Automated Server(less) Pipelines with #GitOps on Codefresh

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Agenda

- **What is “Serverless”**
- The Serverless Framework
- Frame the goal and challenges
- Live Demo
- Quick Code Walk Thru
- Questions

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What is “Serverless”

Methodology

“

Serverless architectures are application designs that incorporate third-party “Backend as a Service” (BaaS) services, and/or that include custom code run in managed, ephemeral containers on a “Functions as a Service” (FaaS) platform.

Serverless architectures may benefit from significantly reduced operational cost, complexity, and engineering lead time, at a cost of increased reliance on vendor dependencies and comparatively immature supporting services.

—

MARTIN FOWLER

FAST CHARGE

Serverless

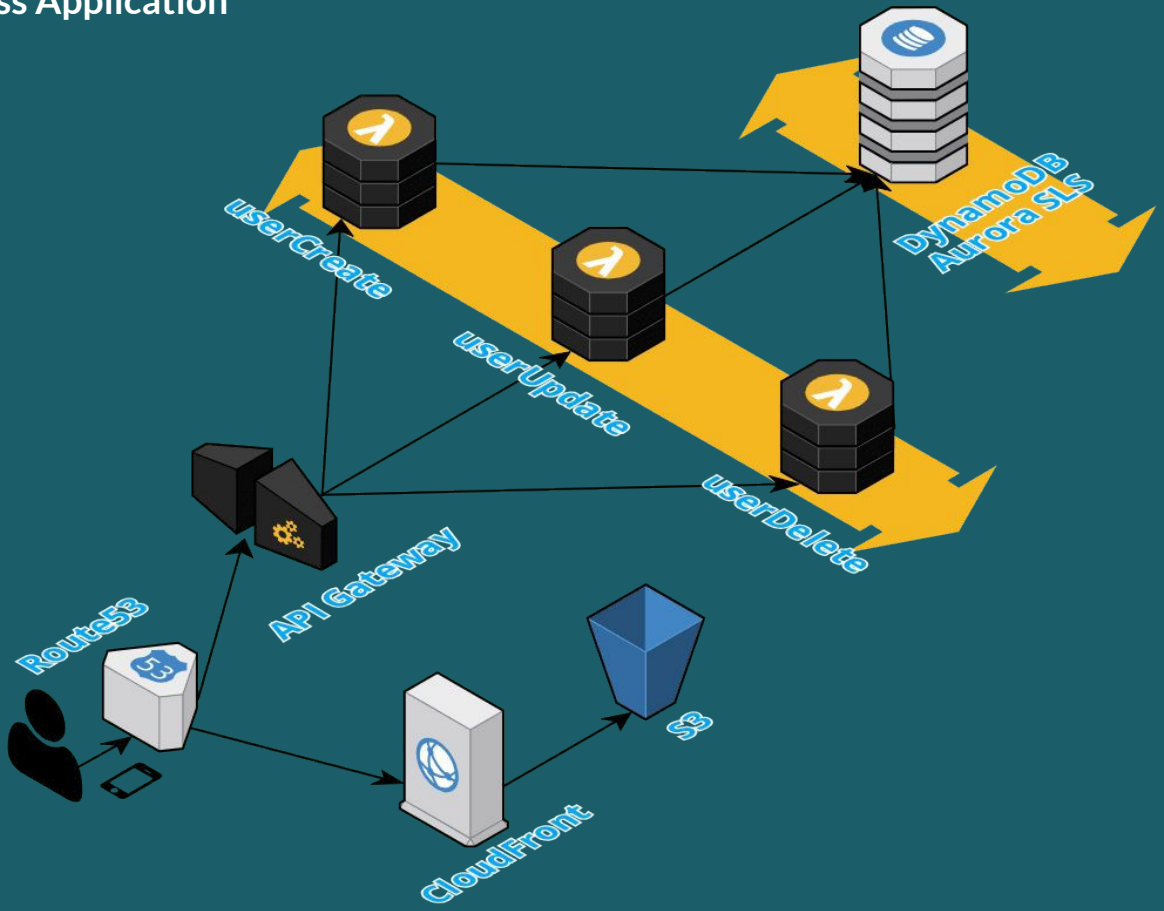
Serverless

ServiceFull

Serverless Traits from AWS Lambda

- **Microservices**
- **Zero Administration**
  - Auto-scaling
  - No Monitoring
  - No OS / Security Updates
- **Pay per Execute**
- **Event Driven**
- **Interoperable with other managed services**

