A nighttime aerial photograph of the Austin, Texas skyline. The city is illuminated with numerous lights from its buildings and streets. In the foreground, a bridge spans a river, with streaks of light from moving vehicles visible on its surface. The sky is a deep blue.

KAFKA ON KUBERNETES: DOES IT REALLY HAVE TO BE «THE HARD WAY»?

MAY, 2019 / TEXAS, 2019

@GAMUSSA

| #PERCONALIVE |

@CONFLUENTINC

RAFFLE, YEAH



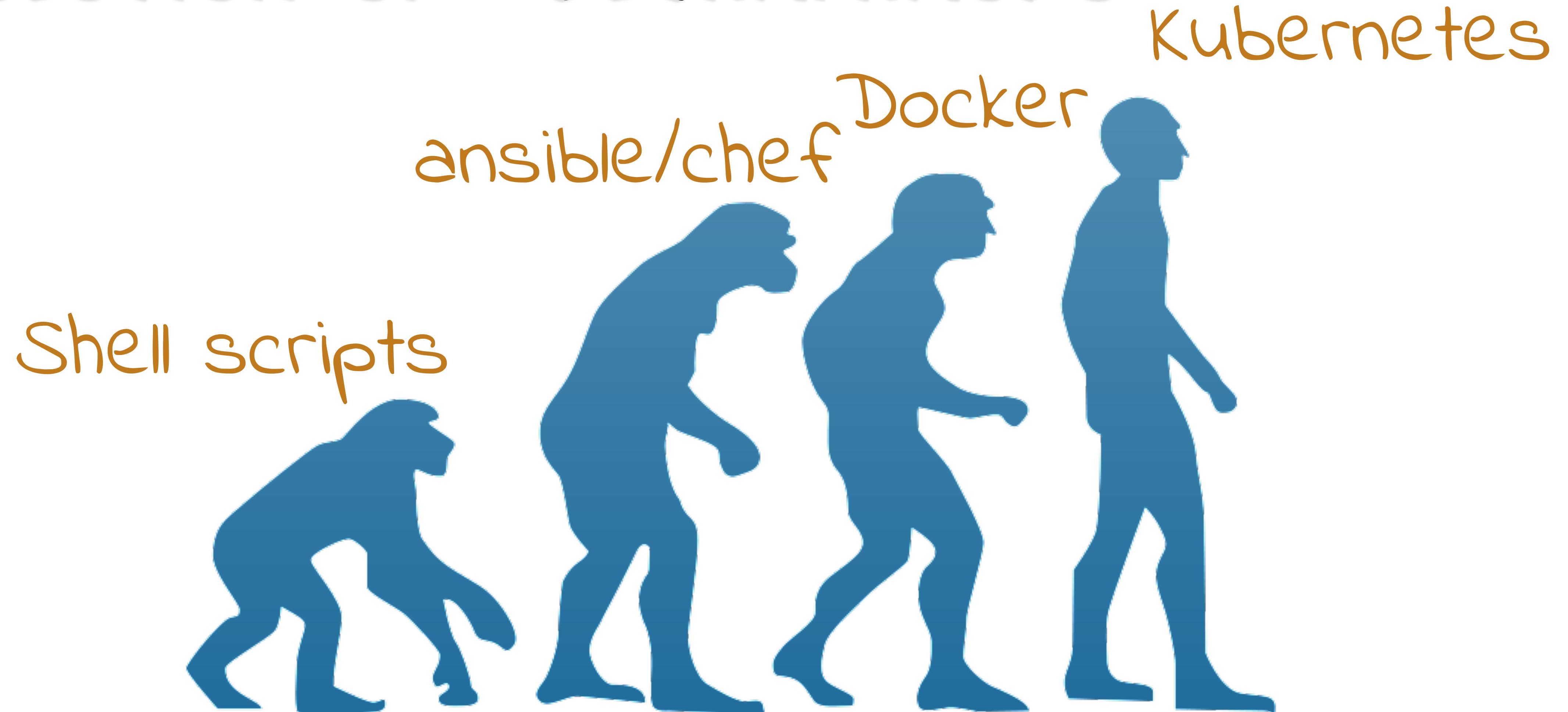
- Follow @gamussa @confluentinc



- Tag @gamussa

- With #PerconaLive

EVOLUTION OF #DEVKAFKAOPS





Claes Mogren
@claesmogren



"Kubernetes is of course named after the Greek god of spending money on cloud services." - [@QuinnyPig](#)

3:54 PM · Mar 20, 2019 · Twitter Web Client

68 Retweets 233 Likes



@GAMUSSA

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**WHO RUN STATELESS
WORKLOADS IN KUBERNETES?
WHO THINKS IT'S A GOOD
IDEA?**

**WHO RUN STATEFUL
WORKLOADS IN KUBERNETES?
WHO THINKS IT'S A GOOD
IDEA?**

KAFKAESQUE WORLD OF KAFKA ON KUBERNETES

Kubernetes can only meet stateful workloads half way and I lack the expertise to manage a production configuration of Kafka, RabbitMQ, or Postgres on static infrastructure, let alone a Kubernetes cluster.

