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

SVS318-R

# Building modern API architectures: Which front door should I use?

Ronan Prenty (he/him)

Sr. Solutions Architect
AWS

Zac Burns (he/him)

Solutions Architect
AWS

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

# What is an API?



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

# Building a blog API

Get info about a user

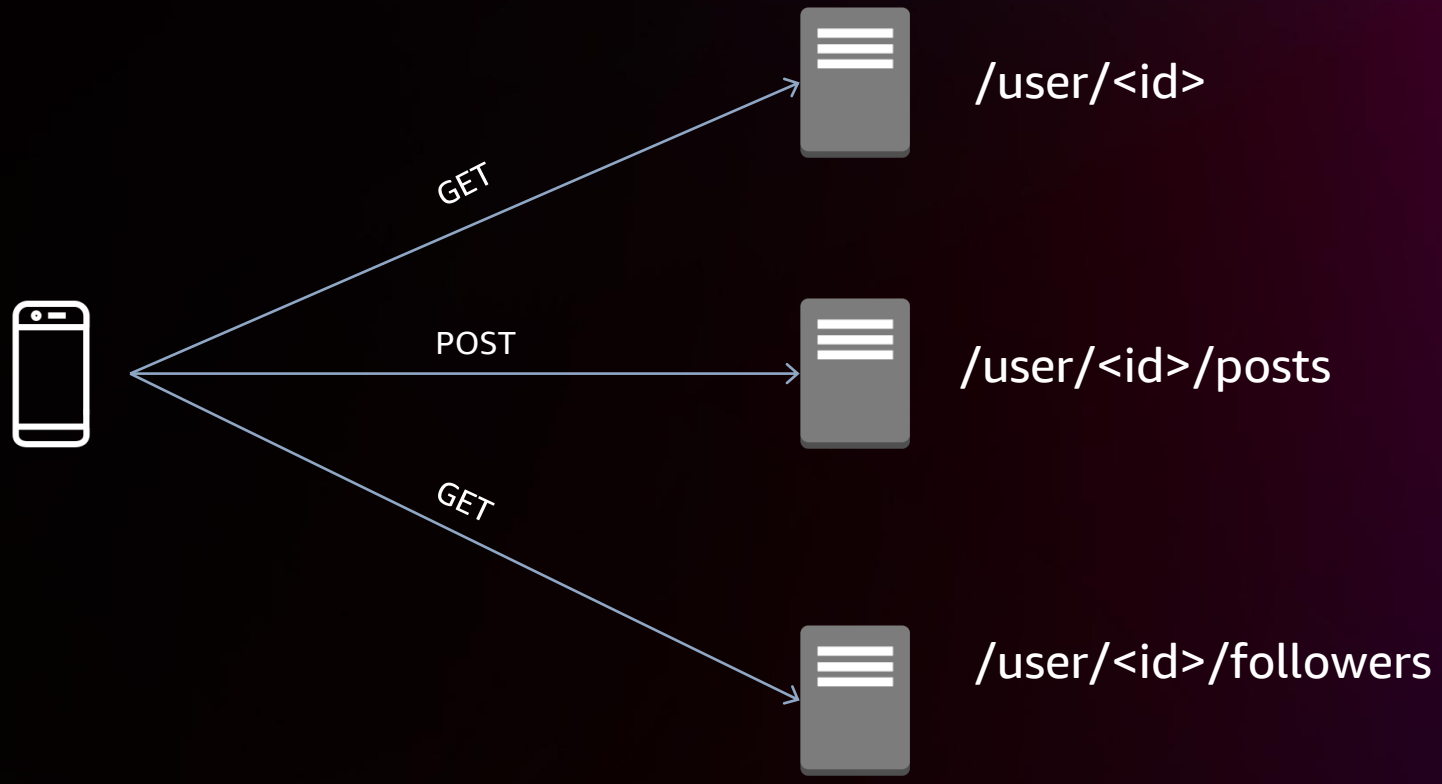
Upload a blog post

Get a follower list for a user



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

# REST




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

# GraphQL



POST

```
query getUser {
    getUser(id: "abcd1234") {
        name
        followers {
            name
        }
    }
}
```



aws

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

# REST API options on AWS

SERVICES AND COMMON TOPICS

| | Amazon API Gateway | Application Load Balancer | Lambda function URL |
|---|---|---|---|
| Integrations | AWS services, HTTP | Lambda or other compute | Lambda function |
| Routing | Path, HTTP method | Path, HTTP method, hostname, header, querystring, source IP | None |
| Auth | Amazon Cognito, JWT, Lambda, mTLS, IAM | Amazon Cognito, OIDC | IAM |
| Timeout | 29s | 4000s (66.66m) | 900s (15m) |
| Request rate | From 10,000/s | No documented limit | From 1,000 |
| Caching | Yes | No | No |
| OpenAPI | Yes | No | No |
| API keys | Yes | No | No |

aws

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

# GraphQL on AWS

SERVICES AND COMMON TOPICS

| | AWS AppSync | Self-managed Apollo |
|---|---|---|
| Auth | Amazon Cognito, OIDC, IAM, custom Lambda auth, API keys | Build your own |
| Websockets | Native | Supported, but need to build |
| AWS Amplify | Supported | Not supported |
| Request cycle | Less control | Full control |
| Complexity | Less | More |

aws

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

# Real time on AWS

SERVICES AND COMMON TOPICS

| | AWS AppSync subscriptions | Amazon API Gateway (WebSockets) |
|---|---|---|
| Tracking connections | Yes | No |
| Receive updates | Yes | Build your own |
| Timeout | 24h if active | 10m default, 2h if active |
| Security | AWS WAF, Amazon Cognito, OIDC, AWS IAM, custom authorizer | IAM, custom authorizer |
| API keys | Yes | Yes |
| Direction | Server to client | Bi-directional |

aws

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

# gRPC



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

# To the drawing board

Possible scenarios:

- What would you like to see?
- Build a REST API with security
- Build a real-time API
- Webhooks
- Stock ticker updates



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

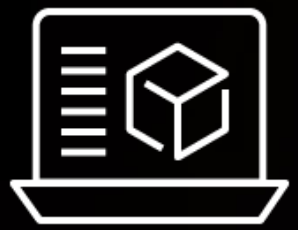
# Related sessions

| ID | Title | Type | Schedule |
|---|---|---|---|
| SVS201 | Thinking serverless: From business problem to serverless solutions | Chalk talk | Monday, 12:15pm |
| SVS206 | Building serverless applications with AWS SAM | Builders' | Monday, 3:15pm |
| SVS401 | Best practices for advanced serverless developers | Breakout | Tuesday, 12:30pm |
| API303 | Application integration patterns for microservices | Breakout | Wednesday, 10:00pm |
| SVS312 | Building Serverlesspresso: Creating event-driven architectures | Breakout | Thursday, 3:30pm |

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

# Continue your AWS serverless learning

## Learn at your own pace



Expand your serverless skills with our Learning Plan on **AWS Skill Builder**

## Increase your knowledge



Use our **Ramp-Up Guides** to build your serverless knowledge

## Earn AWS serverless badge




Demonstrate your knowledge by achieving **digital badges**

https://s12d.com/serverless-learning

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

# Thank you!

Ronan Prenty
rprenty@amazon.com

Zac Burns
burnz@amazon.com



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

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