Integrating Kafka with Enterprise Java for establishing a high performant distributed messaging infrastructure

JavaCro'19
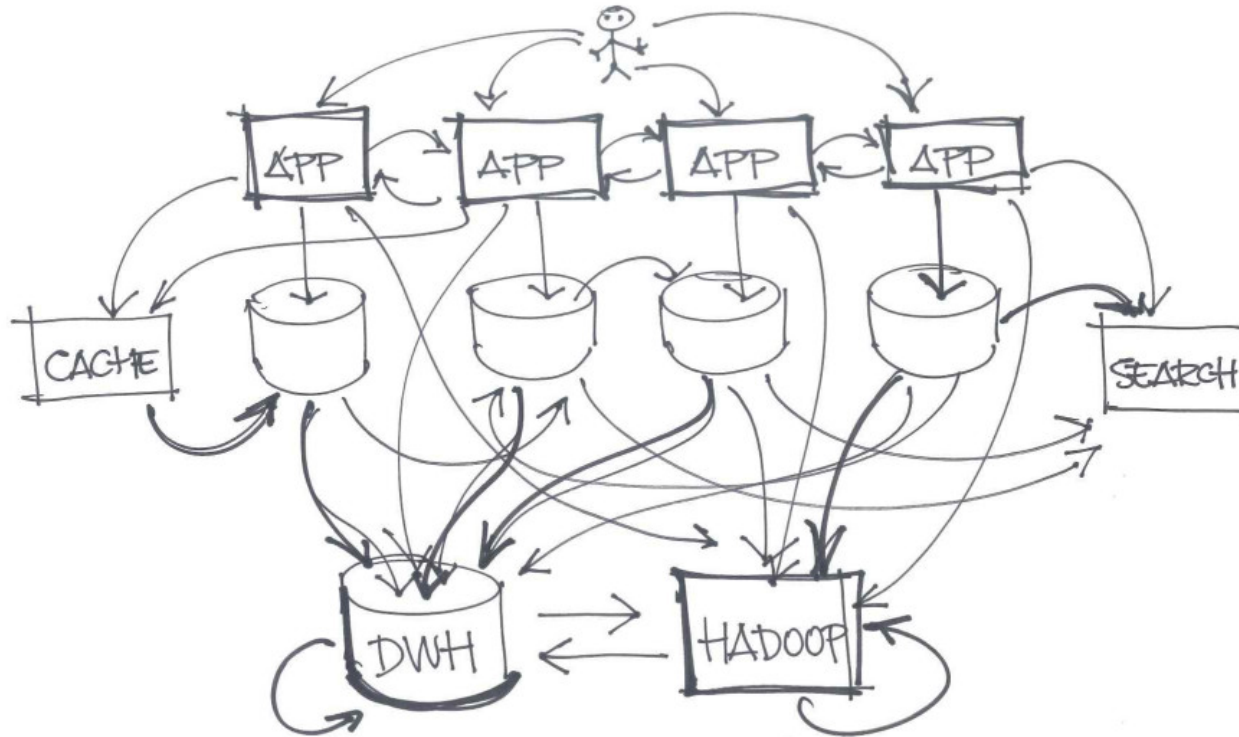
Anamarija Talijanac, Irena Kezić
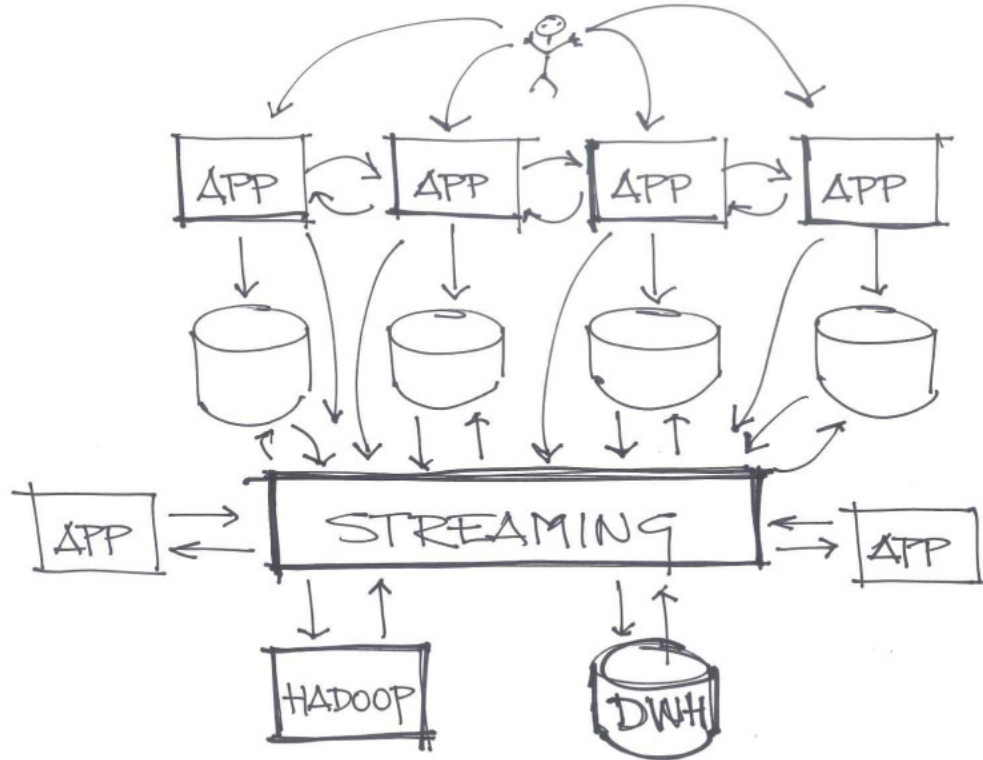
IBM Services

