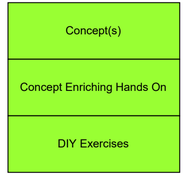
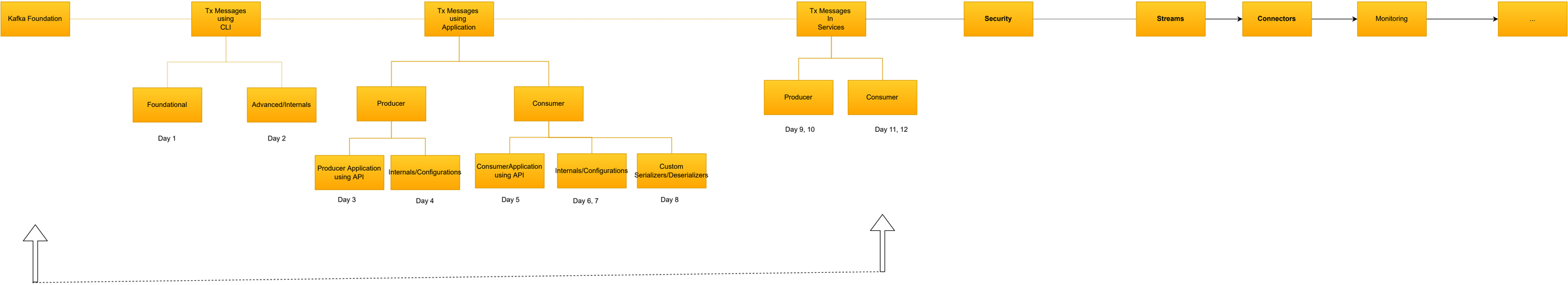
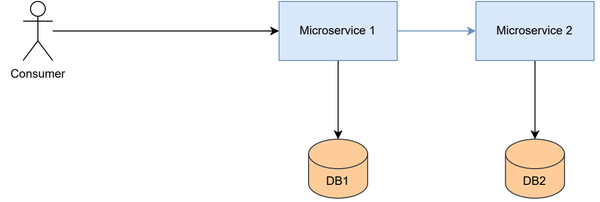
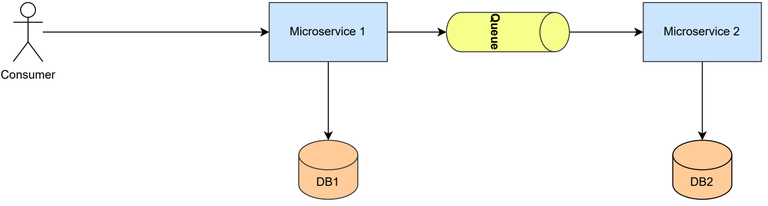
Teaching Principle



