
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

FWM312-R

Modernize web and mobile APIs with AWS AppSync GraphQL serverless patterns

Matt Coles

Principal Engineer
AWS

Aaron Sempf

Principal Solutions Architect
AWS

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Agenda

REST vs. GraphQL

A query language and a runtime

GraphQL: Operations

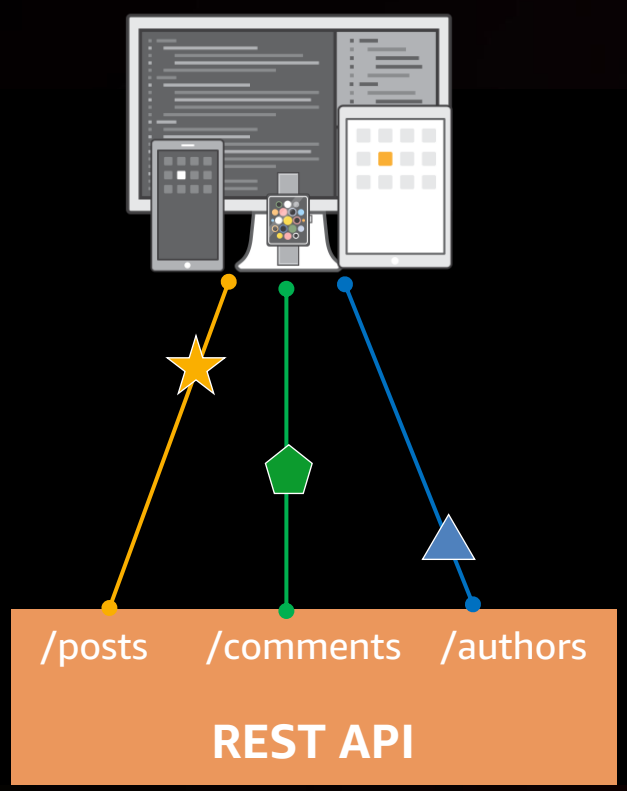
GraphQL: Request, resolve, response

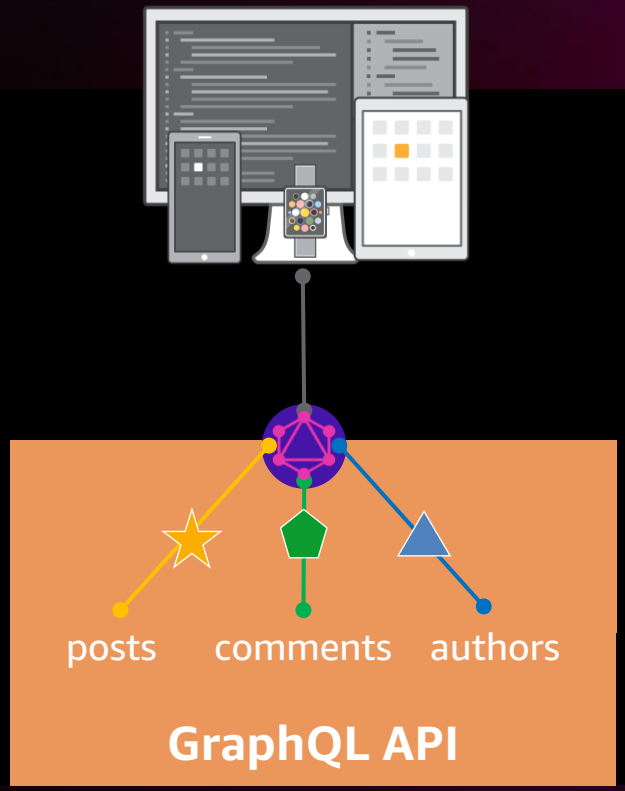
What is AWS AppSync?