13th May, 2019

IBM

Agenda

- Kafka basics
- Kafka Use Cases
- Java Connector Architecture
- Distributed messaging challenges
- Reliable Kafka Processing
- IBM Event Streams

Architectural overview

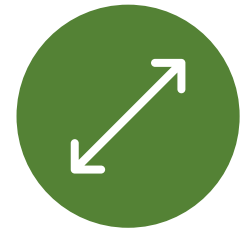# Architectural overview

Kafka basics

HIGH
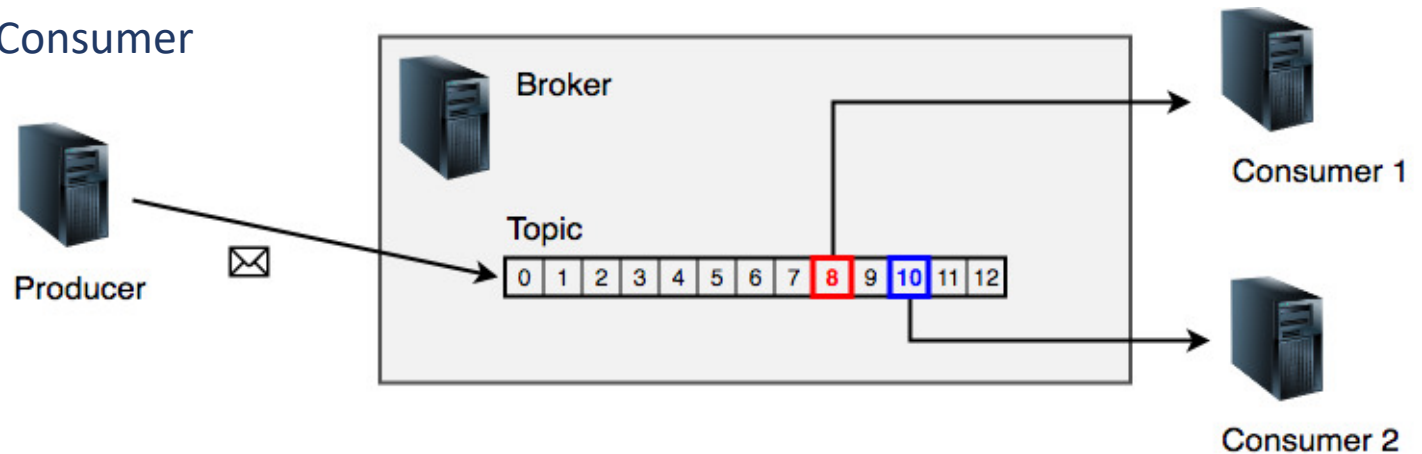THROUGHPUT
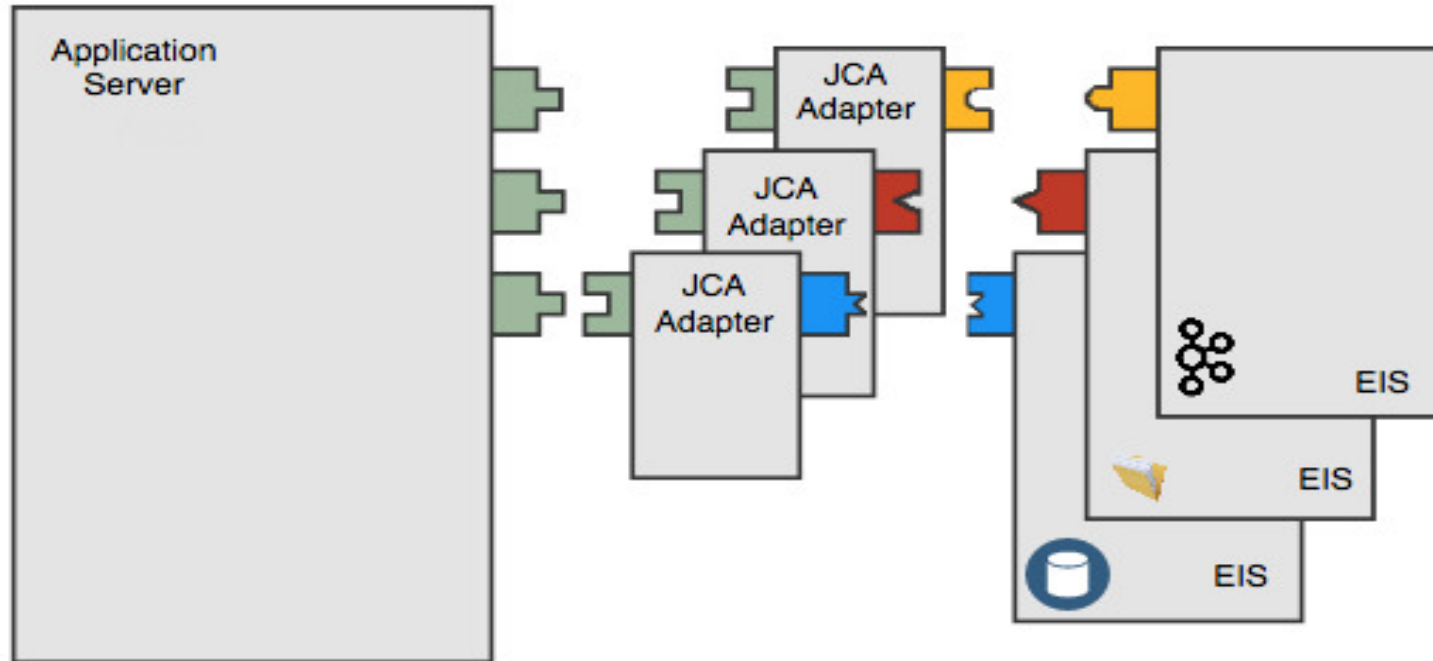
DURABILITY