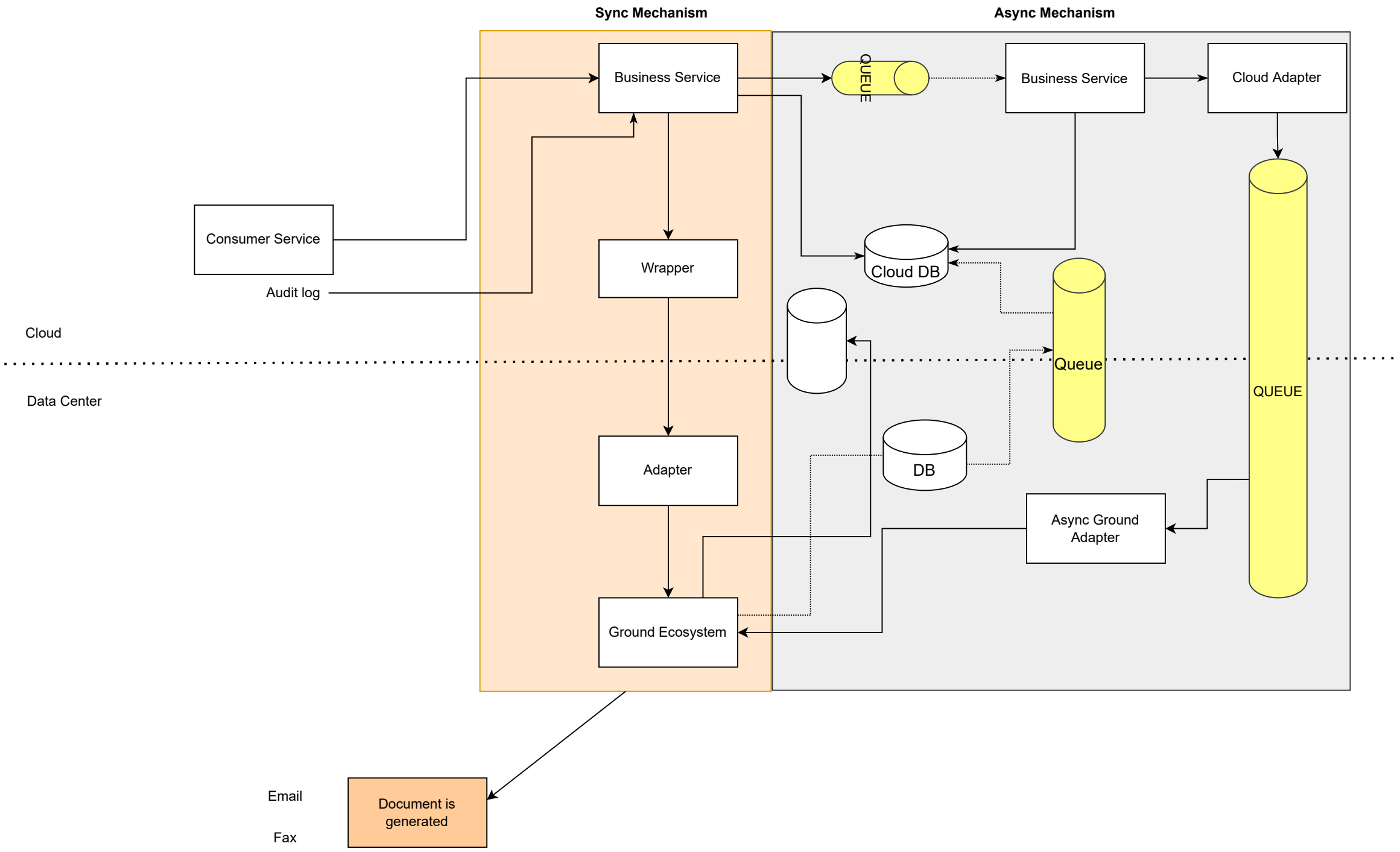
Learning Map



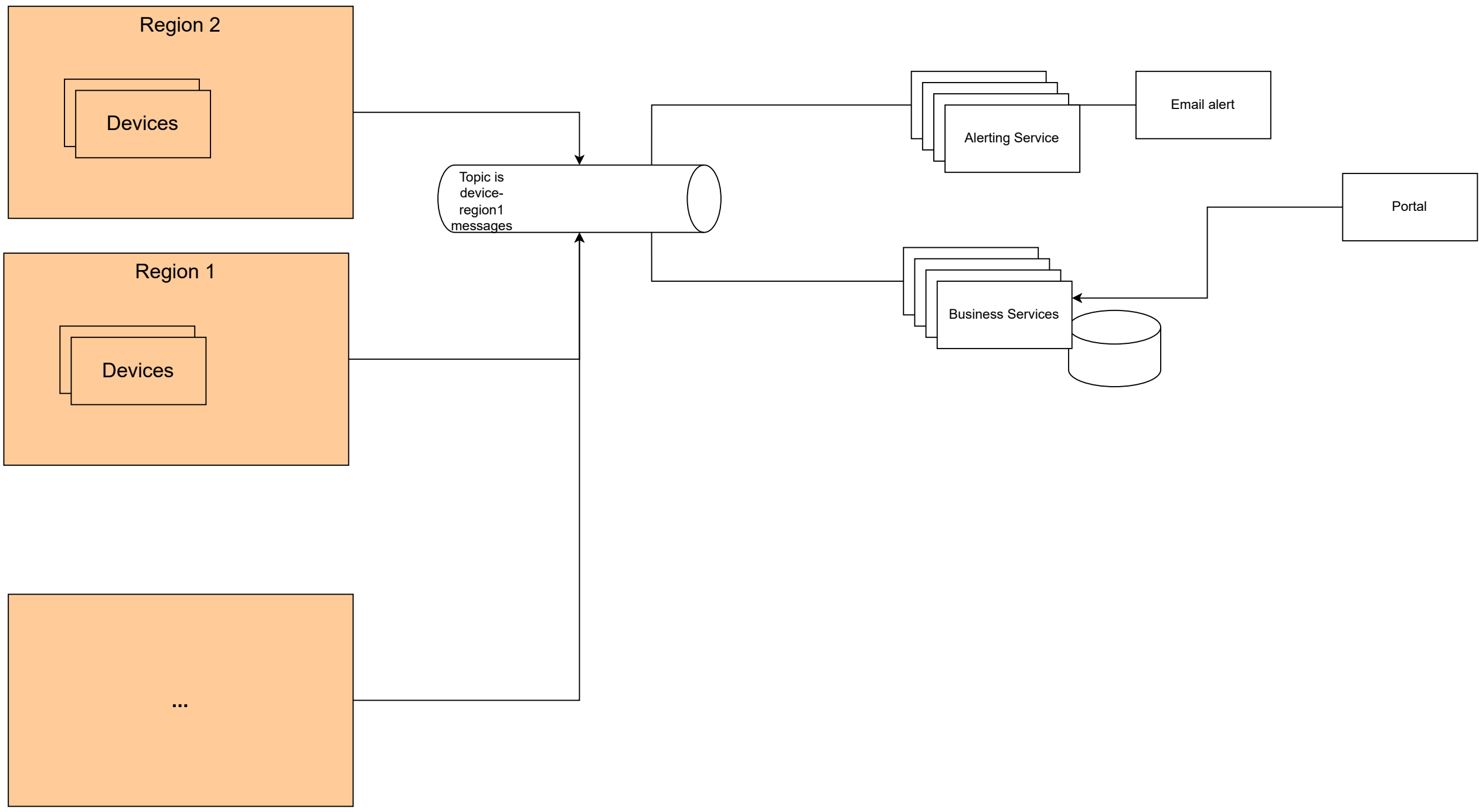

Consumer
Microservice 1
Microservice 2
DB1
DB2


Consumer
Microservice 1
Queue
Microservice 2
DB1
DB2

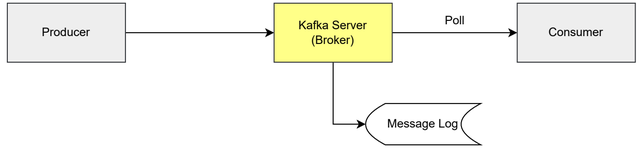
Use case 1



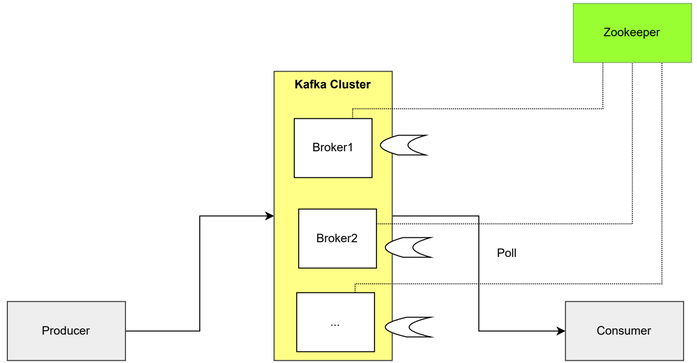
Use case 2



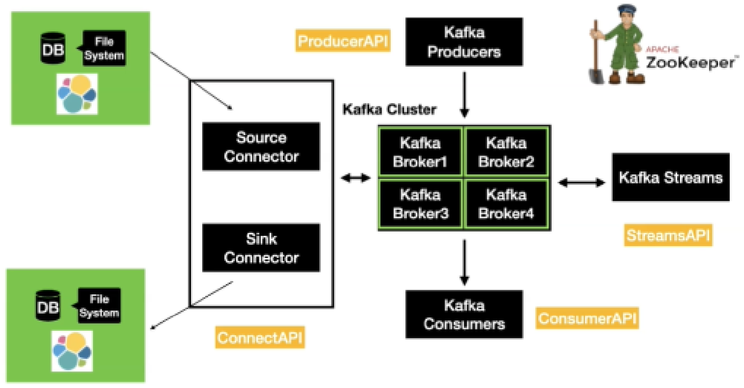
Basic Topology



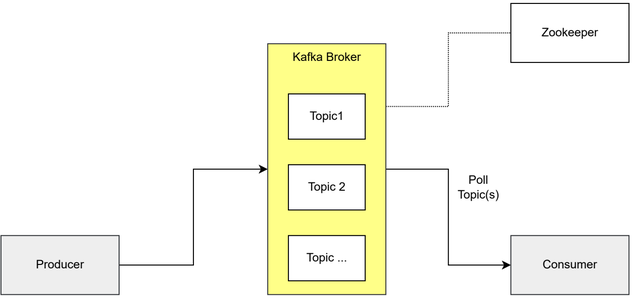
Distributed Topology



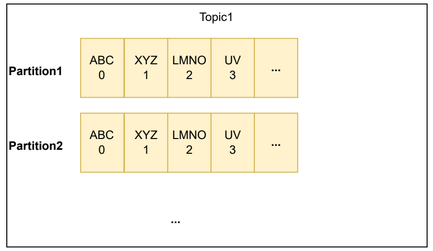
Kafka Landscape



Broker Anatomy

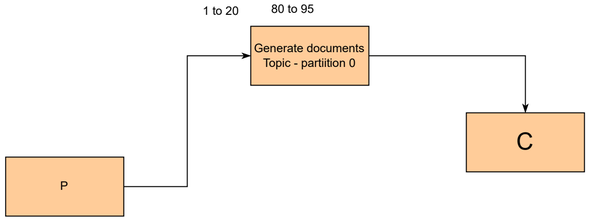


Topic Anatomy

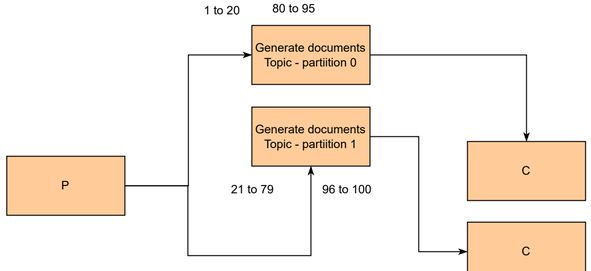


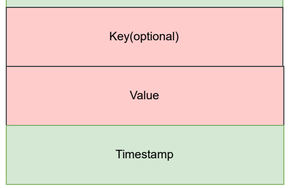
Message Anatomy

Topic-Same

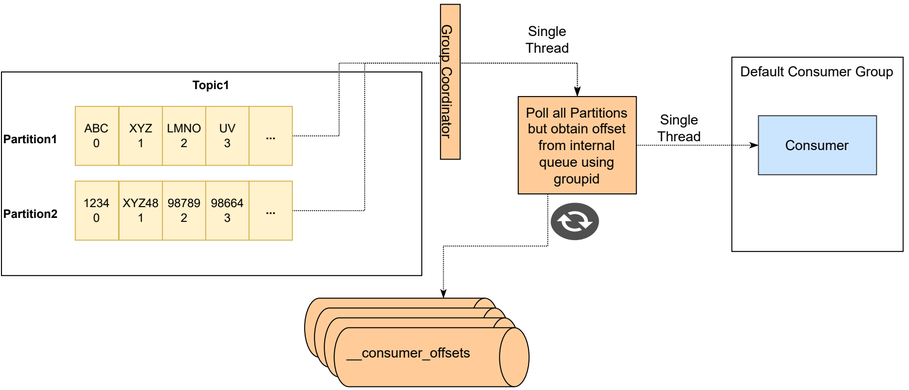


Topic-Same