9:06 AM - 13 Feb 2018

18 Retweets 71 Likes

Gwen (Chen) Shapira
@gwenshap

Stateful apps on Kubernetes basically depend on having great shared storage. This is available in the cloud but incredibly rare on-prem. [@psynikal](#) spent few days helping someone with 400ms write latency to figure out why Kafka and ZK are unstable.

10:06 PM - 23 Jul 2018

7 Retweets 42 Likes

#DEVKAFKAOPS



WELL, IT'S TRICKY ©

Translating an existing architecture to Kubernetes

External access to brokers and other components

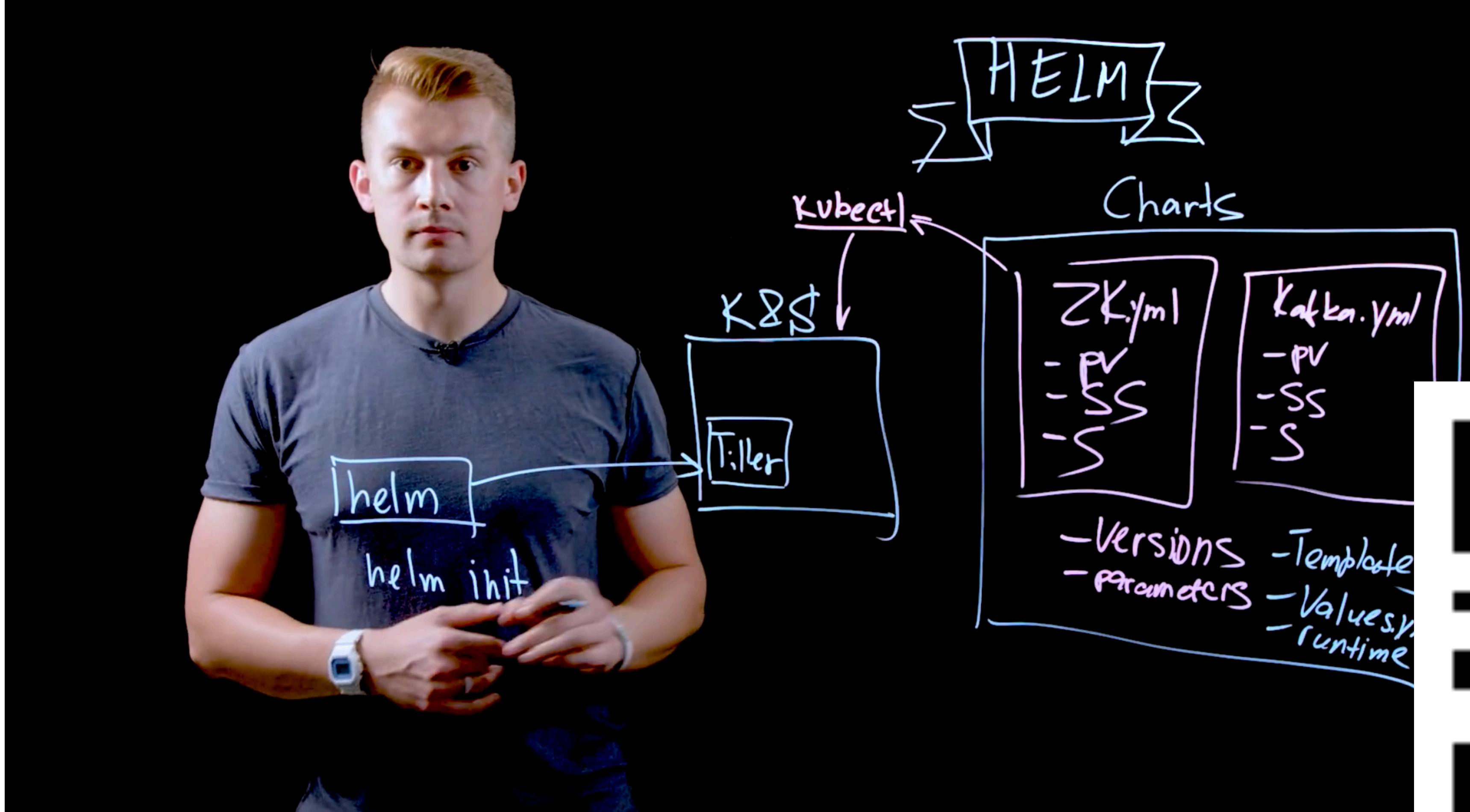
Persistent Storage options on prem and clouds

