Creating a Kafka Streams Application

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Overview

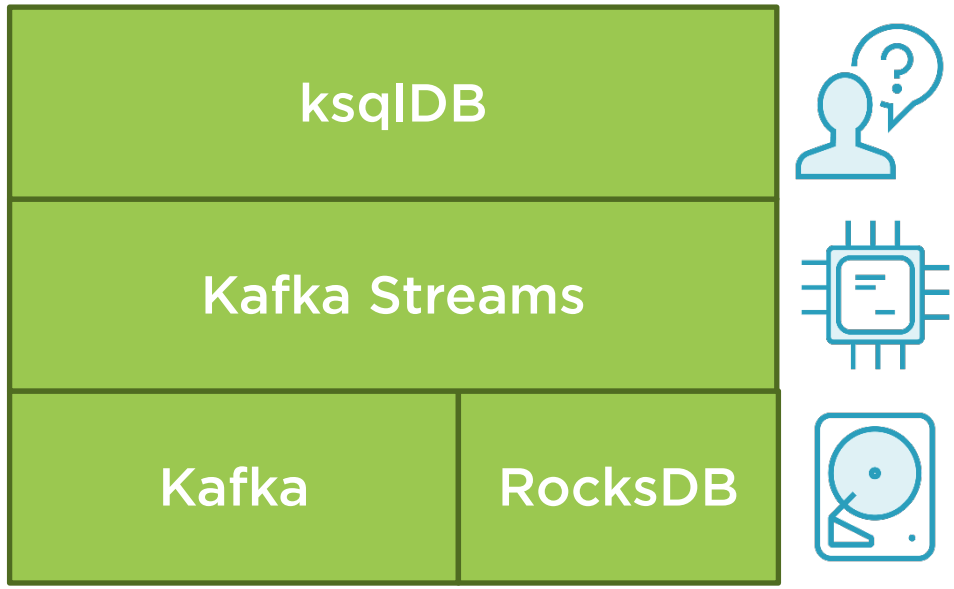
Programming steps

Steaming transformations

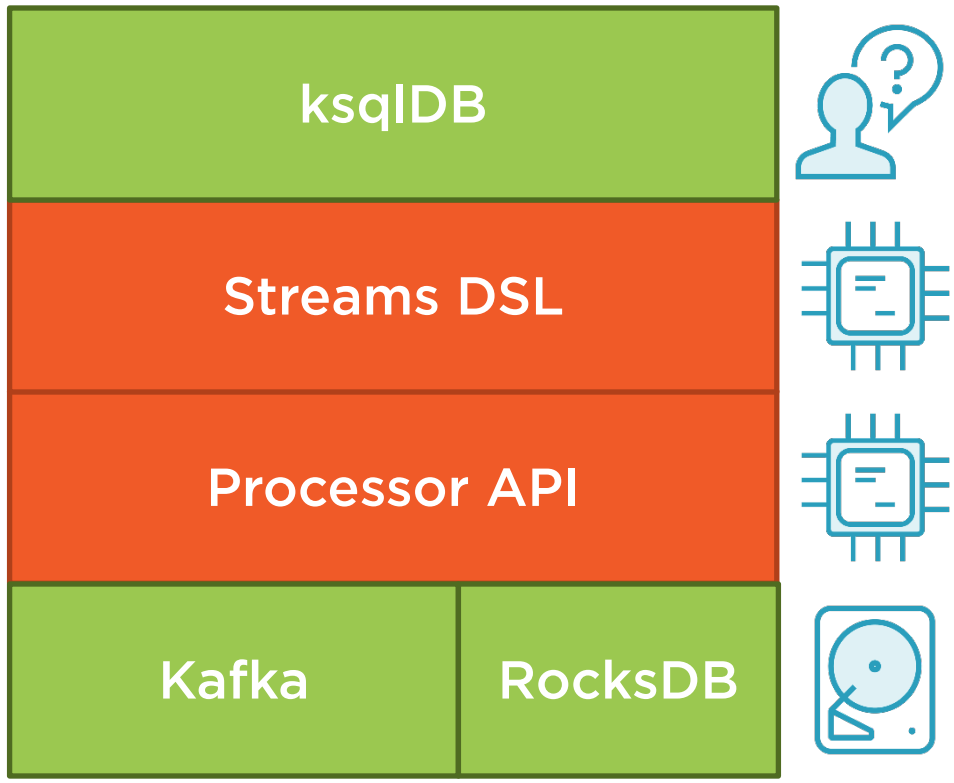
- Stateless
- Stateful

Event-driven applications

Kafka Steams Components



Kafka Steams Components



Prerequisites

Java

Maven

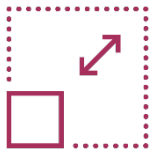
Kafka Streams

Program Steps

Import Library

Configure Settings

Import Data



Apply Transformations

Export Data

Library and Settings

Serdes

Code for **ser**ializing and **des**erializing data

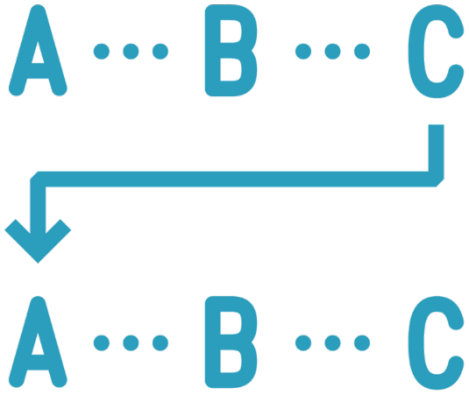
Serializing and Deserializing

Import and Export Data

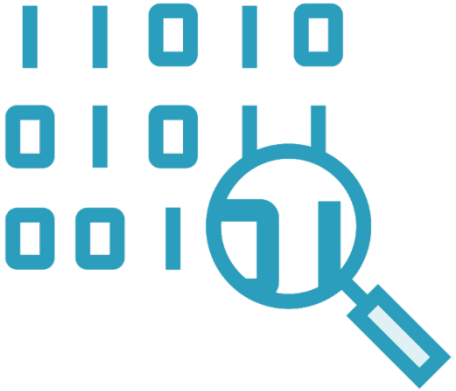
Apply Transformations

Transforming Data with Kafka Streams

Types of Operations

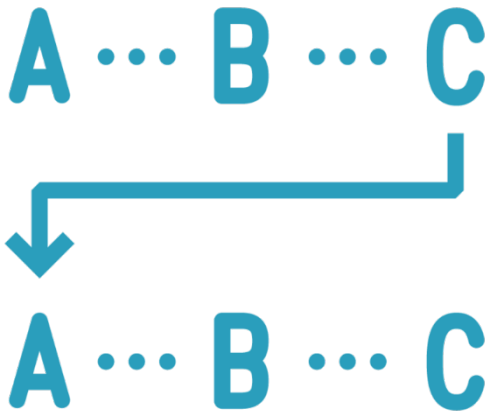


Stateless



Stateful

Stateless Operators