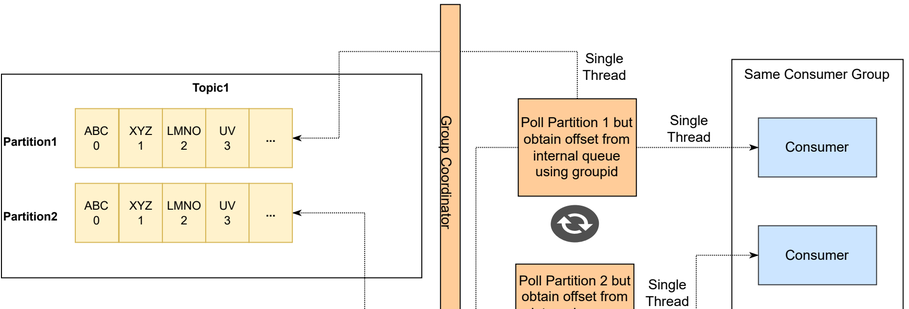


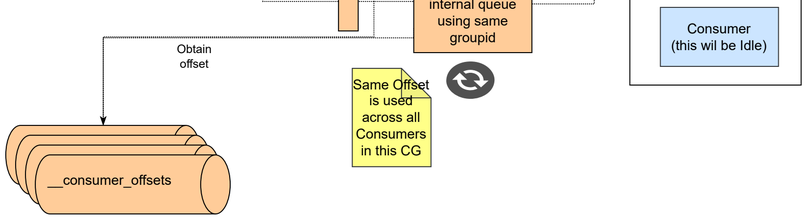

Key(optional)
Value
Timestamp

Default Consumer Group

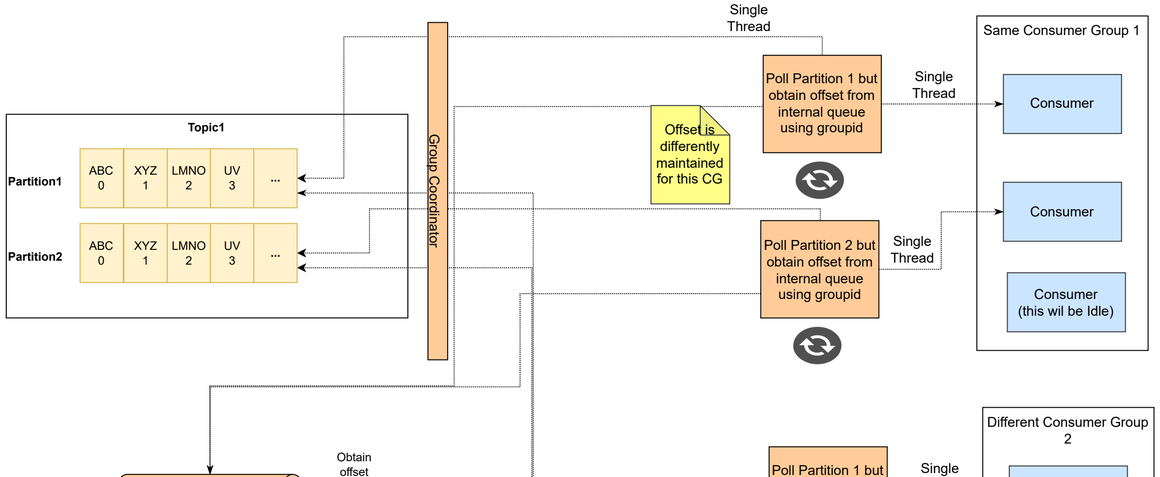


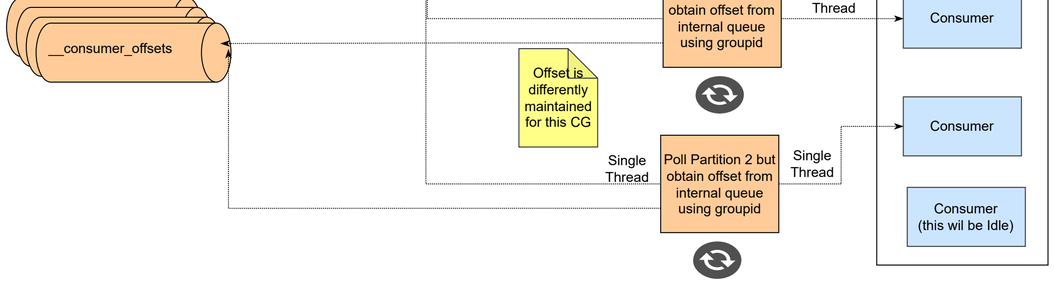
Using same Consumer Group to Read Messages at Scale



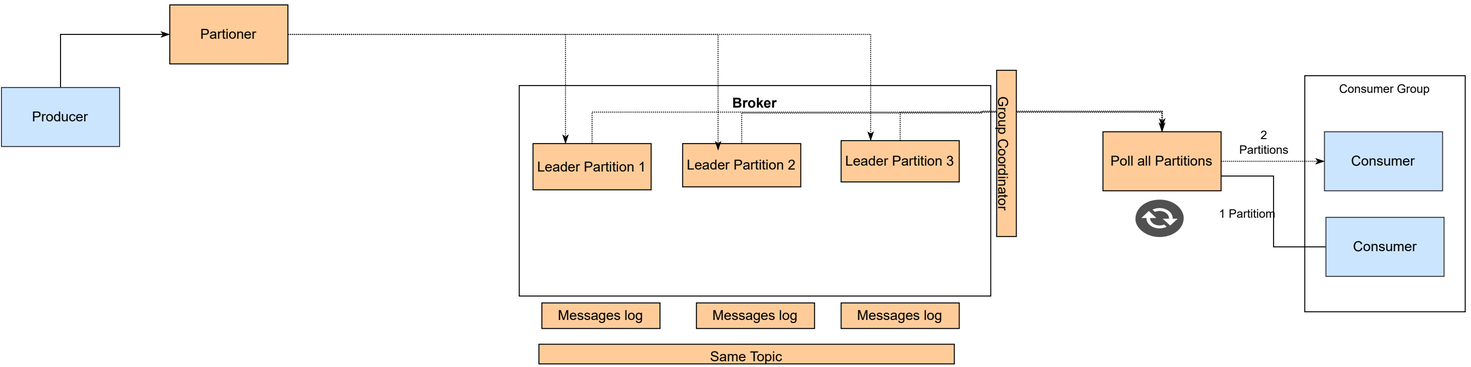


Using Different Consumer Group to Read Messages From Same Topic at Scale

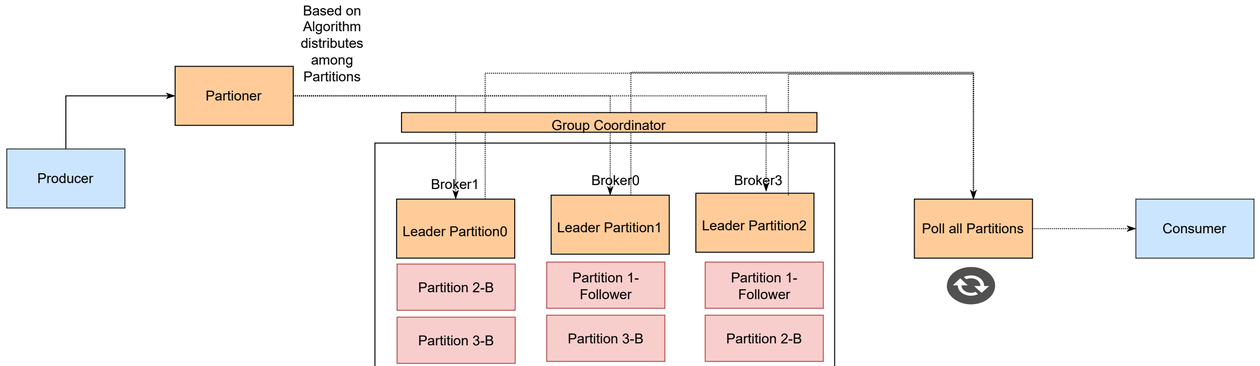


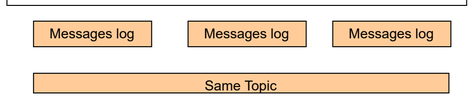

__consumer_offsets
obtain offset from internal queue using groupid
Thread
Consumer
Offset is differently maintained for this CG
Consumer
Single Thread
Poll Partition 2 but obtain offset from internal queue using groupid
Single Thread
Consumer (this wil be Idle)