Security Configuration and Upgrades

**BUT I
JUST
WANT TO
DEPLOY
KAFKA**



WORKLOADS DEPLOYMENT



https://cnfl.io/helm_video





We will use
StatefulSets
with **OrderedReady**



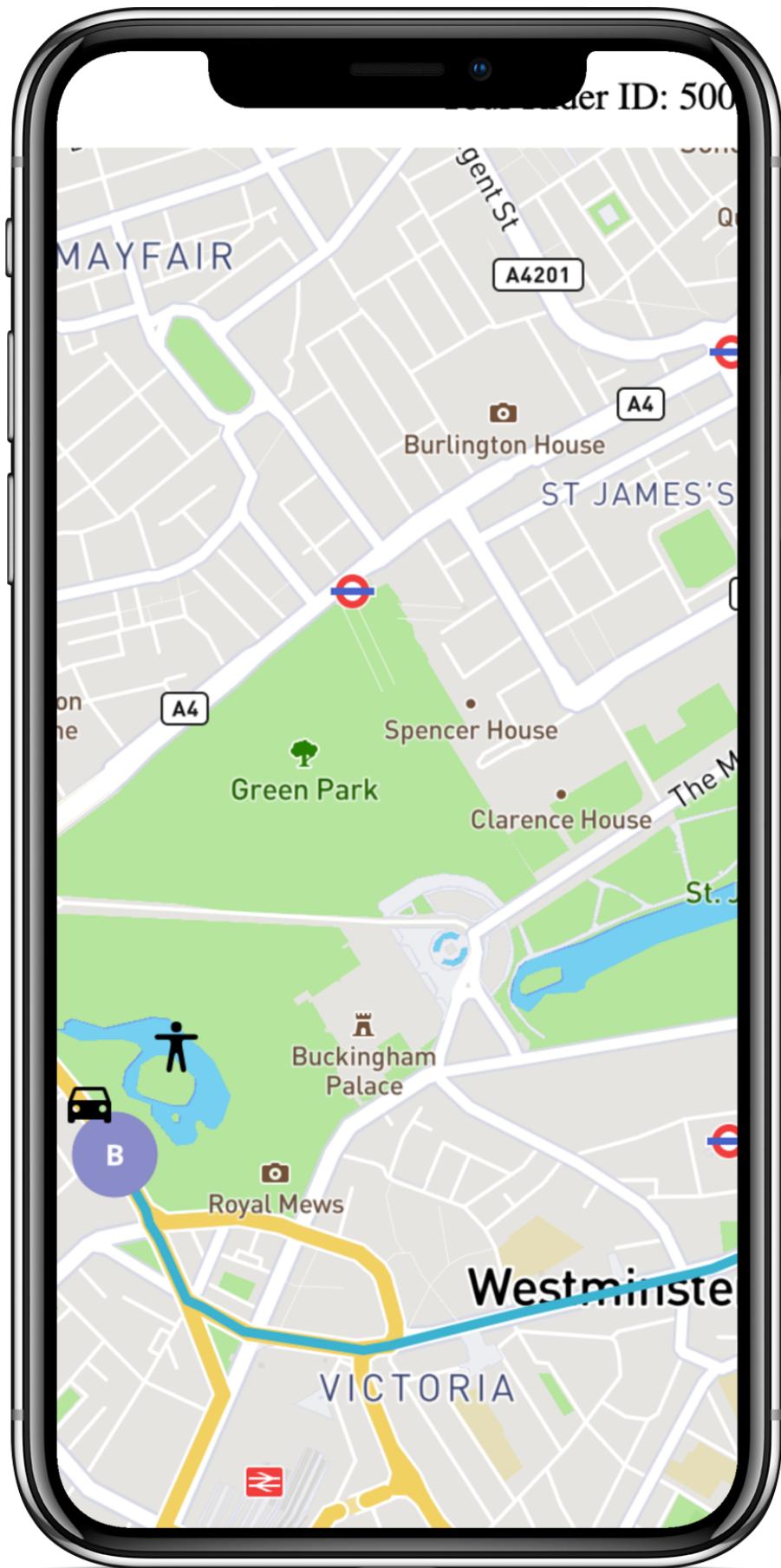
We need SRE /
Operator knowledge to
manage the platform.
You need Operator!