RELIABILITY

SCALABILITY

Kafka basics

- Cluster / Broker
- Topic / Partition
- Producer / Consumer
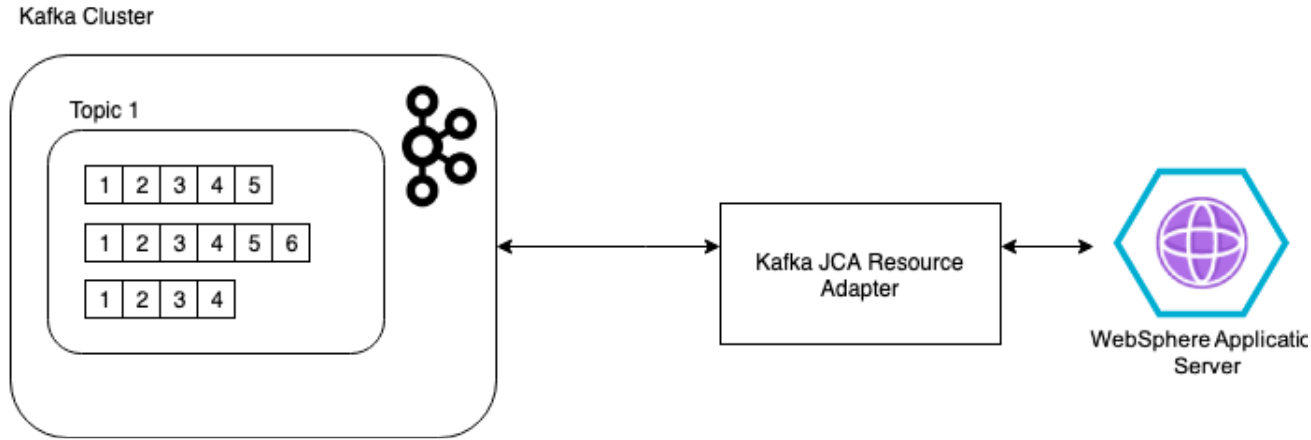
Kafka Use Cases

- Activity tracking

- Commit Log

- Metrics and Logging

- Unit of Order

- Stream processing

Java Connector Architecture

Java Connector Architecture

- The Java EE standard for integrating application servers with EIS.
- Unified common client interface for heterogeneous resource providers

