



Event streaming applications with Kafka Streams, Spring Kafka and Actuator



Ko Turk
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@KoTurk77

sweet dream?



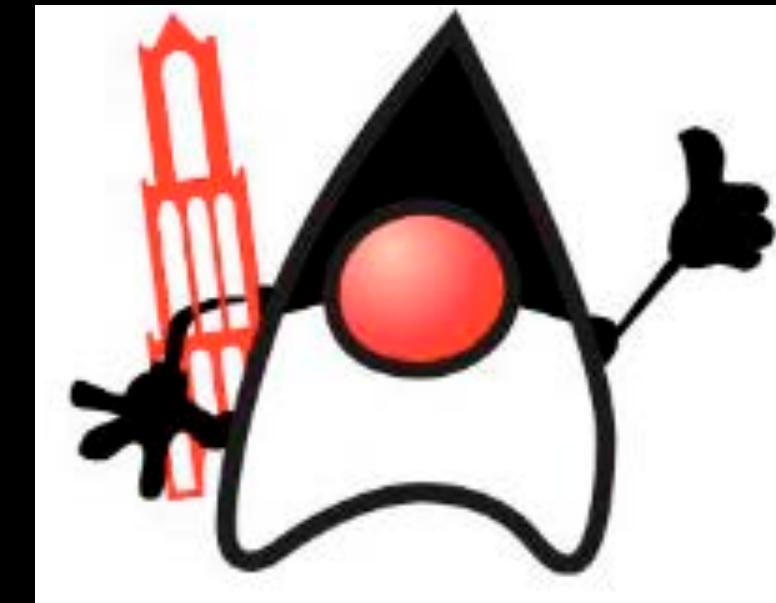
nightmare?

Kafka Streams nightmare or sweet dream?



SO IT DEPENDS





@KOTURK77

You will learn

How to:

- Produce / consume messages --> spring-kafka
- **Process big data**
- **Custom processing (with timing)** } --> kafka-streams
- Create proper monitoring --> actuator



<https://github.com/KoTurk/Kafka/tree/main/Javaland>

WARNING

This meeting will contain live coding,
so everything could (potentially) go wrong.



The story.....

IT WAS A NIGHTMARE

TO BE A DEVELOPER (in the 90's)



CORBA

SOAP



REST

but it's slow.....



Let's do async

With Apache Kafka!





MIDJOURNEY MADE



but first, why???