Show me your
Operator

KLYFFT - KAFKA APP ON KUBERNETES

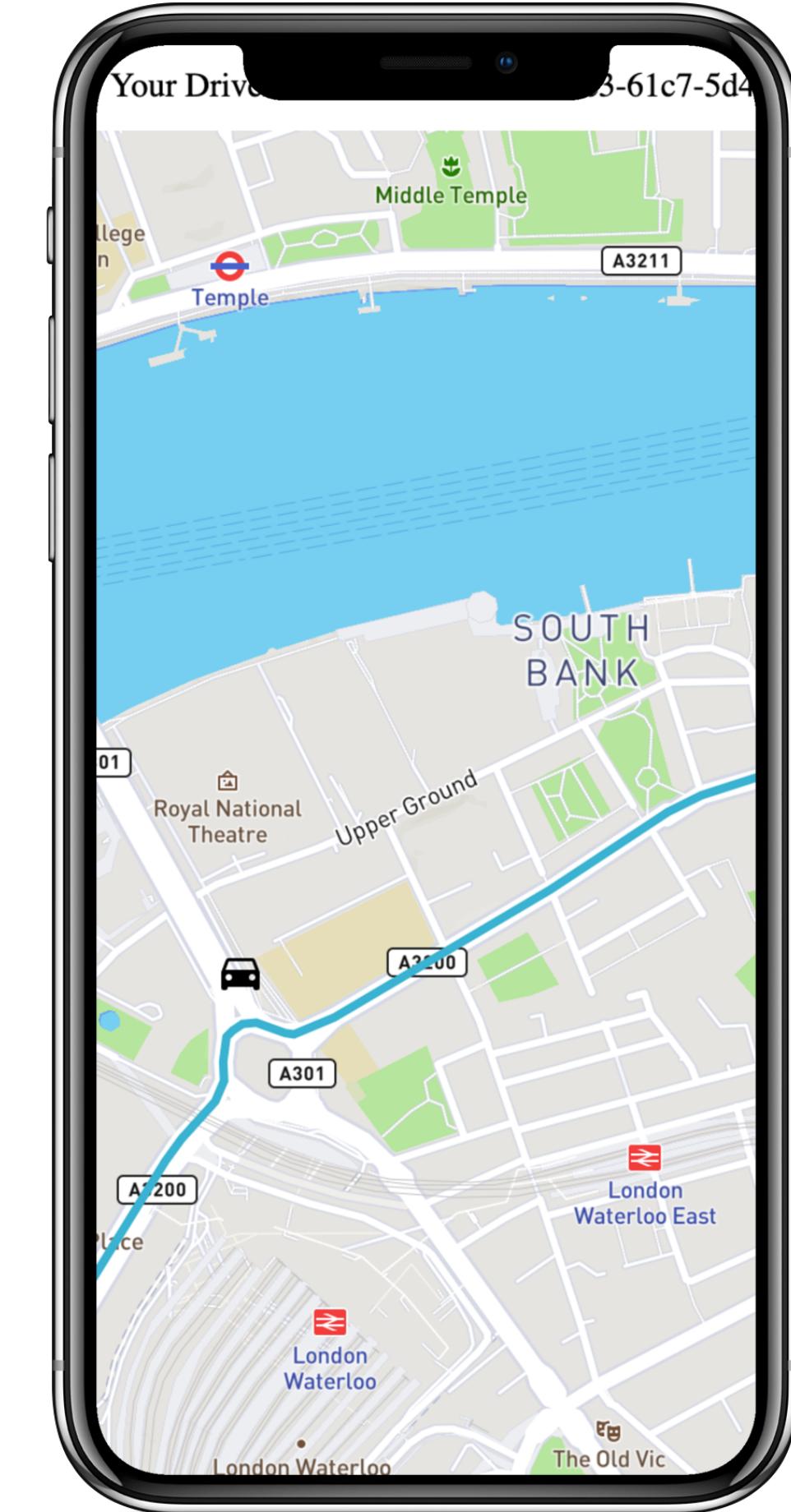


Rider

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Driver

2 Web Apps powered by a microservice each

Apps are a ride sharing driver and rider location tracking

Rider hails a ride and the driver drives towards the rider

Real time location events powered by Kafka on Kubernetes

DEMO

DO KAFKA ON KUBERNETES DEMO



AND EVERYONE LOOSSES THEIR MIND

CONFLUENT OPERATOR - AUTOMATED SECURITY CONFIGURATION



SASL PLAIN and Mutual TLS Authentication