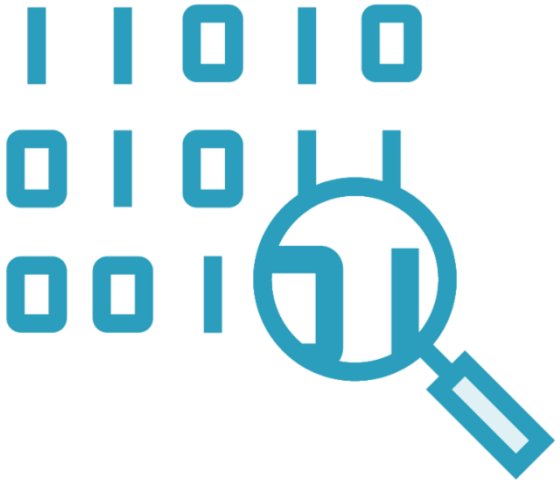


Filter / Branch

Map / Flatmap

GroupBy / GroupByKey

Stateful Operators



- Aggregate
- Window
- Join

Demo

Configure the project

Transform a stream

Test the output

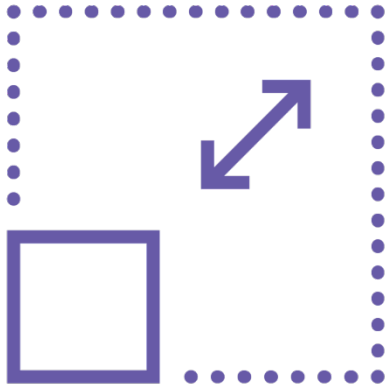
Making Event-driven Applications

Event-driven is more of a design philosophy.

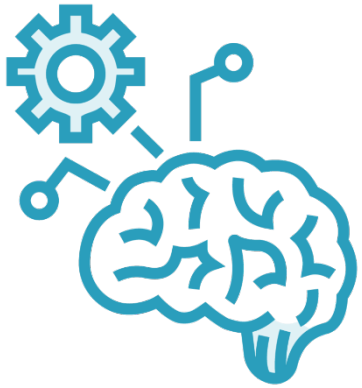
Event-driven Application

An application that primarily communicates via events.

How Does It Differ?



Transform Data



Complex Logic

Side-effects

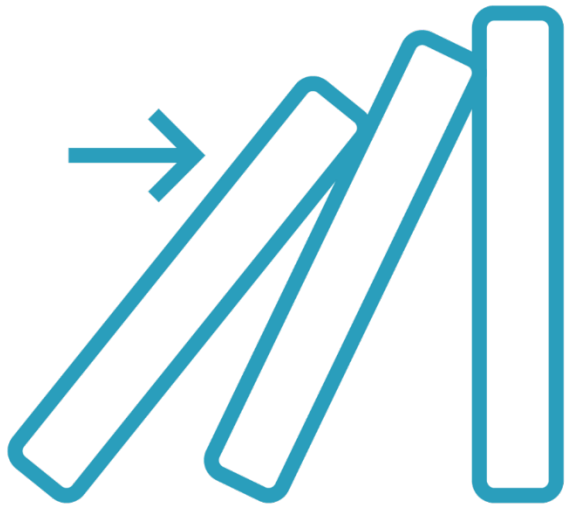
Applying Custom Logic

Map

Reduce / Aggregate

Transform

Implementing Side-effects



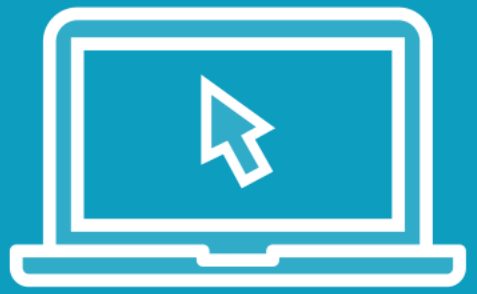
Peek

Foreach

Process

Side-effects are dangerous!

Demo



Apply custom logic

Produce side-effects

Summary

Kafka Streams is just a library

Stateful versus stateless

Custom logic and side-effects