Java Connector Architecture

- Lifecycle management Contract

- Work management Contract

- Connection Management Contract

- Transaction Management Contract

- Security Contract

- Transaction Inflow Contract

- Message Inflow Contract

- Generic Context Contract

Distributed messaging challenges

EXACTLY ONCE DELIVERY

GUARANTEED ORDER OF MESSAGES
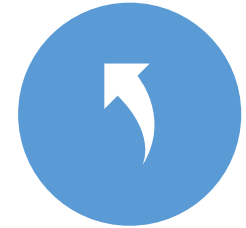
RELIABLE MESSAGING

XA with Kafka

BEGIN TRANSACTION
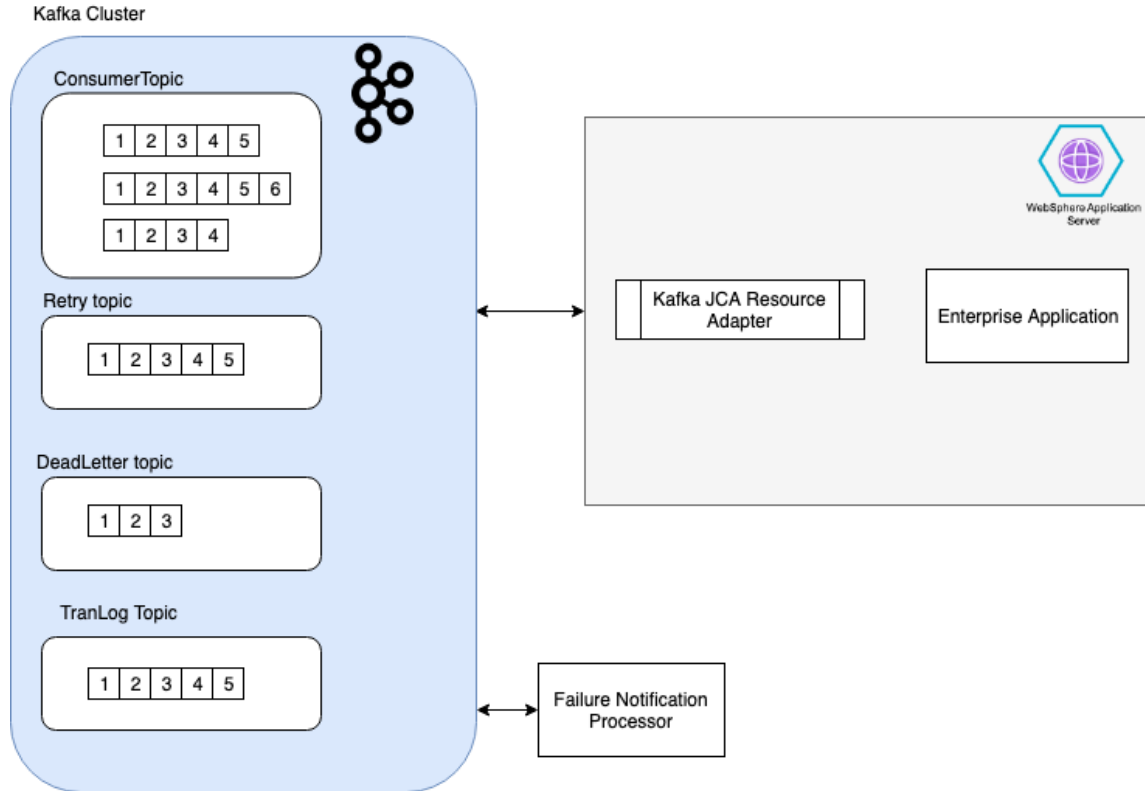
CONSUME MESSAGE FROM KAFKA TOPIC
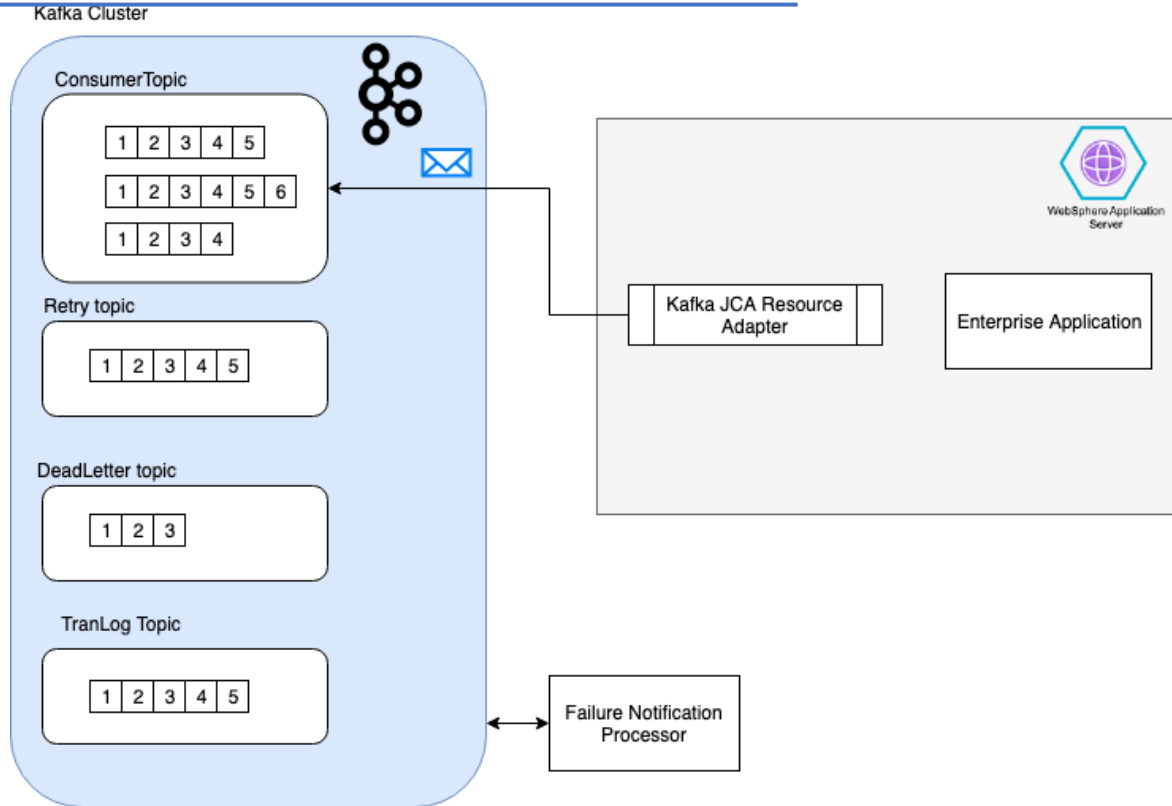
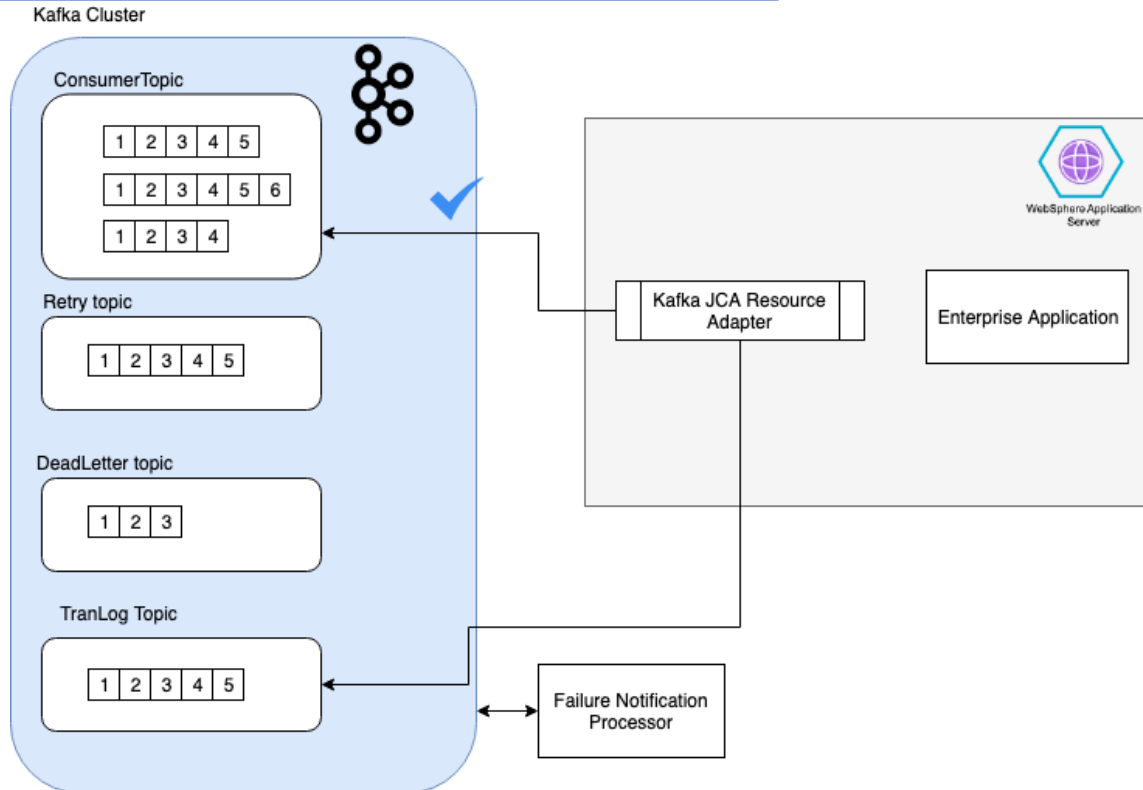INSERT ROW INTO TARGET DATABASE
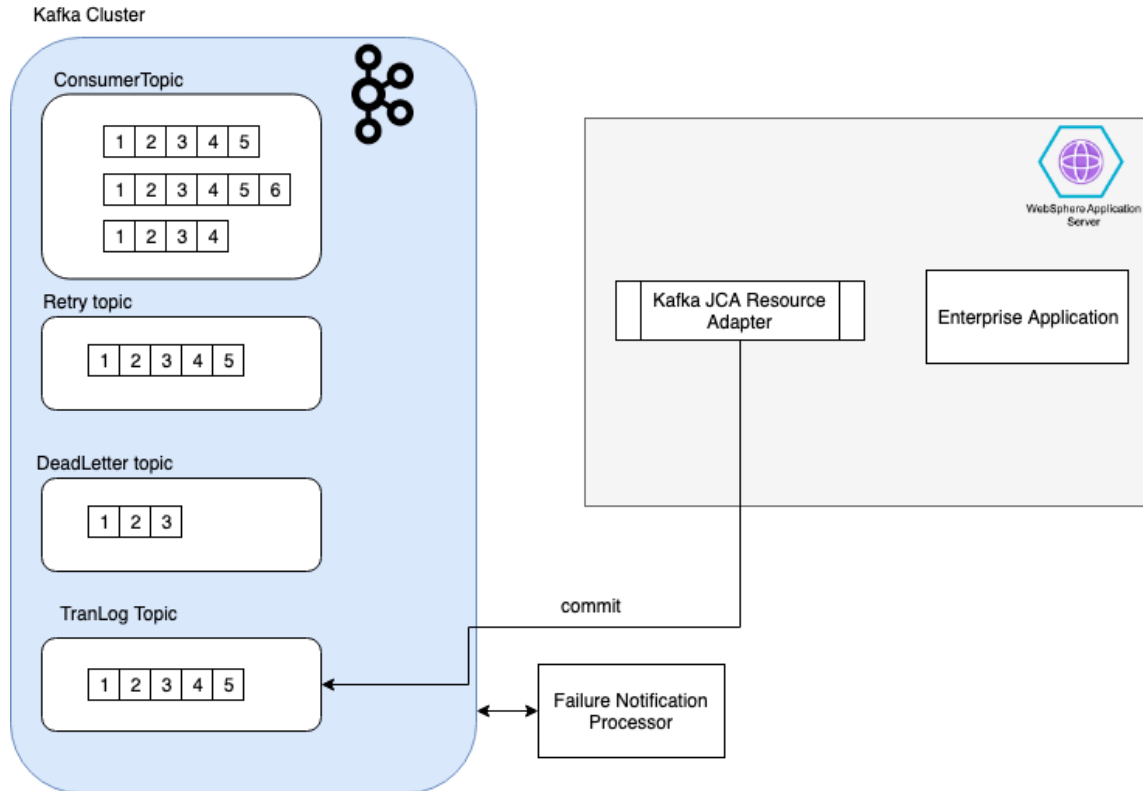
COMMIT TRANSACTION