Automate configuration of truststores and keystores with secret objects

Automate configuration of Kafka and all Confluent Platform Components

BE LIKE JUSTIN!



Justin Manchester @JuMaUK · Mar 14
Replies to @gwenshap and @gAmUssA

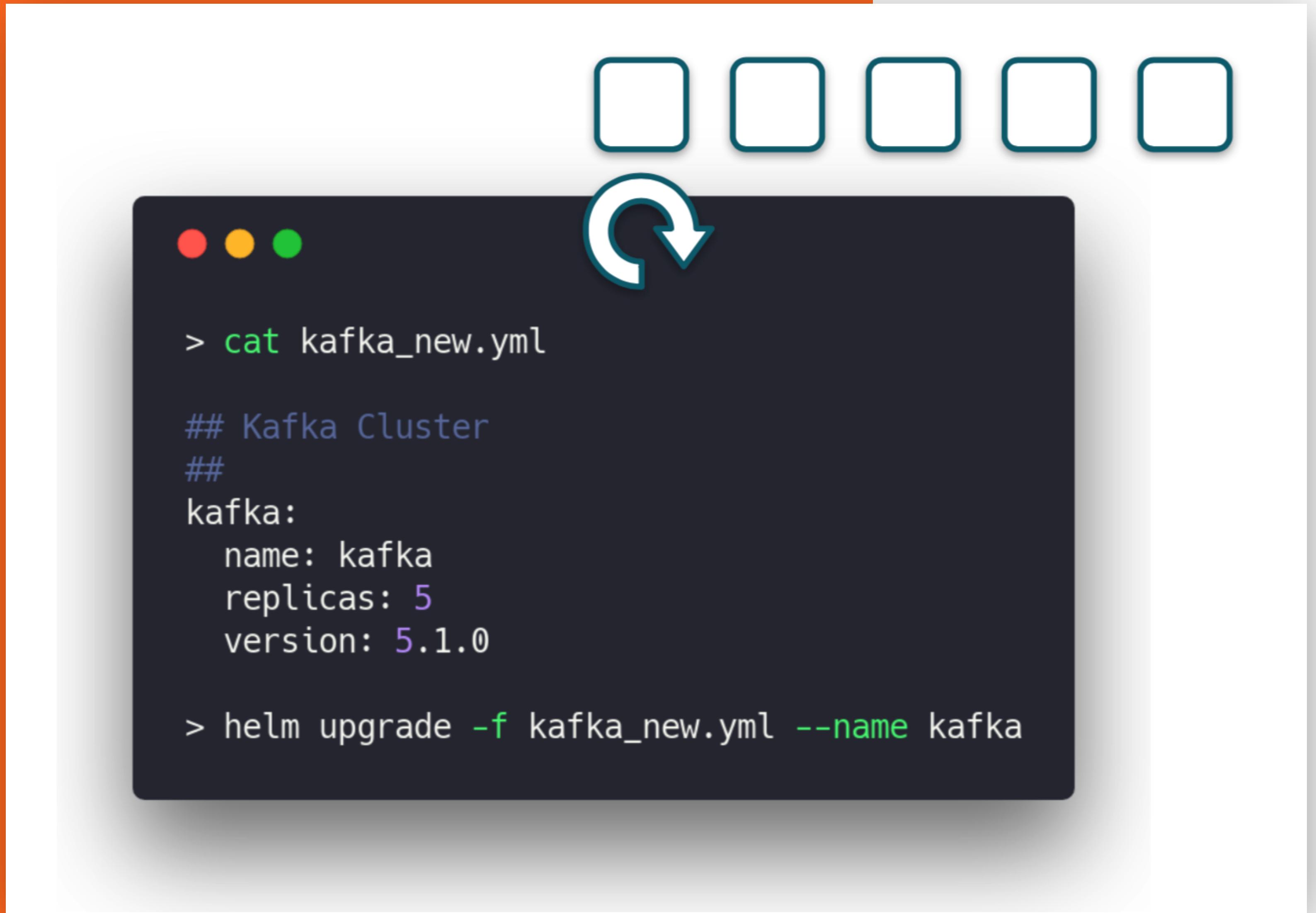
I personally don't find Kafka upgrades hard, but many people do.
Particularly around the concept of rollback. But lack of monitoring, not just
of Kafka, but of the infrastructure, and not understanding resource
contention are massive problems.