Standalone Topology

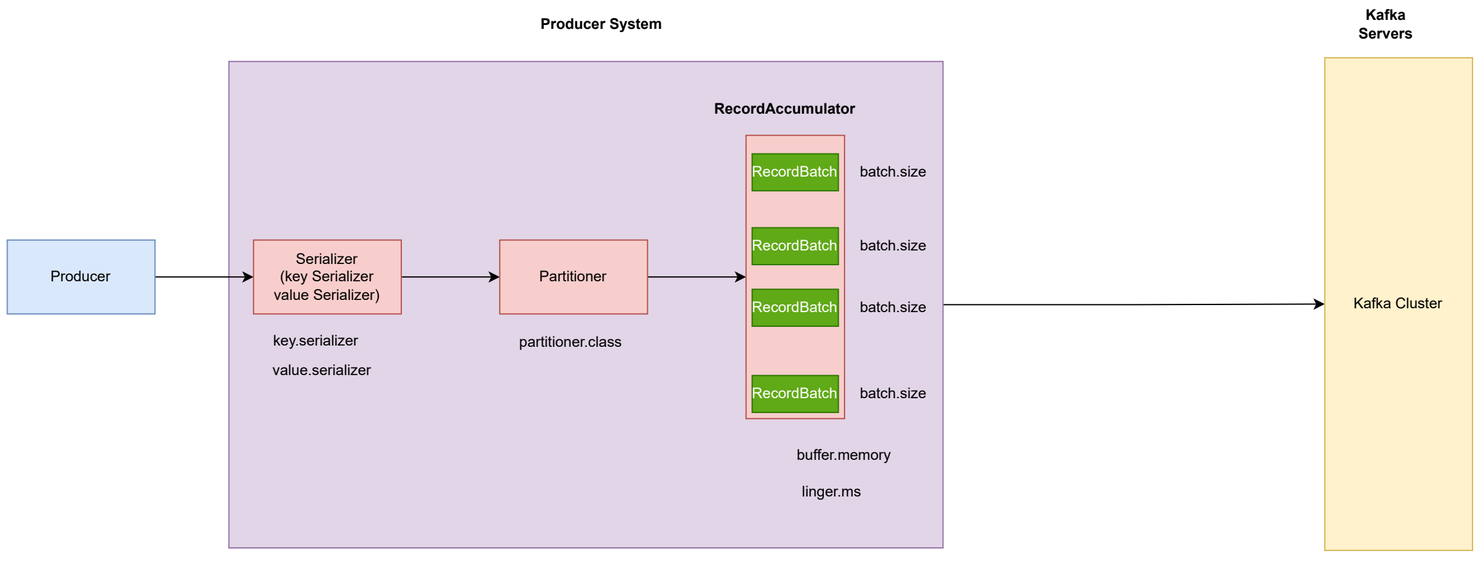


Distributed Topology

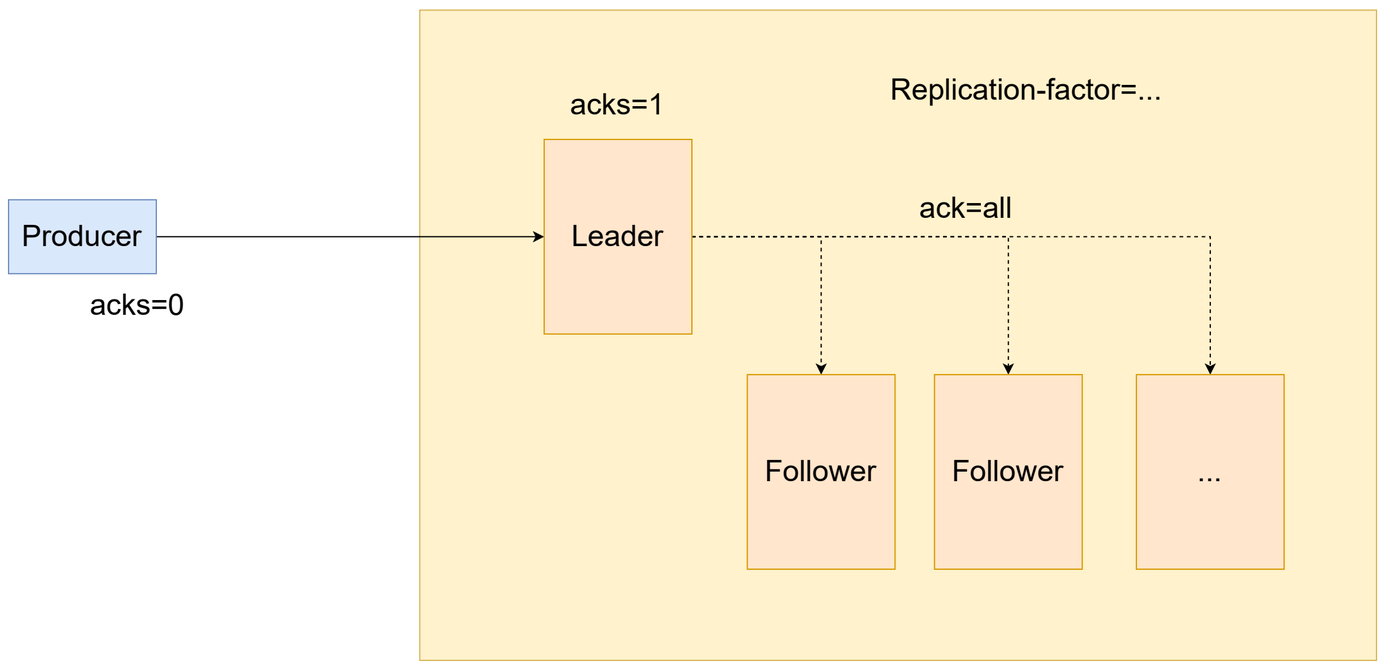



Messages log
Messages log
Messages log
Same Topic

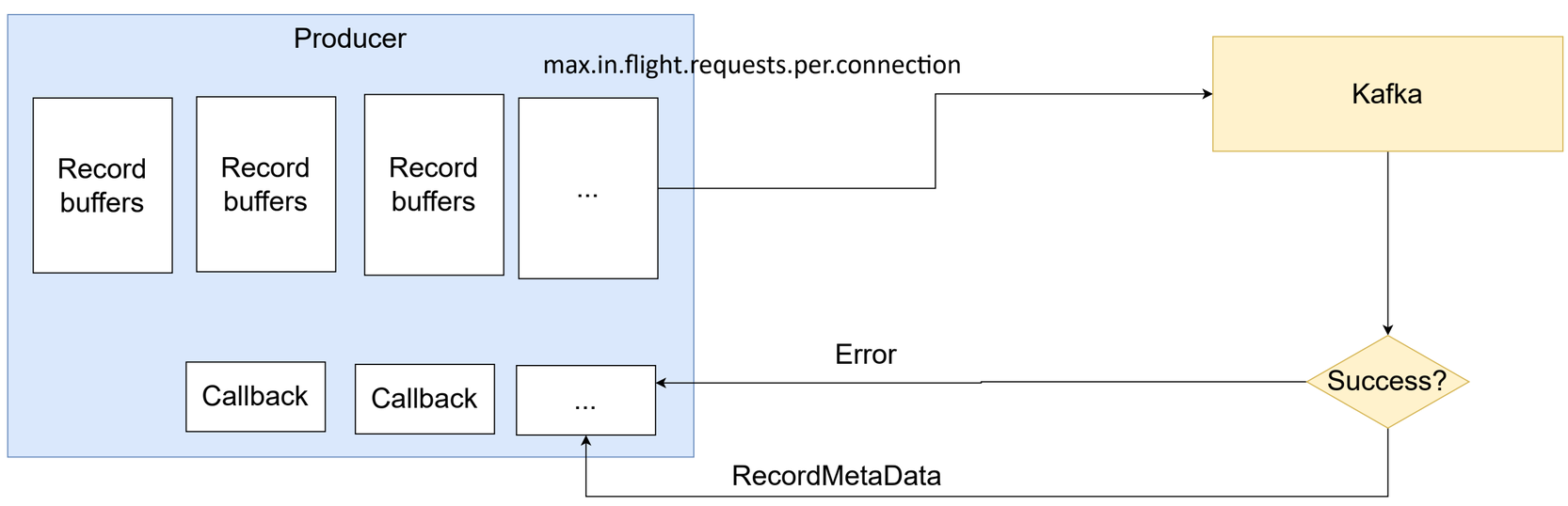
Producer Application Internals & Configurations