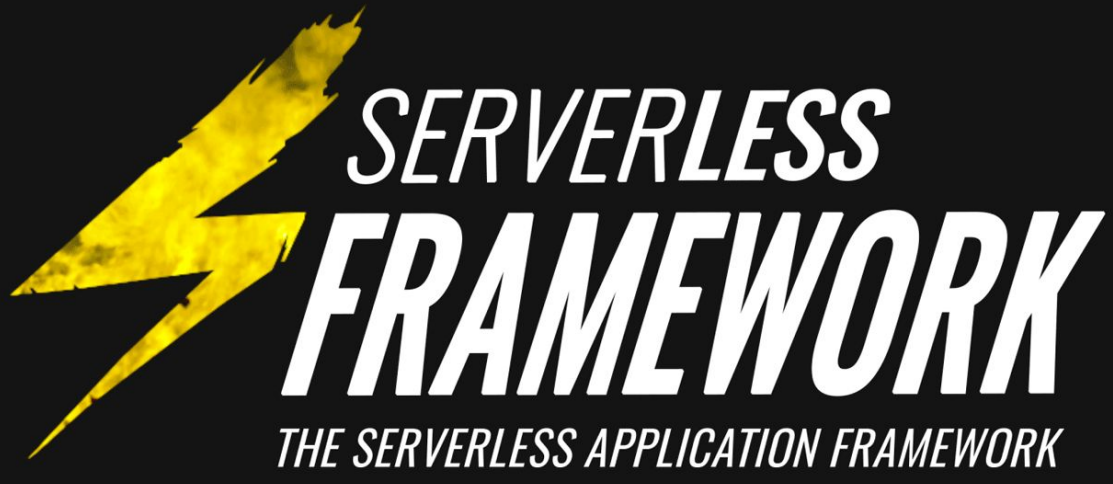
Simple Serverless Application



OK, that all sounds great.
So then what's MISSING?

The Serverless Framework

CLI Tool



Austen Collins, CEO of Serverless

serverless

Supported Cloud Providers

Under the hood

AWS Lambda

AWS CloudFormation

AWS API Gateway

AWS IAM

AWS S3

Frame the goal

...and challenges

100%

Automated Pipeline

ZERO to HERO

DEV to PROD

Unit Tests

Integration Tests

Security Tests

Perf Tests

Code Linting

Slack Notifications

All managed
via GitOps (GitHub)