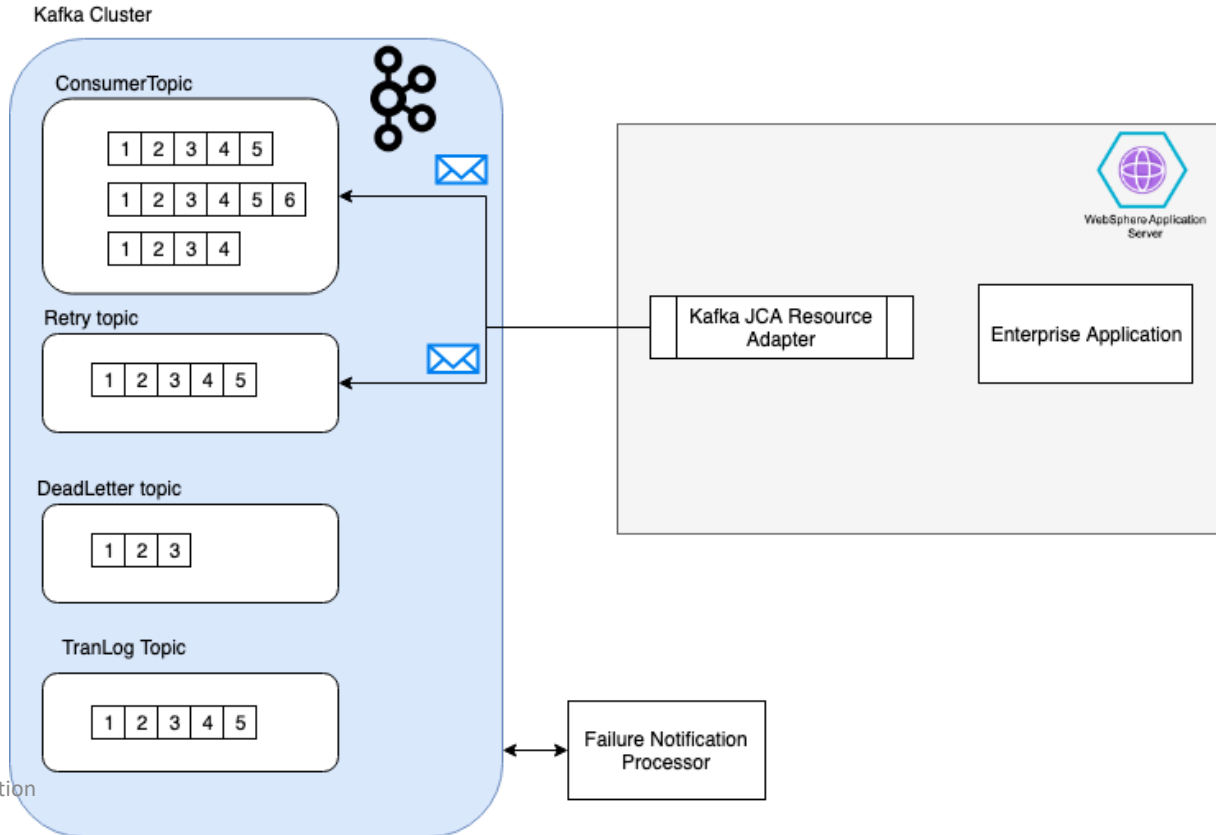# Reliable Kafka Processing

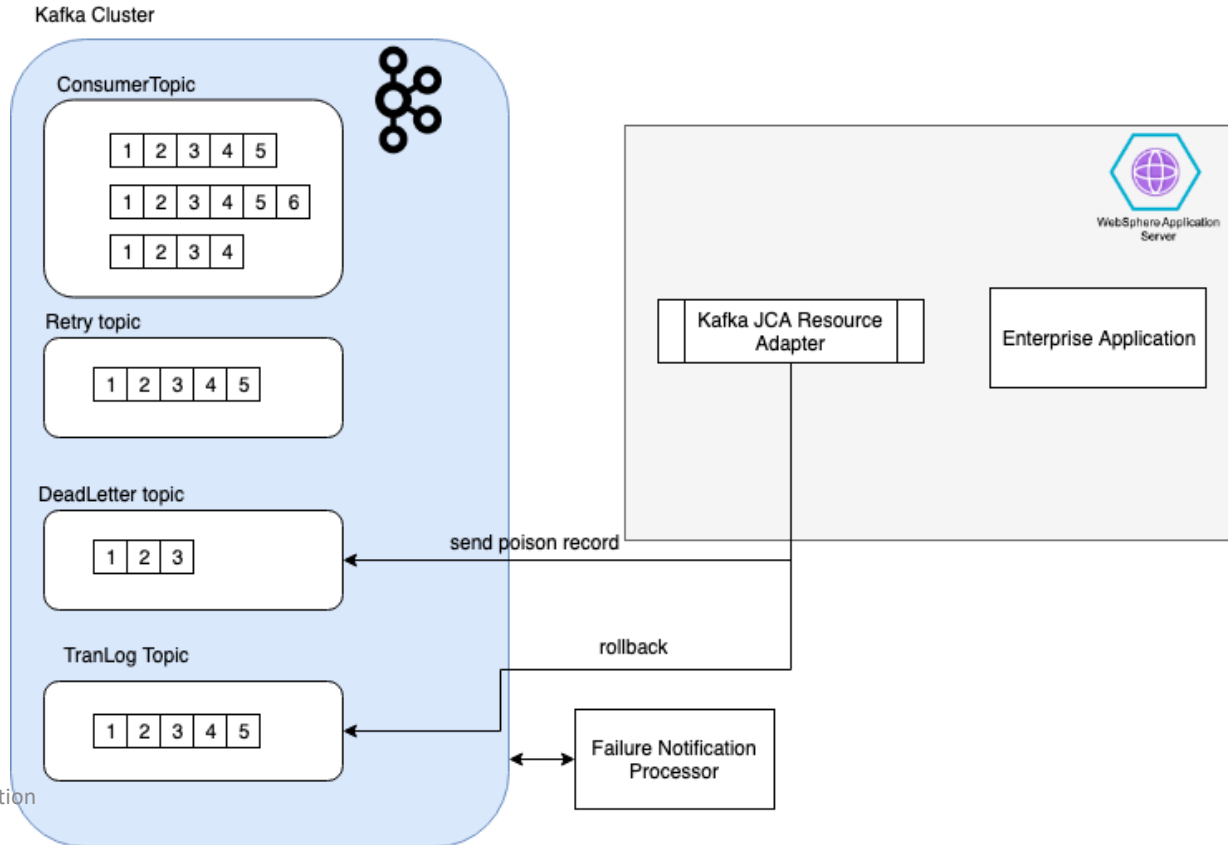# Reliable Kafka Processing

Reliable Kafka Processing
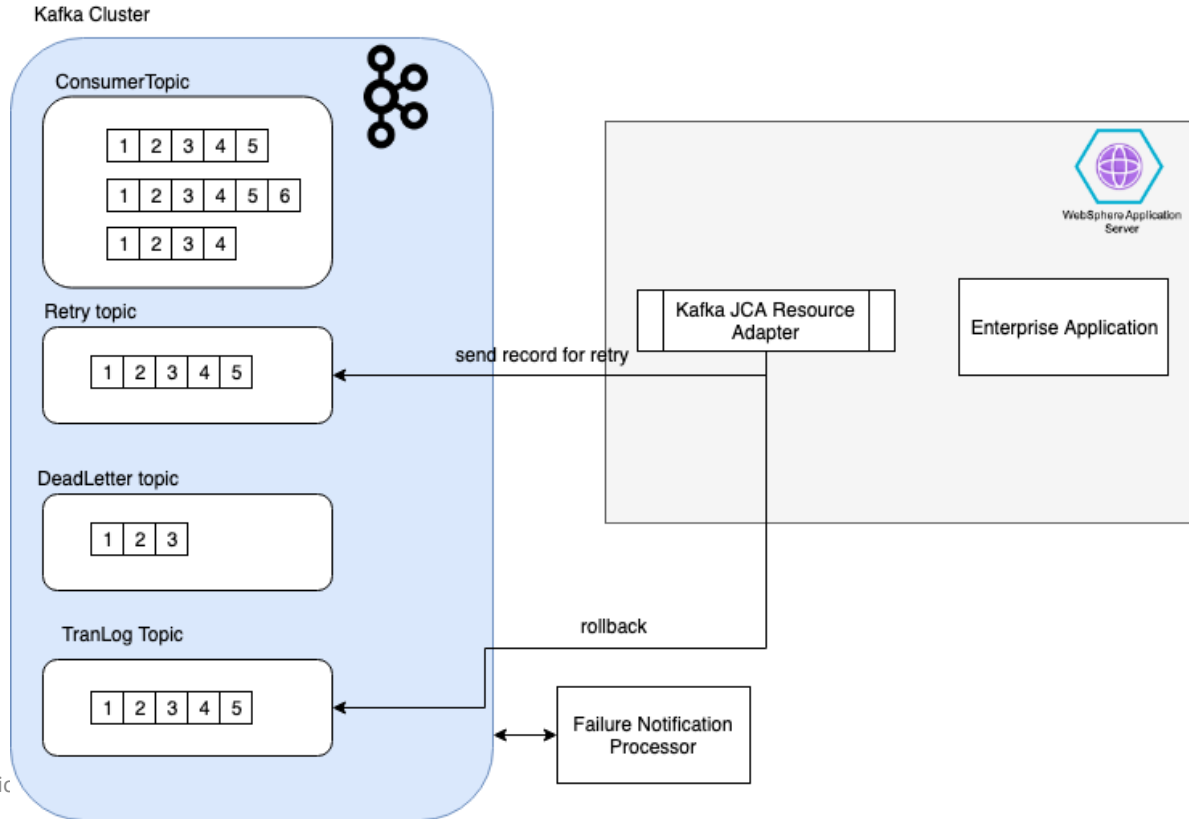
Reliable Kafka Processing

Reliable Kafka Processing
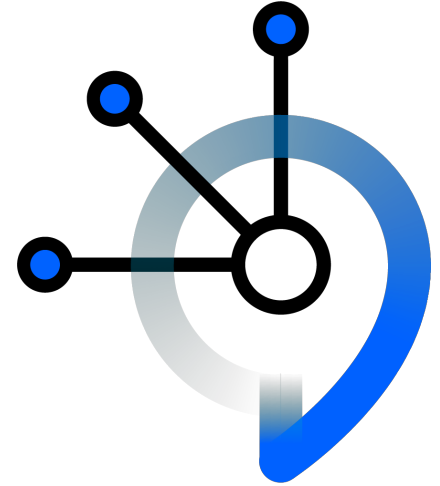
Reliable Kafka Processing

Reliable Kafka Processing

IBM Event Streams

- IBM has years of operational expertise running Apache Kafka for Enterprises