1 3 7

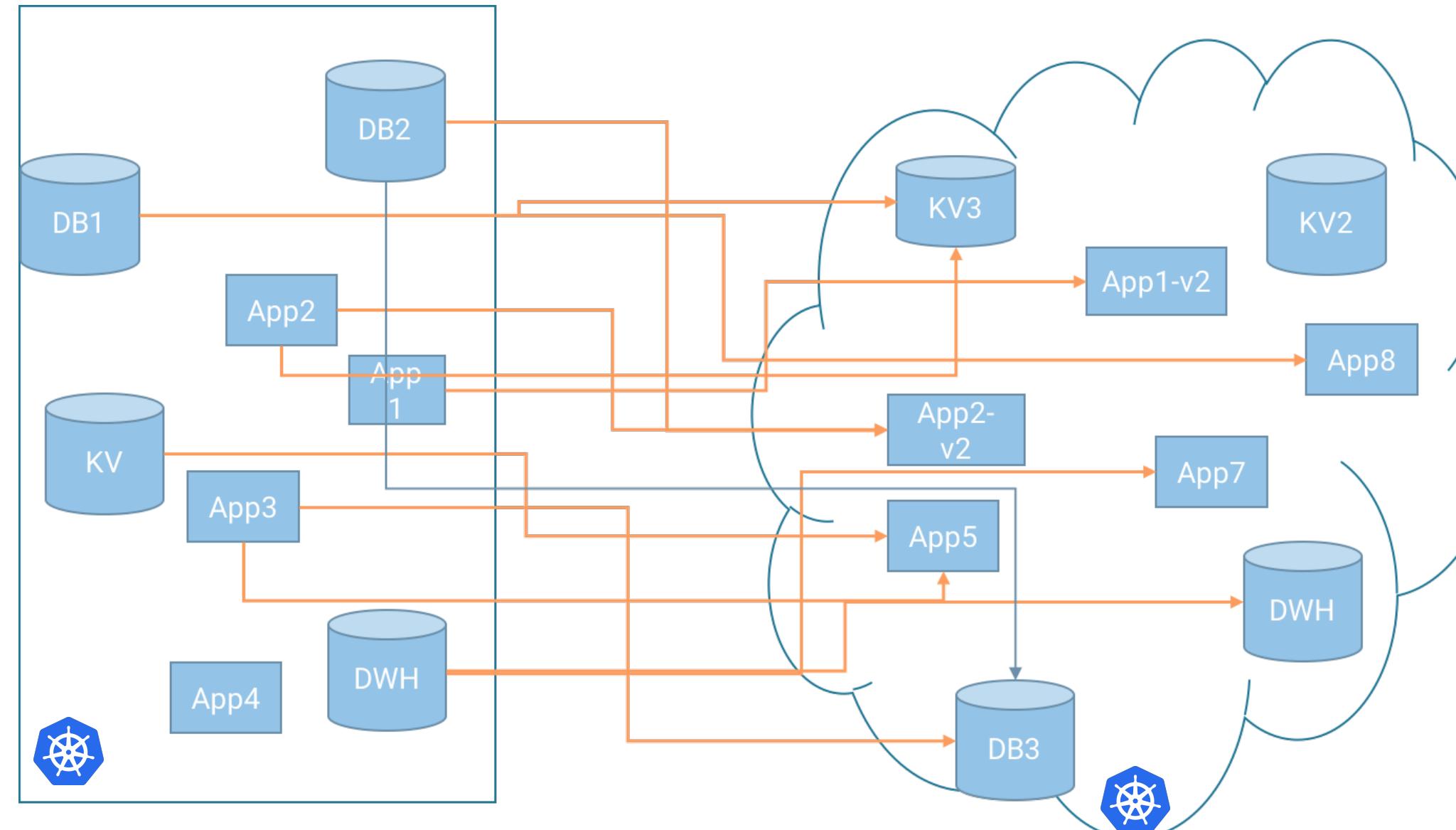
ROLLING UPGRADE

Kafka Broker Upgrades:

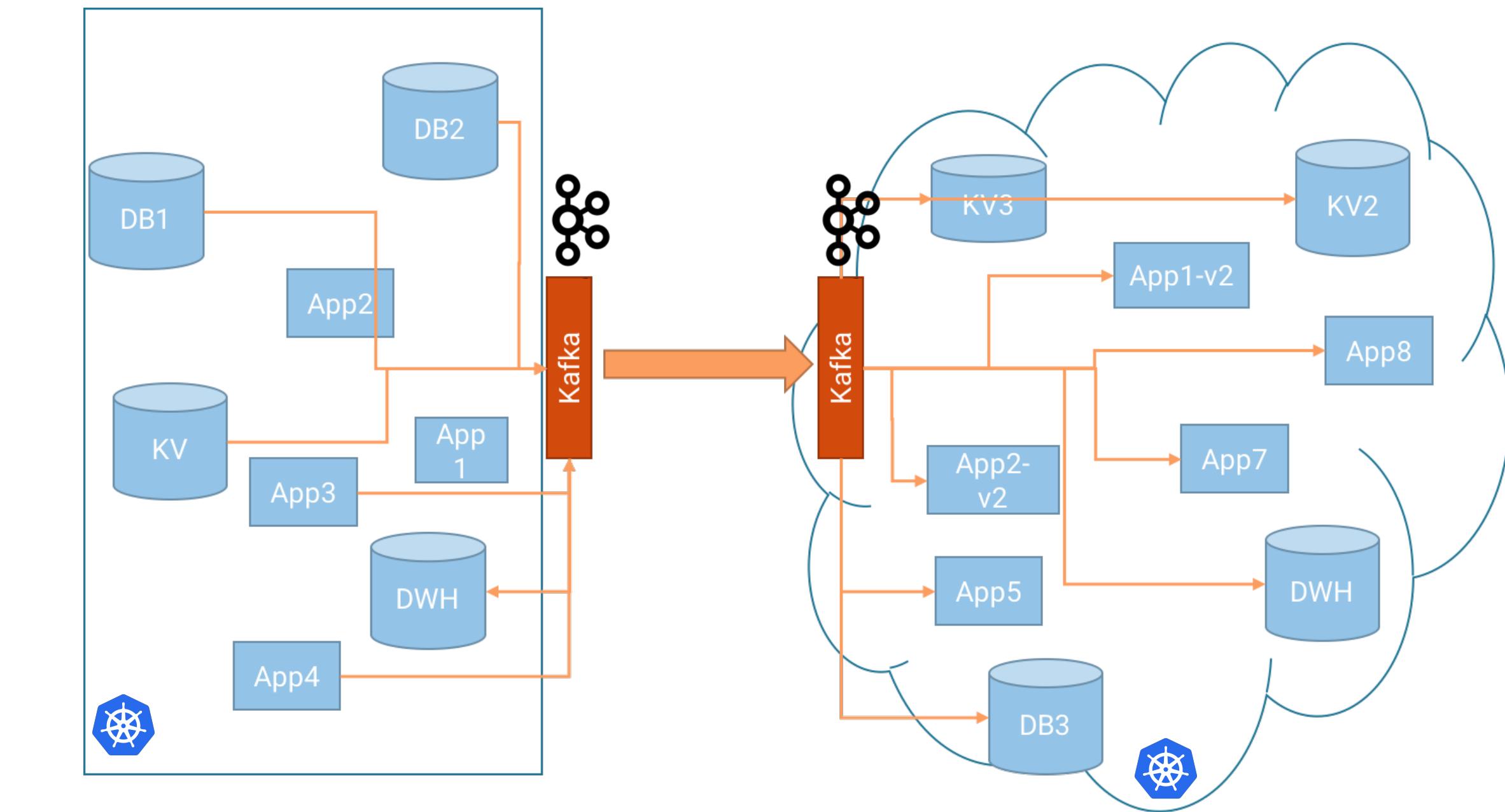
1. Stop the broker, upgrade Kafka
2. Wait for Partition Leader reassignment
3. Start the upgraded broker
4. Wait for zero under-replicated partitions
5. Upgrade the next broker