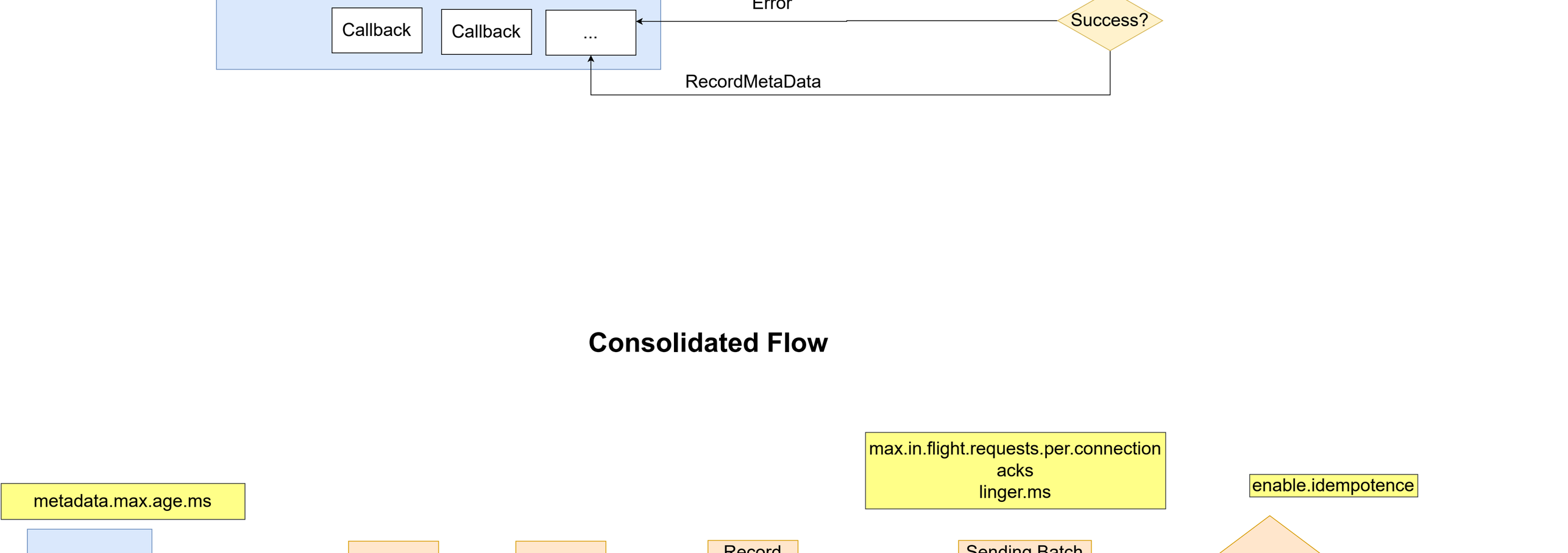
ack configuration



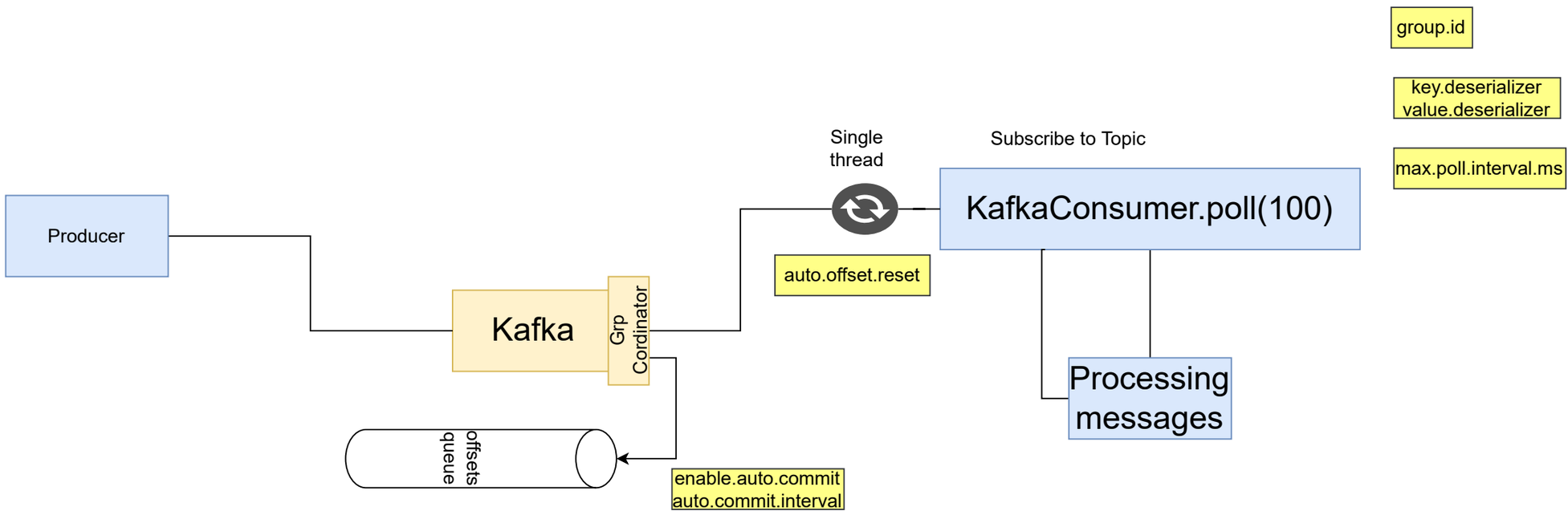
max.in.flight.requests.per.connection Configuration



