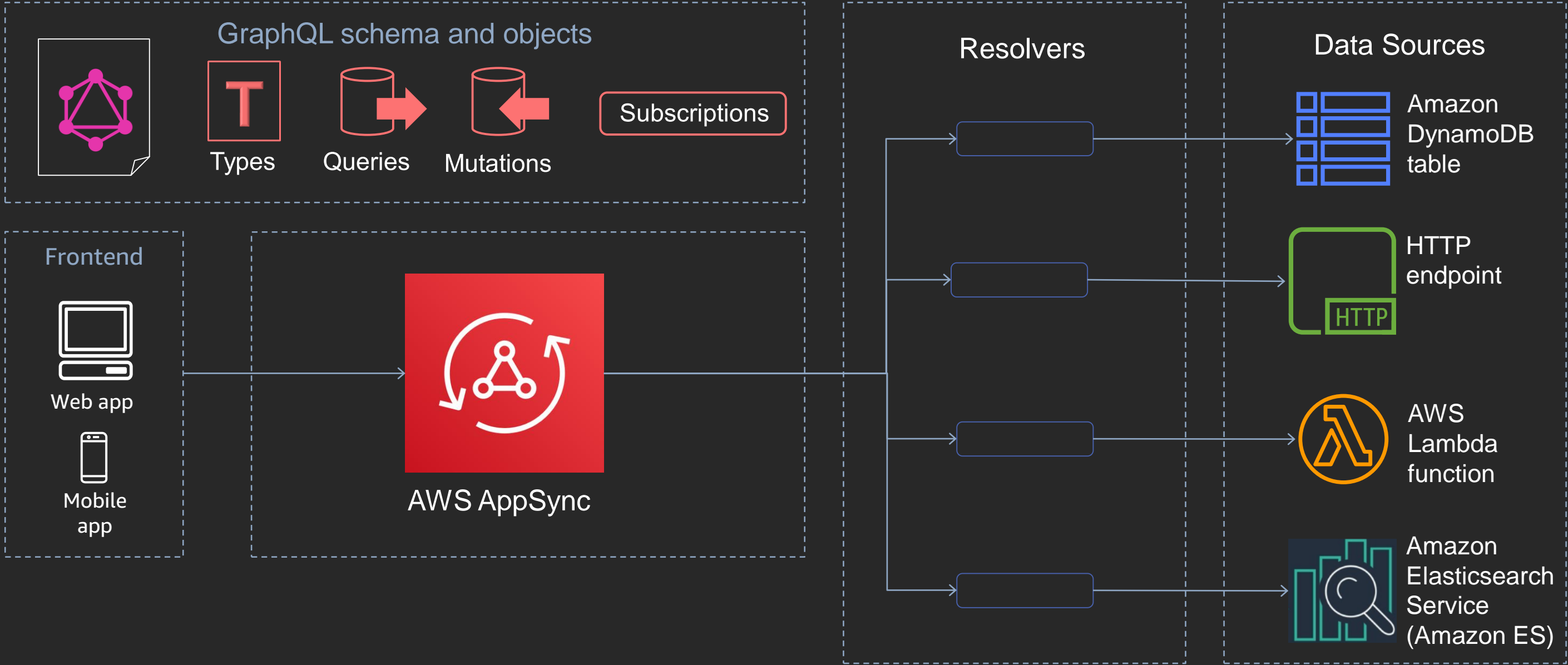
How does AWS AppSync work?

GraphQL schema and objects

Types

Queries

Mutations

Subscriptions

Frontend

Web app

Mobile app

AWS AppSync

Resolvers

Data Sources

Amazon DynamoDB table

HTTP endpoint

HTTP

AWS Lambda function

Amazon Elasticsearch Service (Amazon ES)

Key takeaways

- Focus on your business

- Consider GraphQL and AWS AppSync for your next API

- Use Amplify for rapid frontend and mobile development

- Get started:
https://amplify.aws

Community

- https://amplify.aws/community/
- https://awsappsync.dev
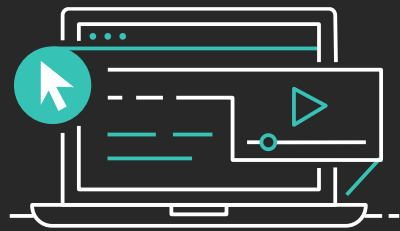- https://aws-amplify.github.io/
- https://github.com/aws-amplify

Let's build

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- Introduction to Serverless Development

- Getting into the Serverless Mindset

- AWS Lambda Foundations

- Amazon API Gateway for Serverless Applications

- Amazon DynamoDB for Serverless Architectures
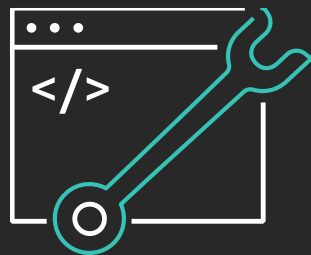
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Thank you!

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