event streaming

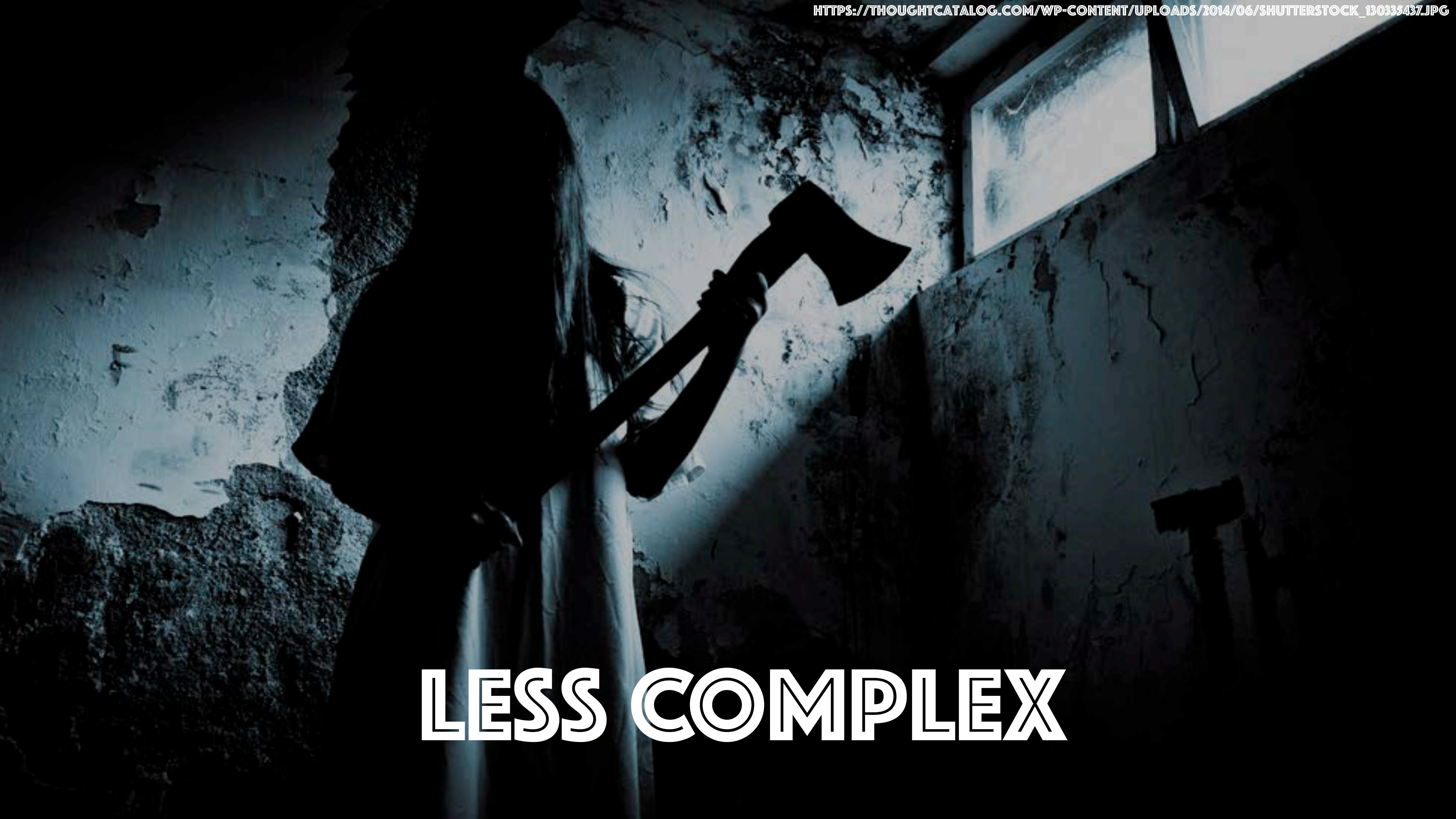


EVENTS



A cinematic still from the movie 'Ghost Rider'. The character, a skull with glowing red eyes, is riding a motorcycle at night. His head and hands are engulfed in flames. The background is a dark, wooded area with tombstones visible. The text 'SOMETHING FAST' is overlaid at the bottom in a bold, white, sans-serif font.

SOMETHING FAST

A person with long hair, seen from the side, is holding a large, dark axe. They are standing in a dark, dilapidated room with peeling walls and a window in the background. The lighting is dramatic, with strong shadows.