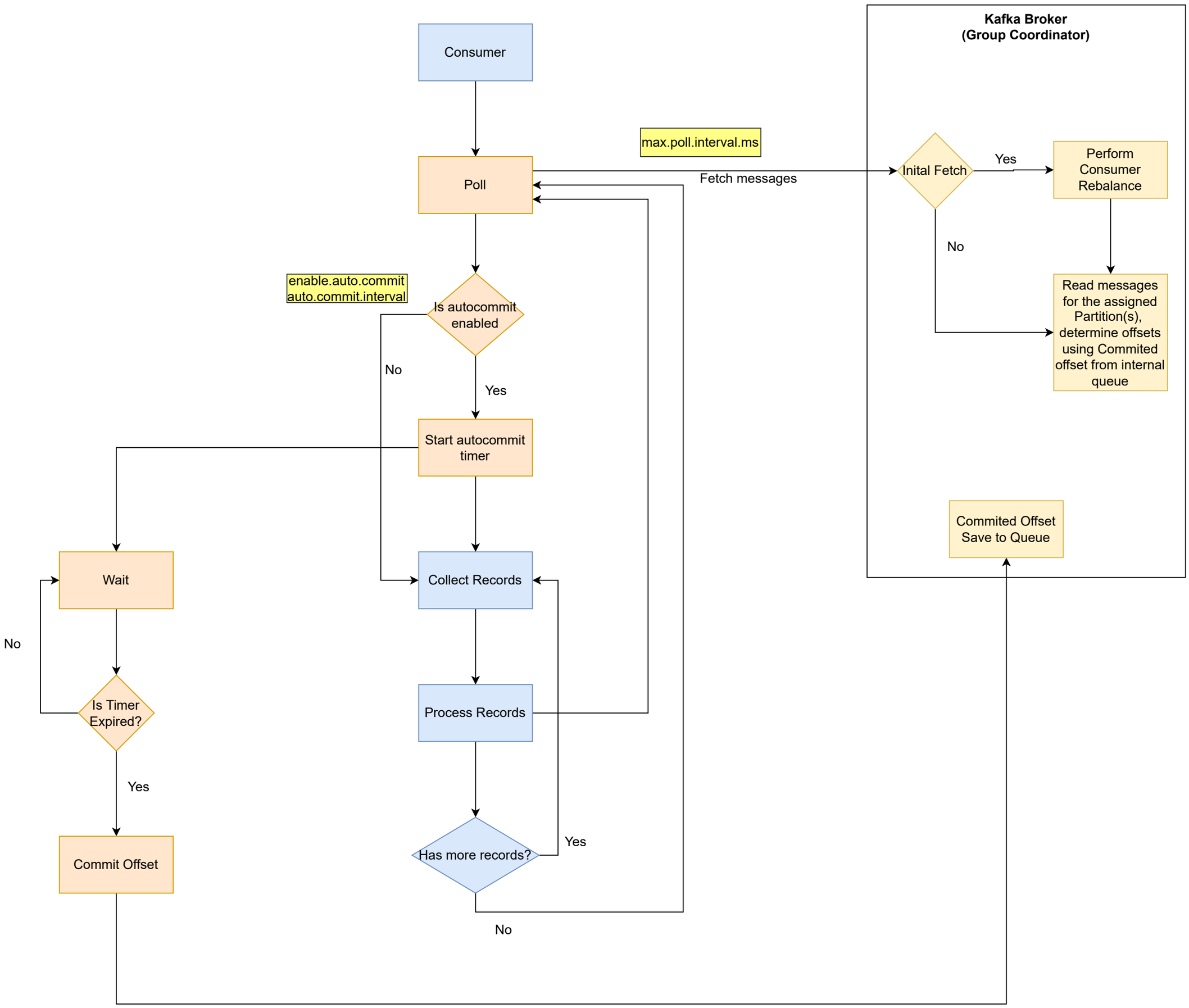
Consolidated Flow



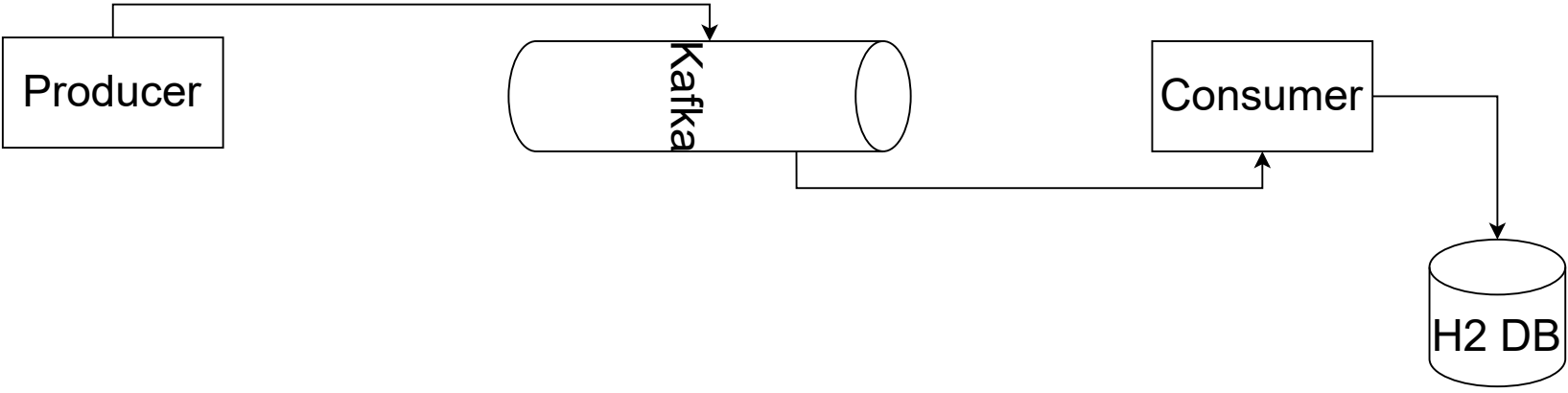
Consumer Pooling

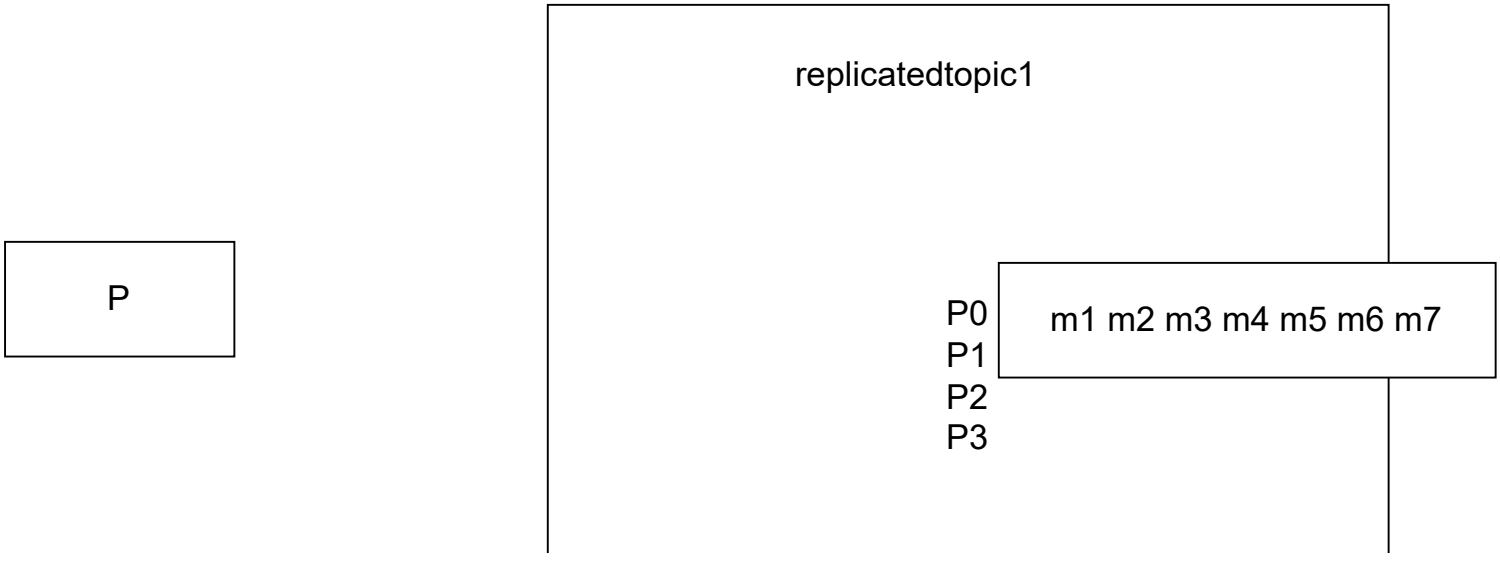


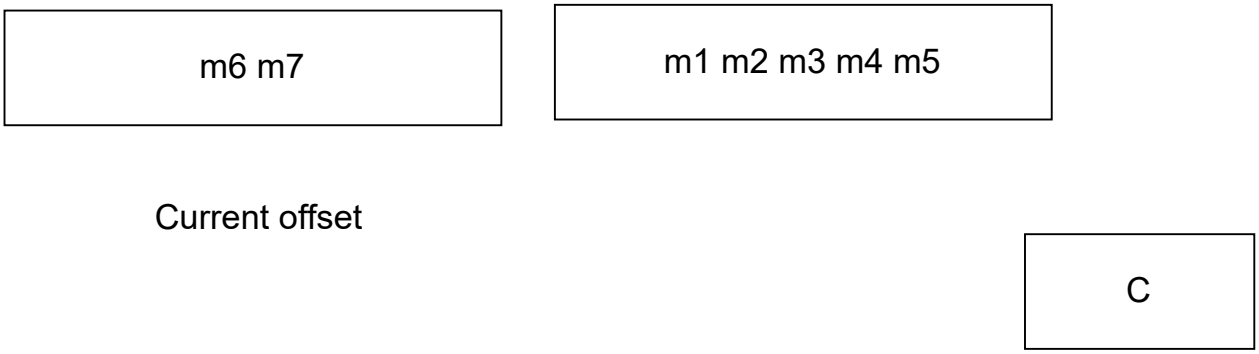
Consumer Internal Working

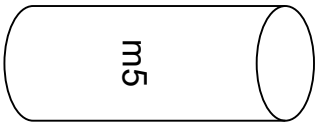


Persistency of read messages




replicatedtopic1
P
P0
P1
P2
P3
m1 m2 m3 m4 m5 m6 m7


m6 m7
m1 m2 m3 m4 m5
Current offset
C