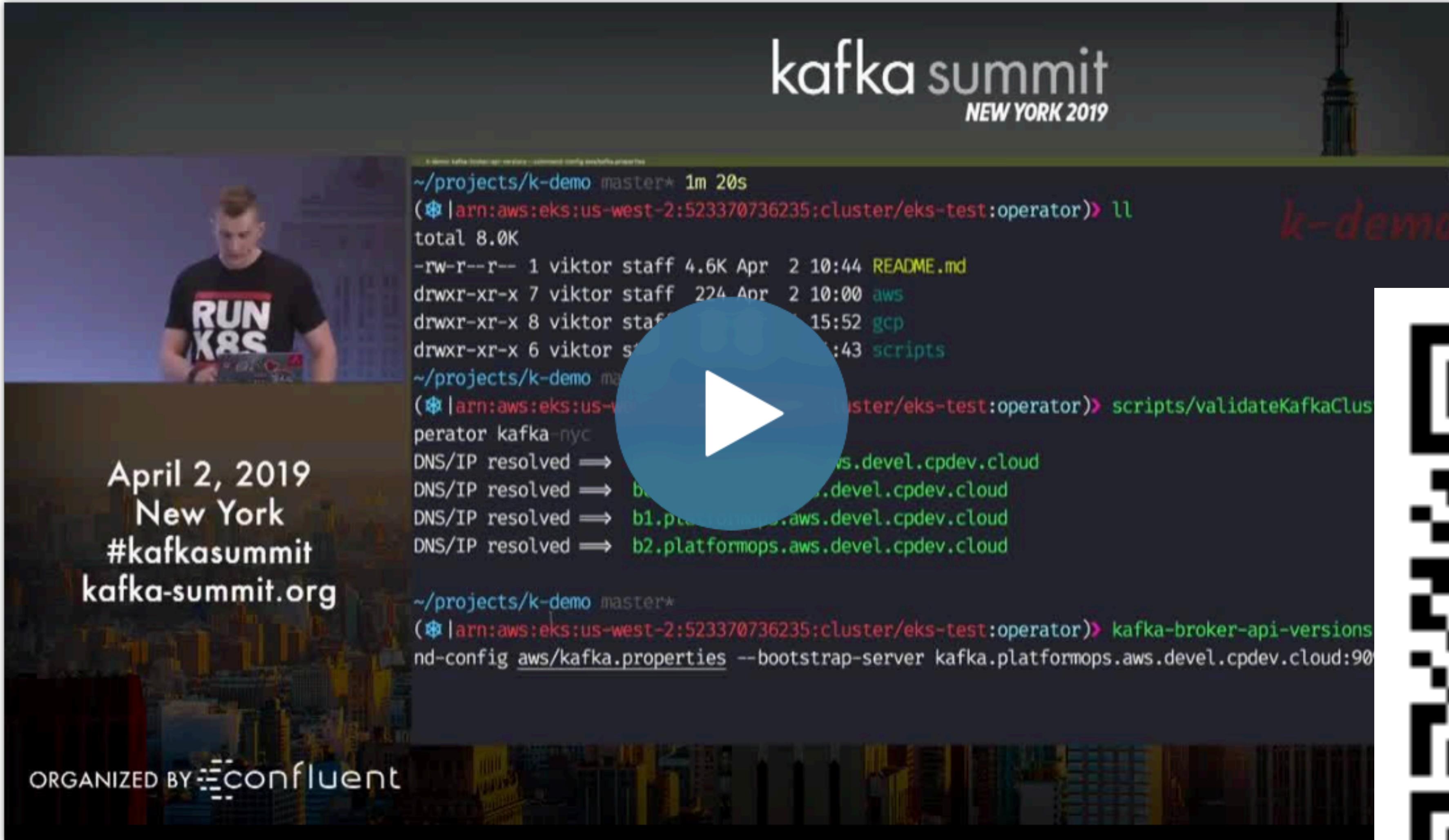


WANT TO SEE ADVANCED DEPLOYMENT?



VS.





http://gamov.dev/ksummit_nyc19_k8s

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- We are in private Preview Release now
- 24 customers testing the Operator in Preview:
- Global customers
- Banks, Fin Tech, Retailers, Consumer Tech
- We are in the final stages of Preview and about to launch soon

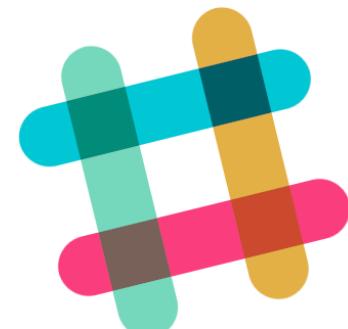
GA PLANS





THANKS!

@gamussa
viktor@confluent.io



<https://slackpass.io/confluentcommunity>
#kubernetes