LESS COMPLEX



FAULT TOLERANT



REPLAYABILITY

For that we have







But why not using

RABBITMQ

KAFKA is most useful
with BIG DATA



THREE SCENARIOS

Compute Layer

Create, Process, and Query Event Streams and Tables

ksqlDB Streaming Database



TABLE

Kafka Streams API

Kafka
Consumer API

Kafka
Producer API

Import Data as Event Streams with Connectors



CLOUD SERVICE, DB,
OR OTHER SYSTEM

Kafka Connect &
Producer API

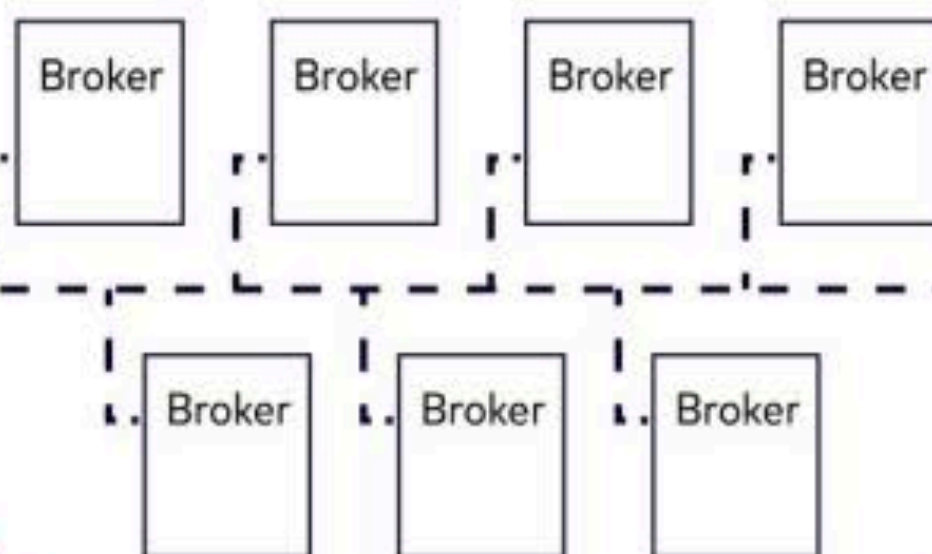
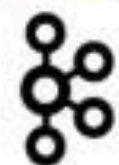
Export Data as Event Streams with Connectors