Commited offset

Config Kafkaconsu

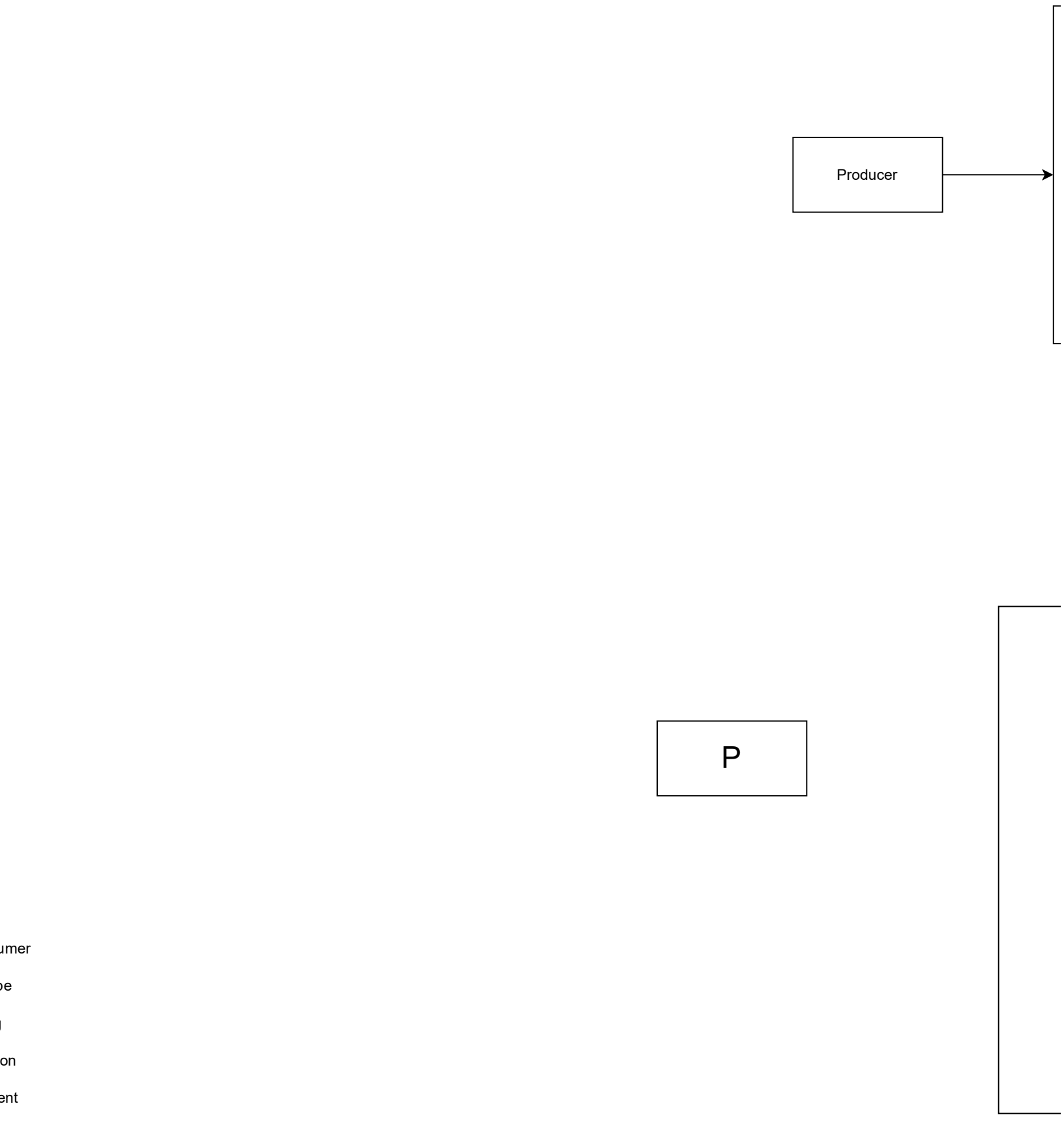
Subscrib

Polling

Partitions

Revocati

Assignme


Producer
P
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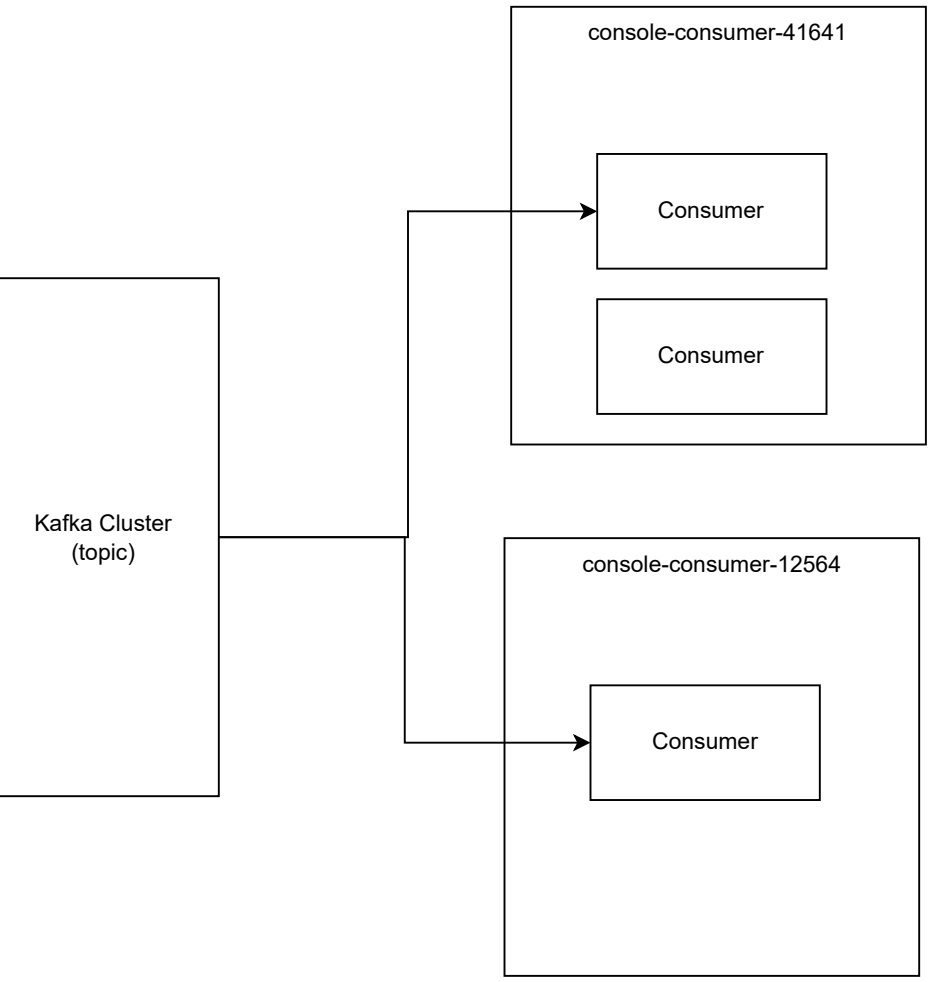
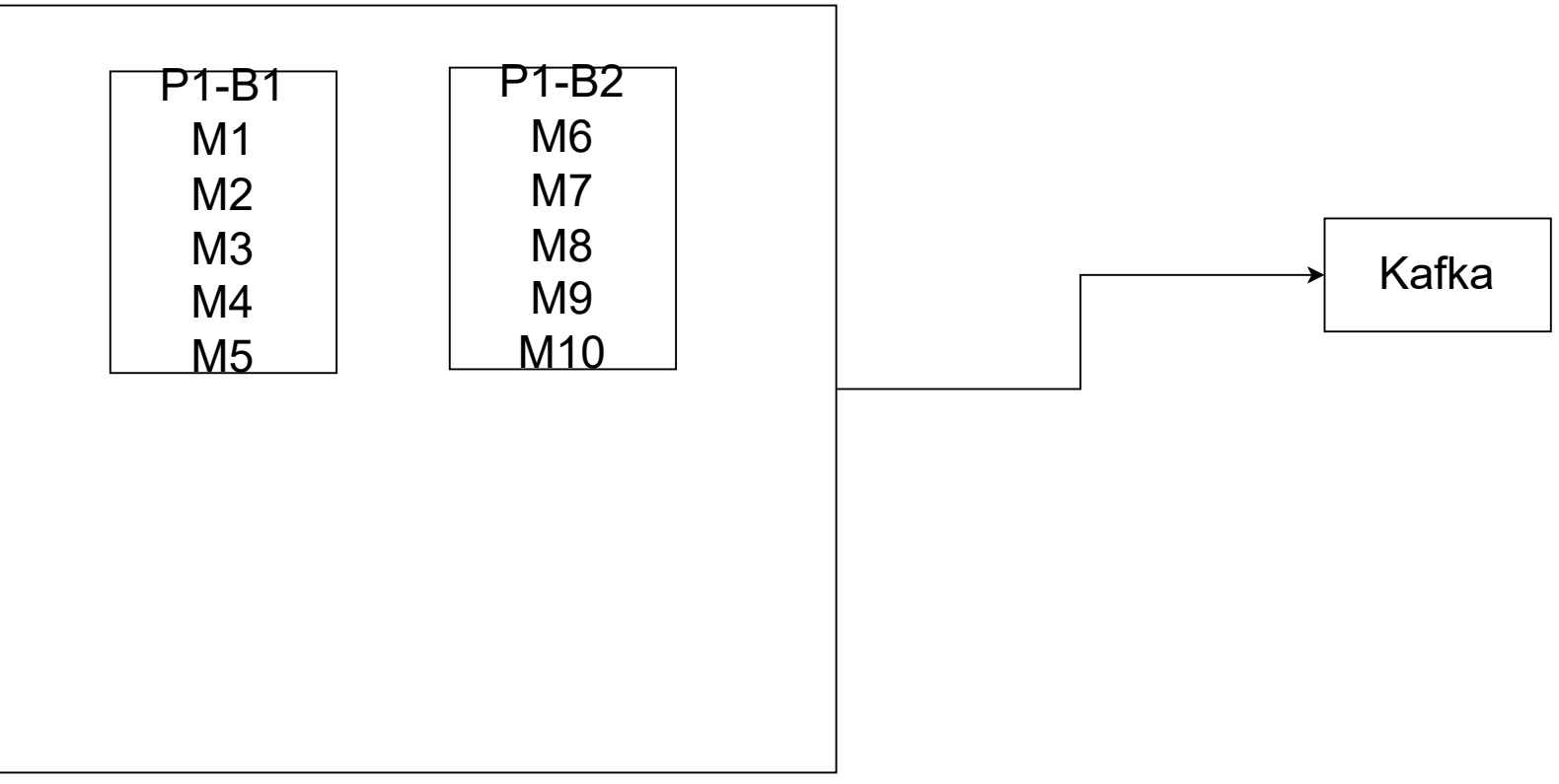
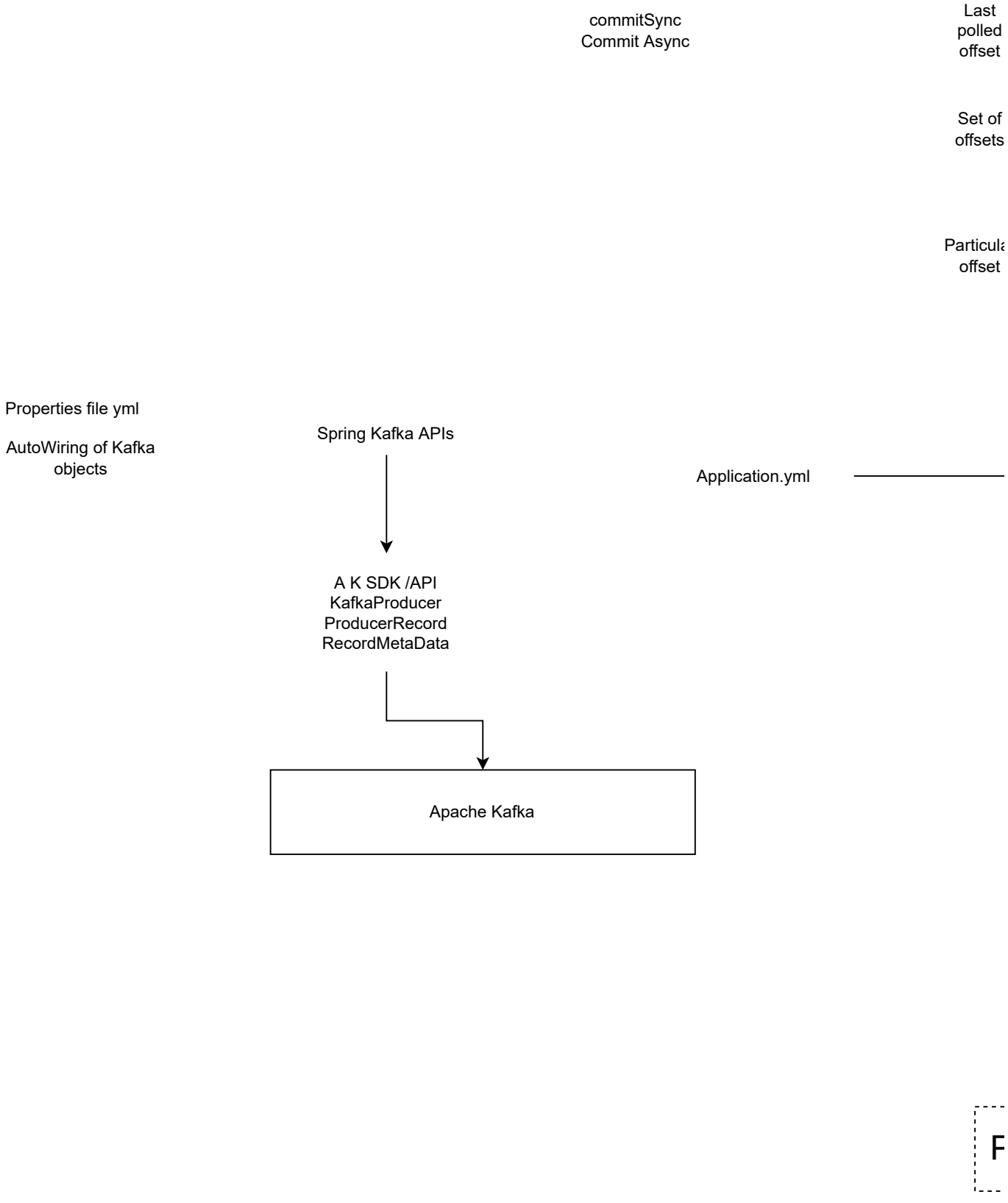
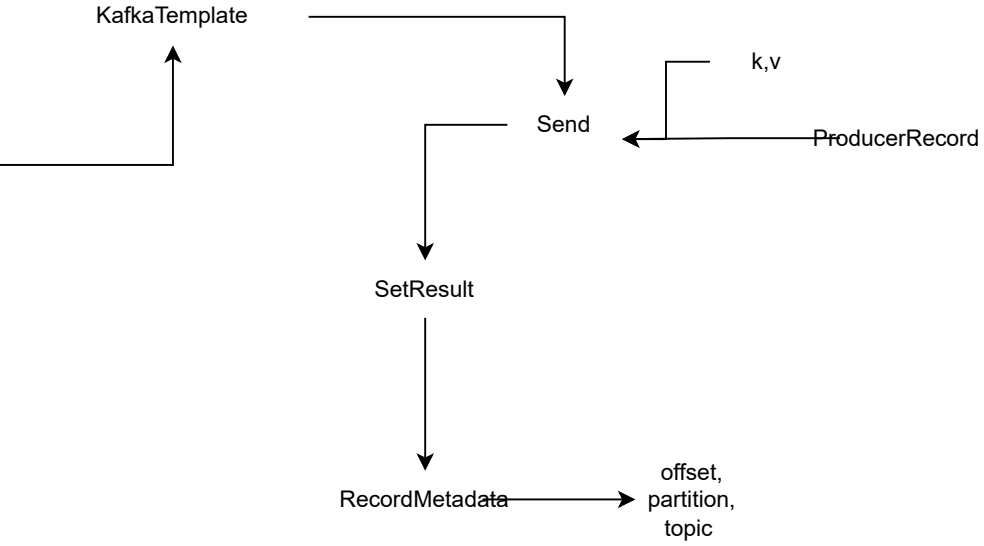
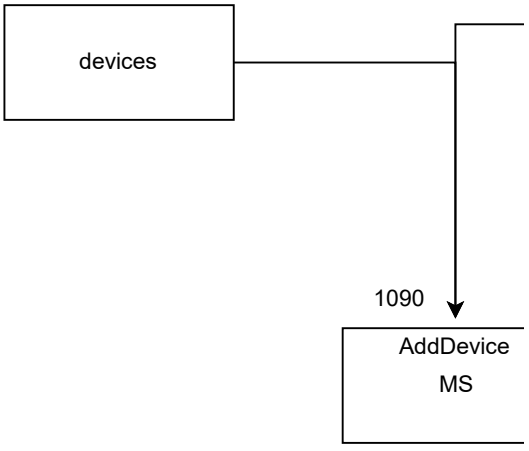