rc-234

prod

INFINITE
number of dynamically deployed environments

qa-2

qa

feat-tree

dev

feat-blue

rc-234

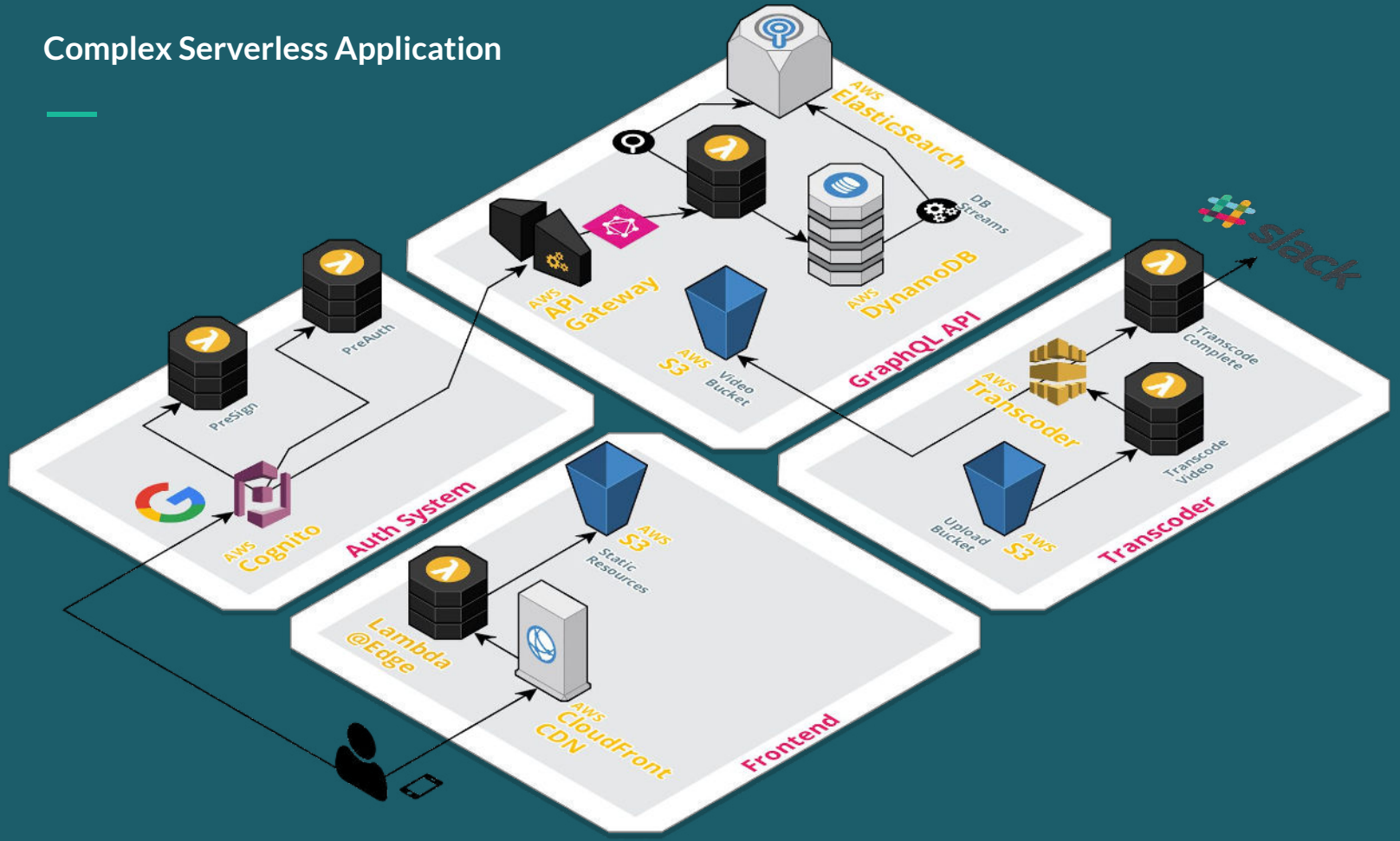
qa-2

Each environment needs a PREDICTABLE URL

branch--service.klickstuff.com
feat-thing--projectx.klickstuff.com

Many of those environments can be COMPLEX...