Patterns with AWS AppSync

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

REST vs. GraphQL





aws
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

A query language for APIs … and a runtime

Model | Query | Result

GraphQL

Describe your data

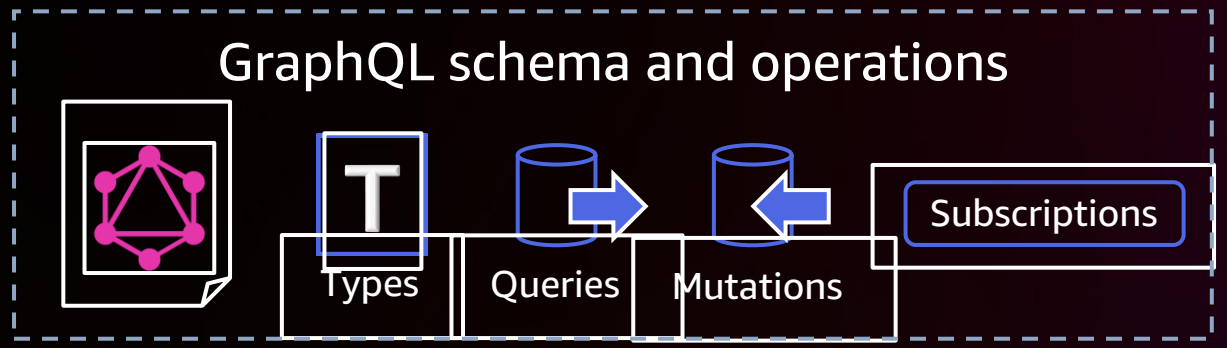
```
type Project {
  name: String
  tagline: String
  contributors: [User]
}
```

Ask for what you want

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

Get predictable results

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



aws

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

GraphQL: Operations

Queries

```
query GetPost {
  getPost(id: "1") {
    id
    title
    author
    date
  }
}
```

Mutations

```
mutation CreatePost {
  createPost(input: {…}) {
    id
    title
    author
    date
  }
}
```

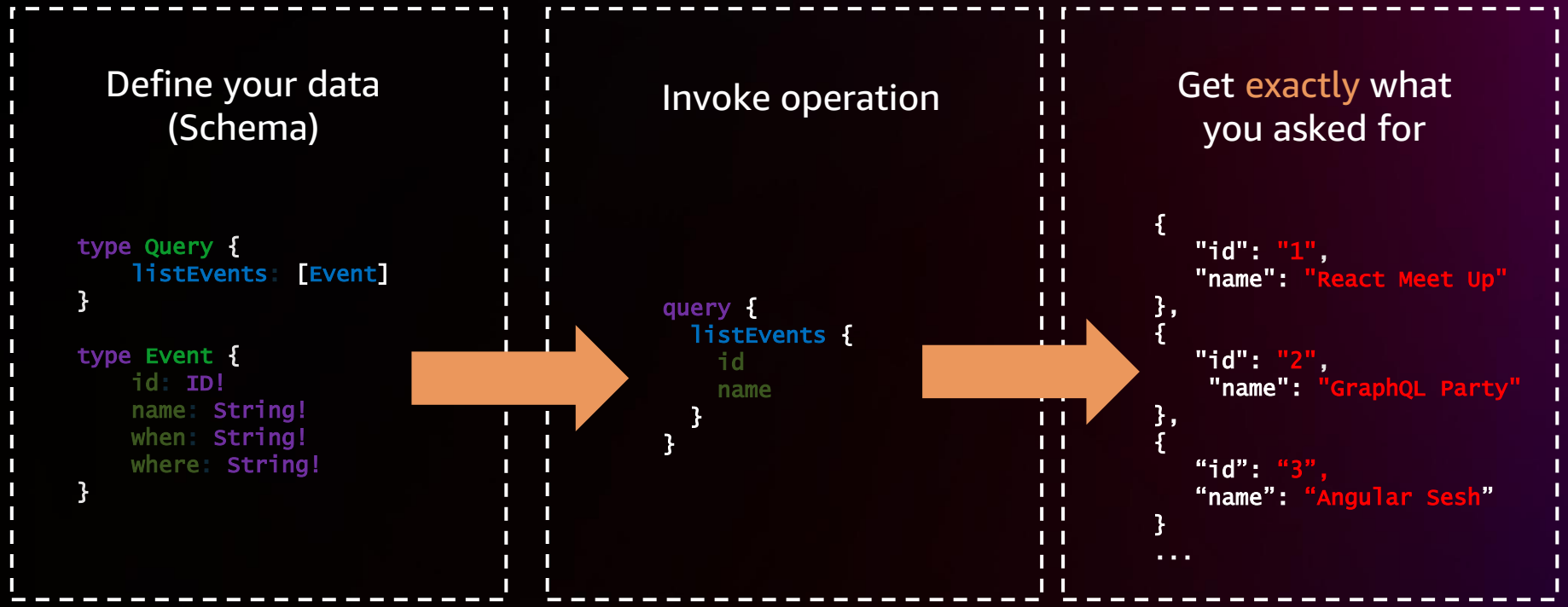
Subscriptions

```
subscription OnCreatePost {
  onCreatePost {
    id
    title
    author
    date
  }
}
```

