Integrating Debezium and Knative

or

How to Stream Changes the Knative Way

ATELIER SOLUTIONS

Chris Baumbauer
President

Who is cab?

- Face of Atelier Solutions
  - Integrator of Things
- Early Knative Expertise
  - Gitlab Serverless Integration
  - Knative C Serverless Runtime
- Co-organizer: CNCF Placer

ATELIER SOLUTIONS

What if we could stream database changes?

- Let's see about streaming change event notifications from Oracle. How about Debezium?
  - Limited DB support (MySQL and PostgreSQL)
  - Kafka Only
  - Let's roll our own Knative Service!!!
- Fast-forward, how about now?
  - Expanded DB support (SQLServer, Oracle, DB2, and others)
  - Decoupled Kafka, and support other streaming services (Kinesis, PubSub, EventHub, and others)
    - Can now create our own Debezium "server"

How Debezium was Knativified

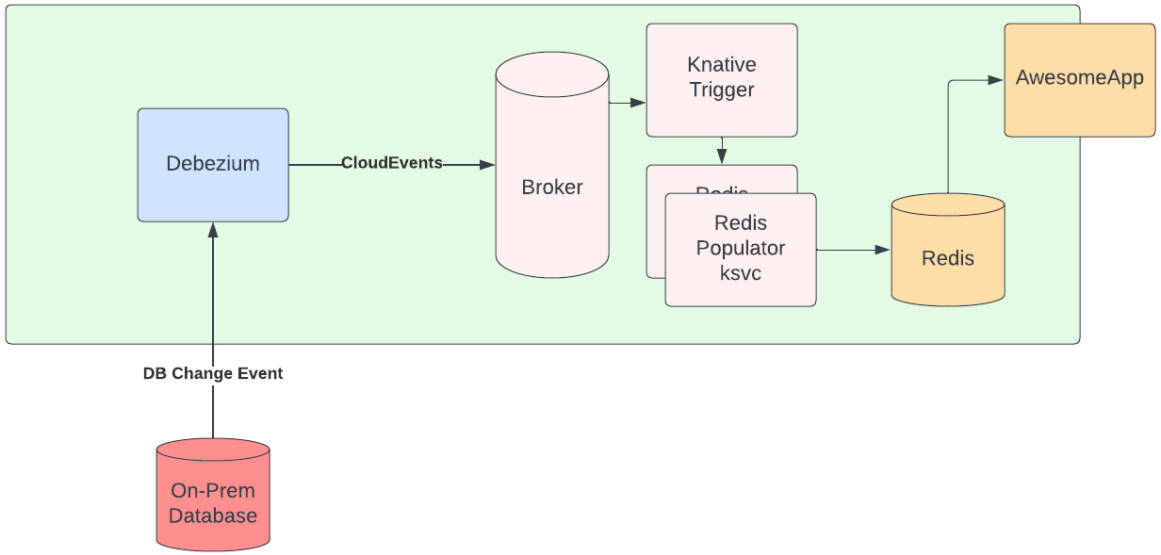
- Debezium needs to be containerized
- Debezium added support for CloudEvents
  - Support other cloud based streaming servers
- Knative Event Source streams data to a common sink
  - Added Debezium “HTTP Server” to stream CloudEvents to a Webhook (and also watch K_SINK)
  - Added in Debezium 1.9
- Profit!

Observations

- Pros:
  - Java properties == environment variables exposure
  - Leverages full Knative Serving/Eventing ecosystem
- Iffy:
  - Does require a translator/transformation service
- Cons:
  - Autoscaling needs to be disabled for the service
  - Must have access to the database (possibly hosted outside of K8S cluster)

A Sample Integration

- Debezium source streams event to Broker
- Second service to consume events and publish changes



ATELIER SOLUTIONS

Want to learn more?

Web: https://atelier-solutions.com/debezium-knative-2022

CNCF/Kubernetes Slack: cab105
Knative Slack: cab
Twitter: @cab105
Github: cab105
LinkedIn: https://linkedin.com/in/cab105
Email: chris@atelier-solutions.com

ATELIER
SOLUTIONS

Thanks for all the kibble!

ATELIER
SOLUTIONS