- Event Streams makes Kafka easy to run, manage & consume, reducing skill requirements and raising speed of deployment for faster time to value

- Support you can Trust – IBM has decades of experience supporting the World's toughest environments
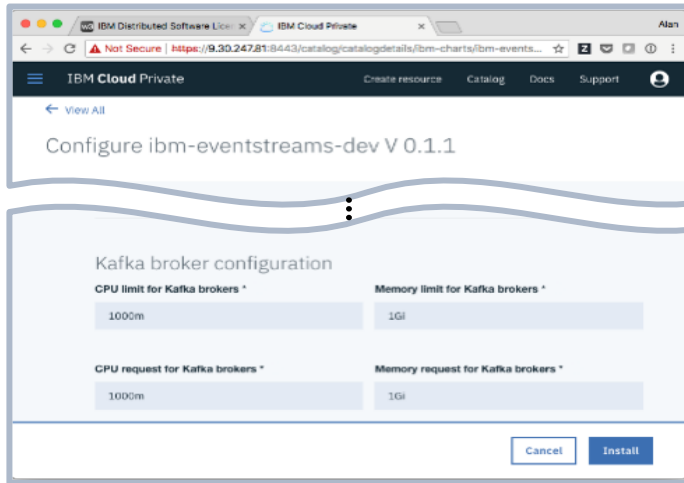
Q&A

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IBM Event Streams

Visualisation of your topic data

Tools to boost productivity