Complex Serverless Application



...and things have to deploy FAST

VERY FAST

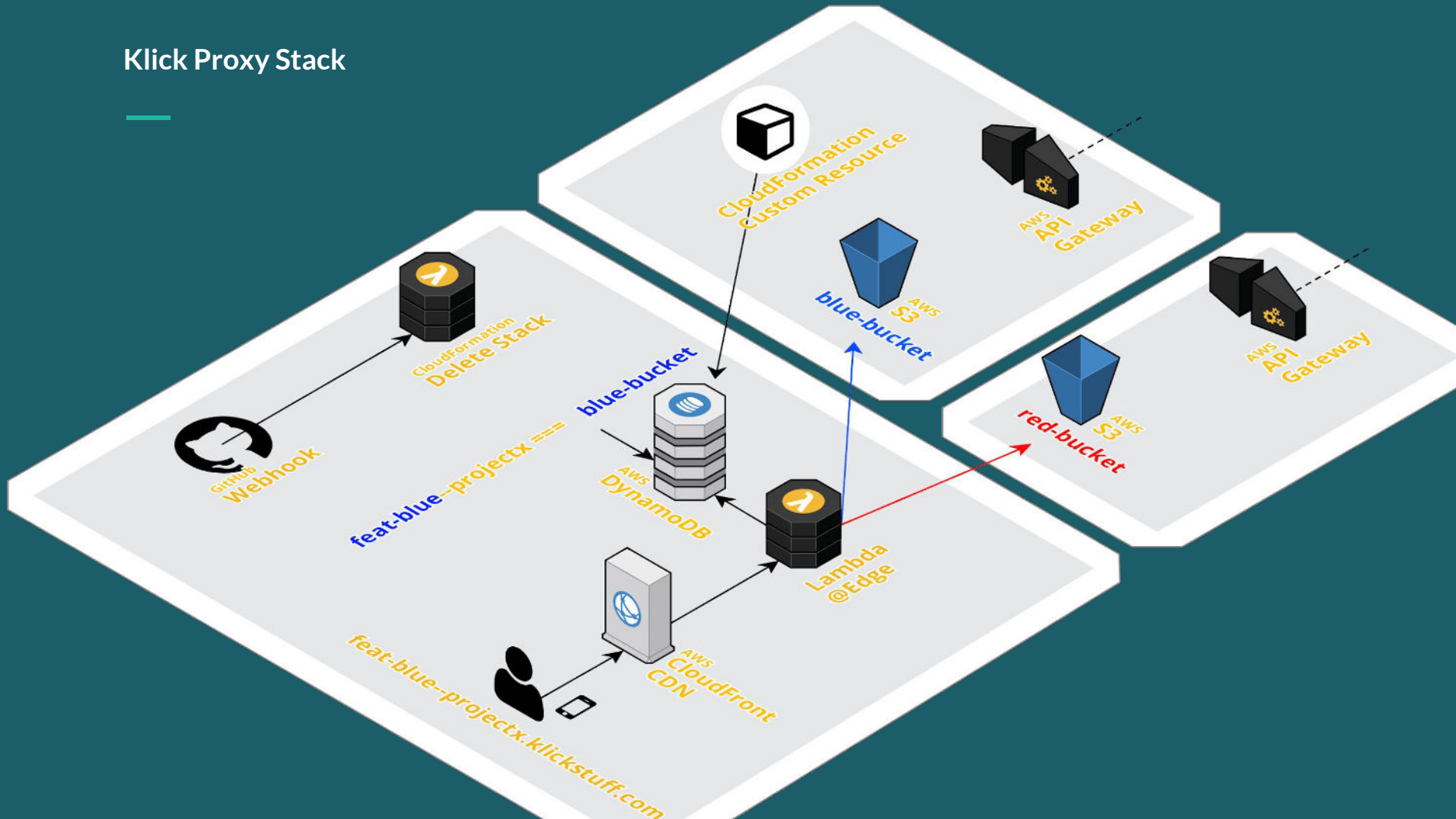
...and we we're almost there until we saw CloudFront deploy times

~30 mins

Proxy Stack Anatomy

- Build Harness Container
  - NodeJS
  - Yarn
  - AWS CLI
  - Serverless CLI
- Proxy Stack
  - CDN, DDB, Lambda@Edge
- Custom Resource (Stack Entry)
  - AWS Lambda
- Demo Project
  - Declares Stack Entry

Klick Proxy Stack



LIVE Demo

...demo-gods be kind

Quick Code Walk-Thru

Hang on tight...

Code Examples

demo-site: KlickMarketing/demo-site

demo-stack-entry-cfn: KlickMarketing/demo-stack-entry-cfn

demo-stack-proxy: KlickMarketing/demo-stack-proxy

build-harness: klickinc/marketing-build-harness

Lighthouse Docker: klickinc/lighthouse-ci

Serverless Framework: serverless/serverless

Thank you
Questions?

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codefresh

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& a free Demo at
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AWS Lambda@Edge
https://acloud.guru/learn/lambda-edge