Kafka Connect &
Consumer API

CLOUD SERVICE, DB,
OR OTHER SYSTEM



Kafka Cluster



Elastic & Scalable
Streaming Storage



APP

Create
Event Streams
with
Kafka Producer APIs

Read and Process
Event Streams
with
Kafka Consumer APIs

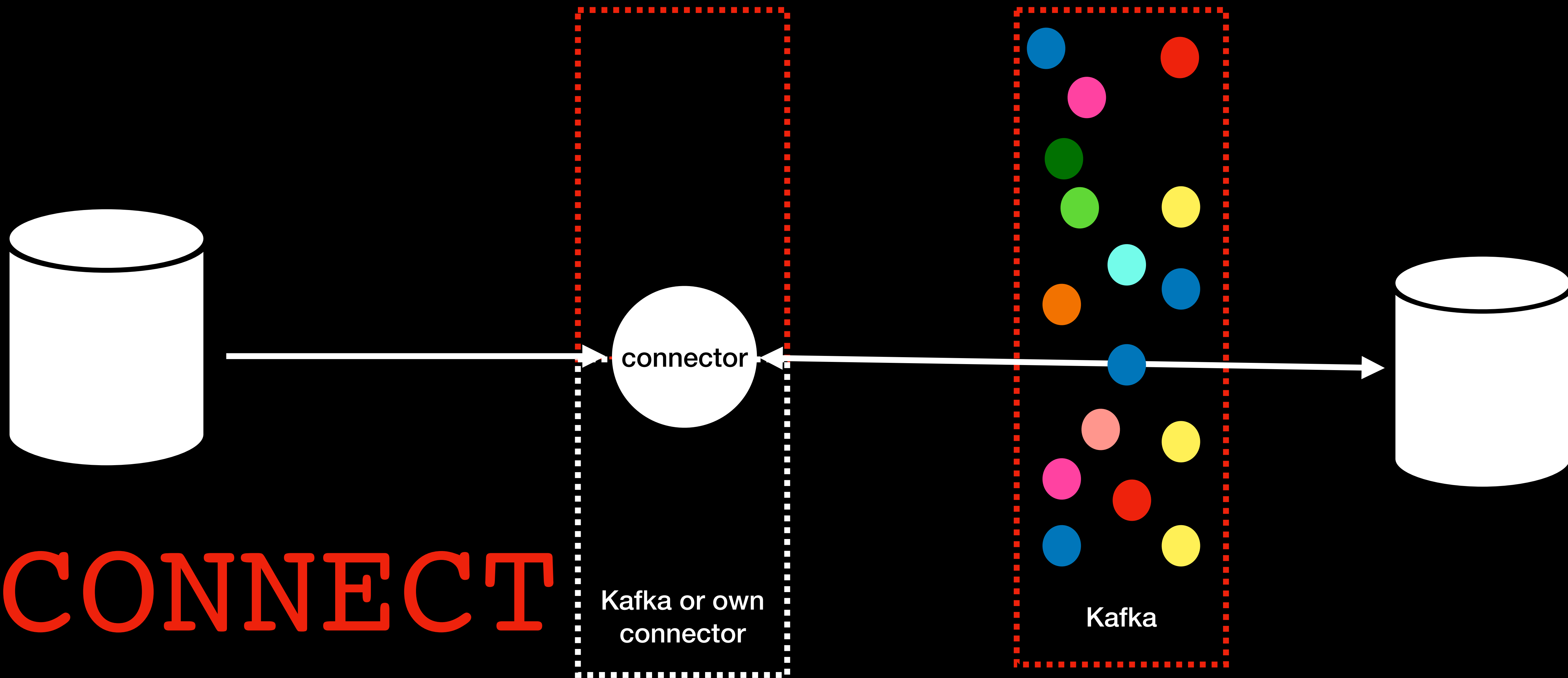


APP

Storage Layer

From
Confluent's site





NIGHTMARE

But when
configured, it
runs smoothly



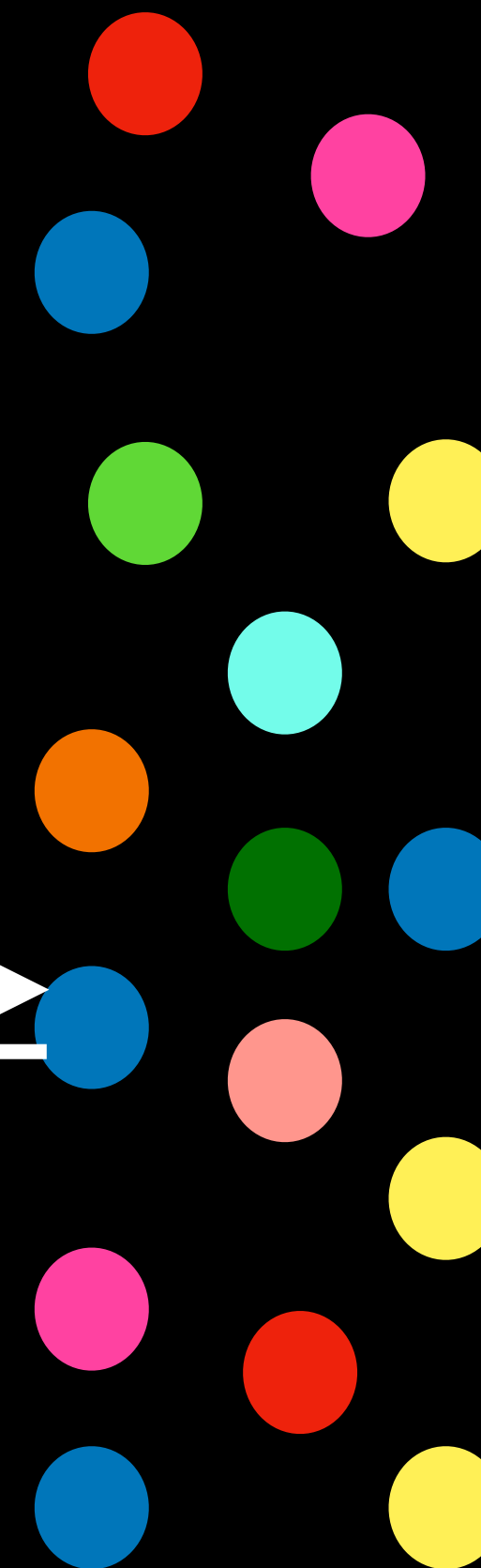
rest

SIMPLE

basic

Spring Boot /
Spring Kafka /
Actuator

Kafka



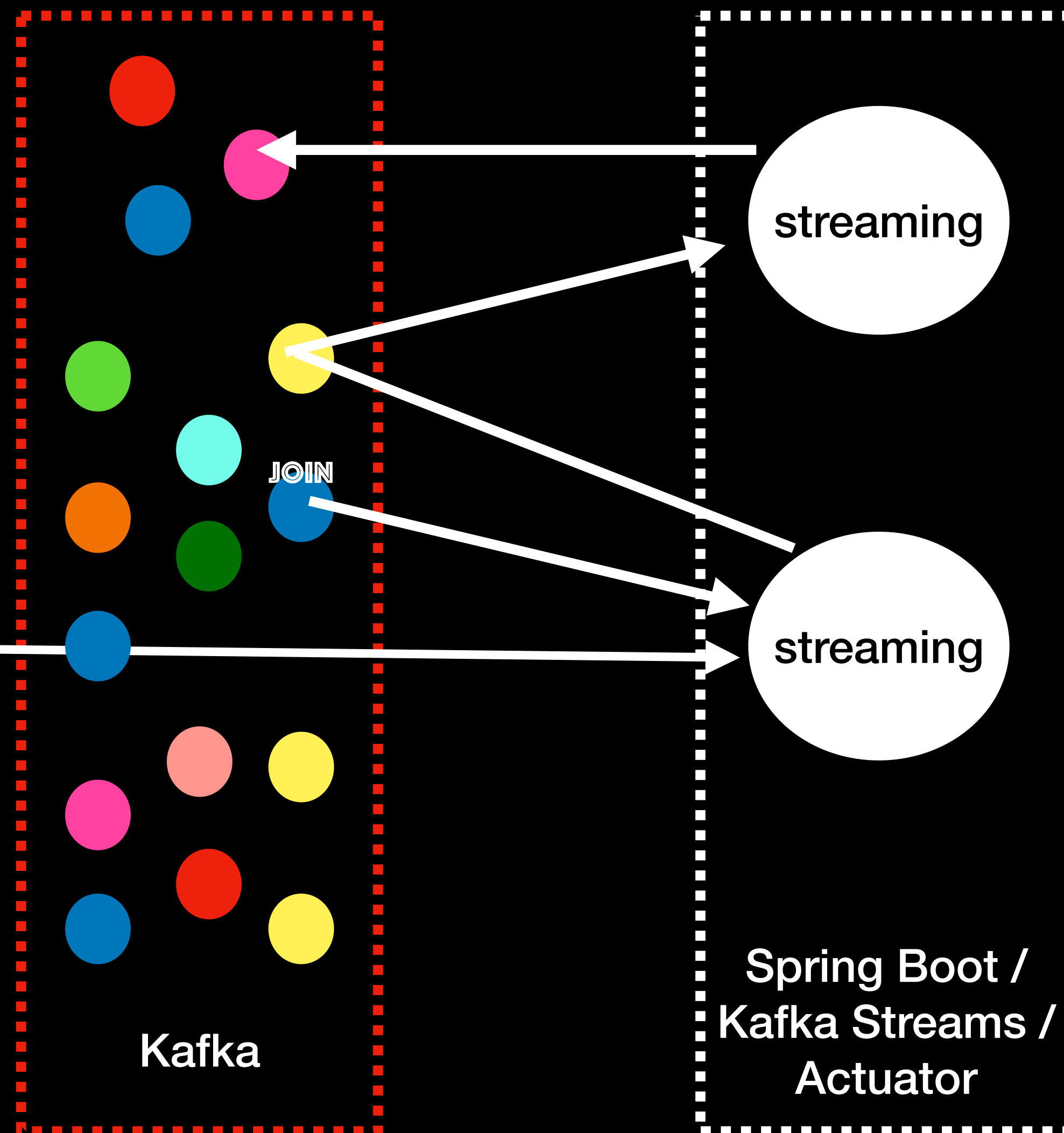
SWEET DREAM

& &

NIGHTMARE



BIG DATA



SWEET DREAMS?

LET'S DISCOVER TOGETHER

LET'S EAT SOME CODE



You learned

How to use:

- Consumer -> `@KafkaListener`
- Producer -> `KafkaTemplate`
- Streams -> `StreamsBuilder`

Learn to create metrics (actuator)!!

[HTTPS://YOUTU.BE/UNSZKYPAMZC?T=688](https://youtu.be/unszkypamzc?t=688)



MONITORING

REFERENCES

for more fun



spring kafka

<https://docs.spring.io/spring-kafka/docs/current/reference/html/>



streams (more tutorials)

<https://developer.confluent.io/tutorials/>



Sweet
dreams

Slides + code (branch 'solution')
Follow me at Twitter: [@KoTurk77](https://twitter.com/KoTurk77)