aws

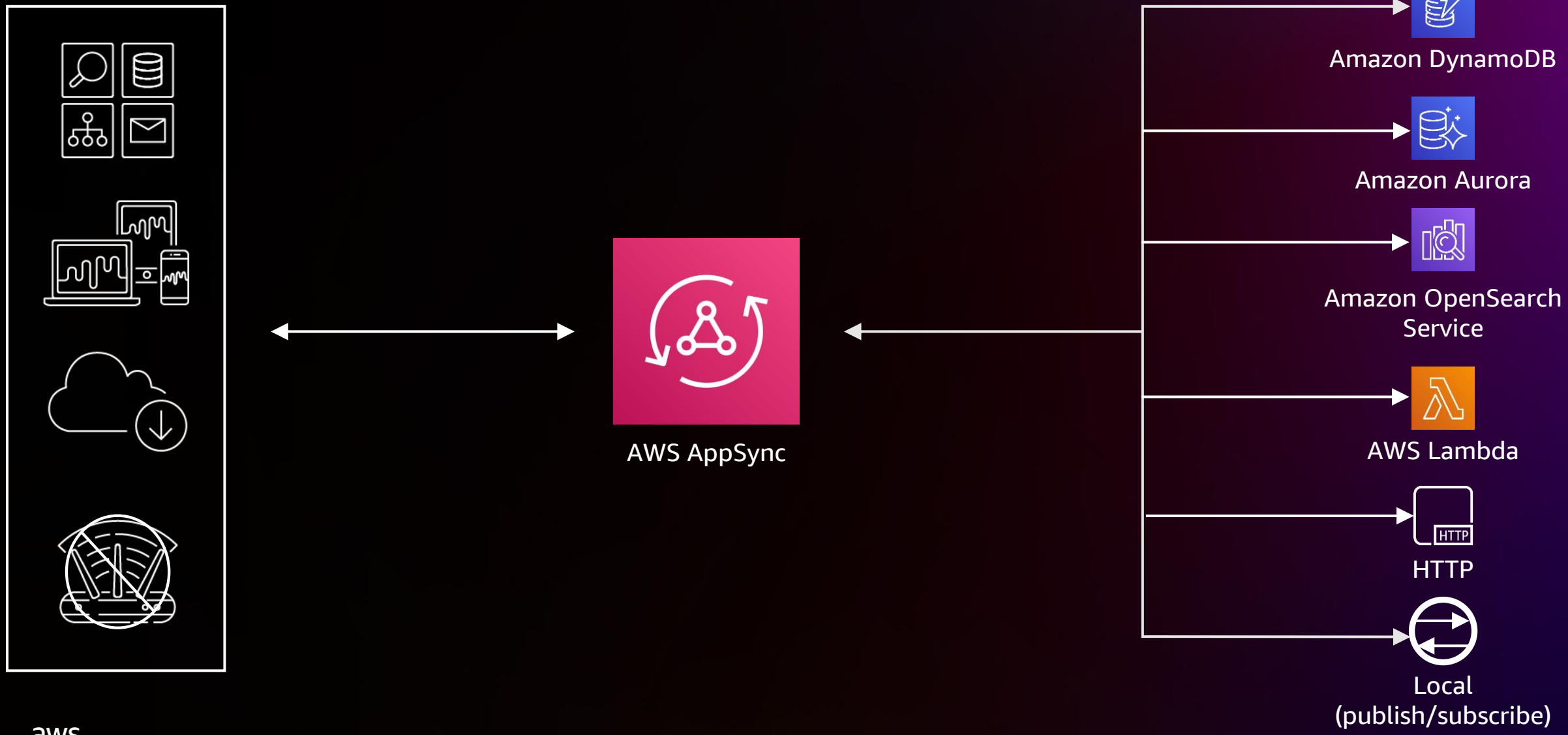
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

GraphQL: Request, resolve, response



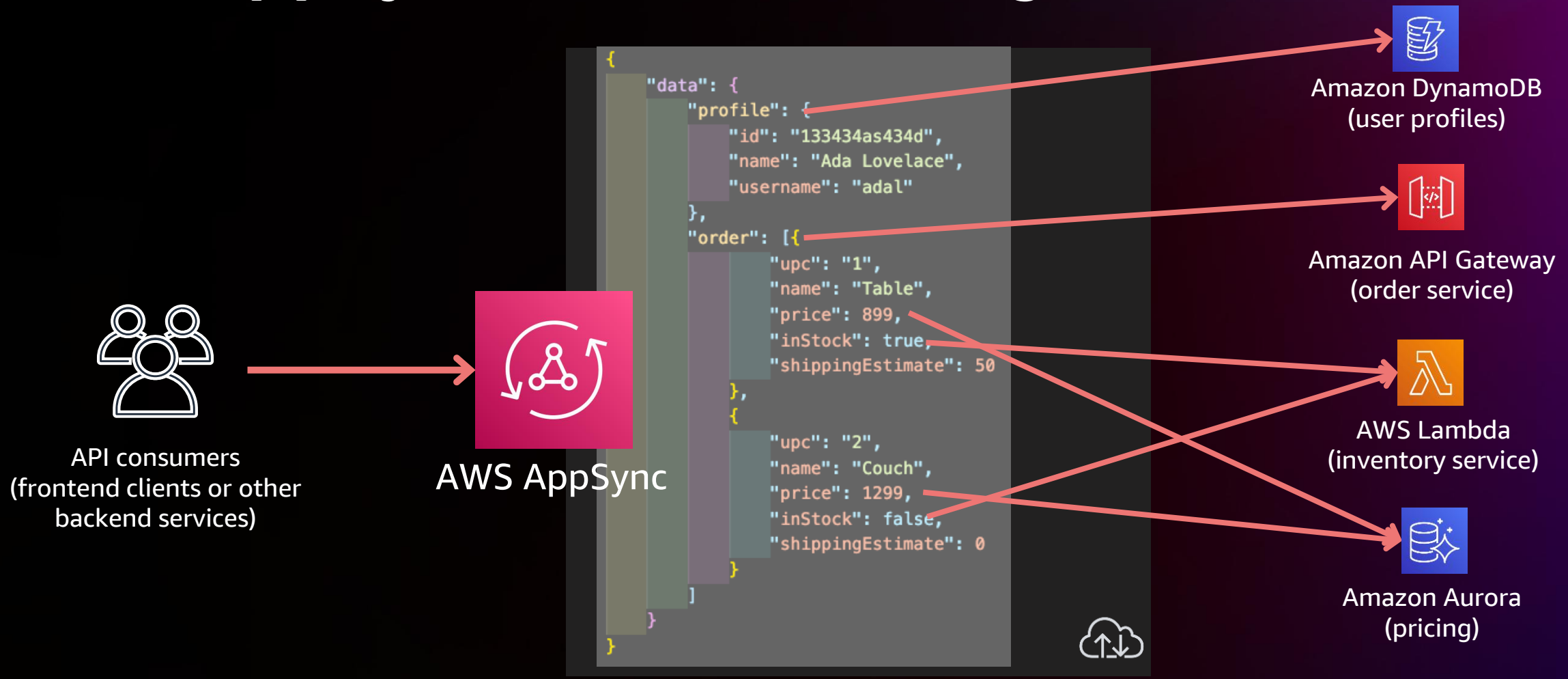
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

What is AWS AppSync?



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

AWS AppSync serverless integration



Single request
Single endpoint

Backend complexity

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Patterns

- Multi Region Active/Active and Active/Passive
- Multi Region with DynamoDB Global Tables
- Event Driven Subscriptions
- Advanced Functionless Subscriptions
- AppSync to RDS in VPC
- AppSync to On-Prem
- Rate limiting AppSync APIs
- RBAC on Model and Resolver

aws
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Thank you!

Matt Coles
macols@amazon.com

Aaron Sempf
sempfa@amazon.com



Please complete the session survey in the **mobile app**

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.