console-consumer-41641
Consumer
Consumer
Kafka Cluster
(topic)
console-consumer-12564
Consumer

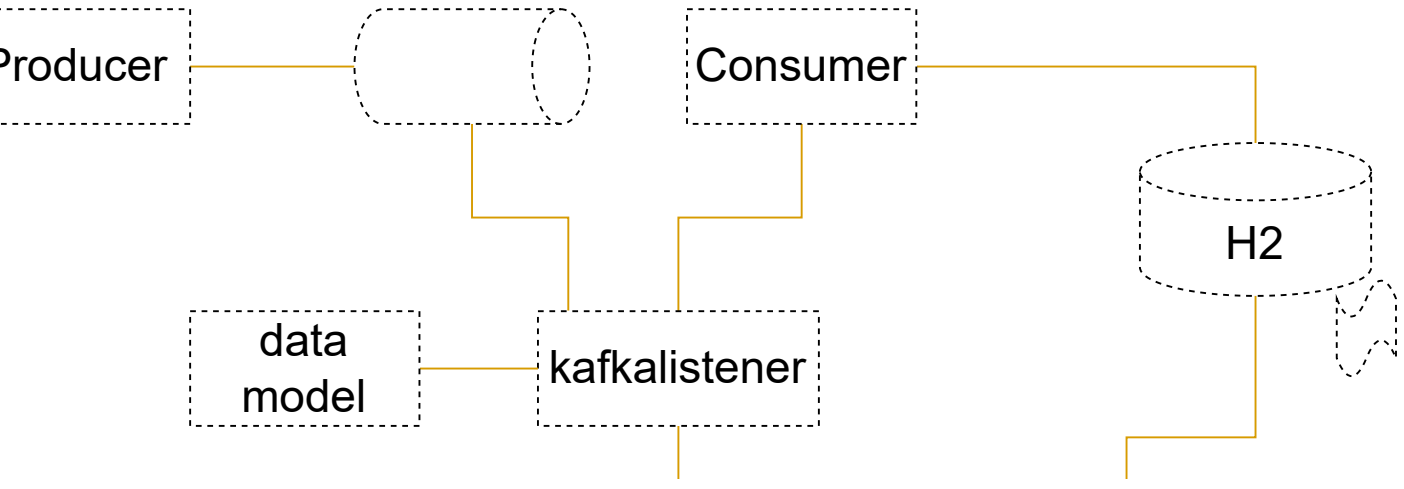

P1-B1
M1
M2
M3
M4
M5
P1-B2
M6
M7
M8
M9
M10
Kafka

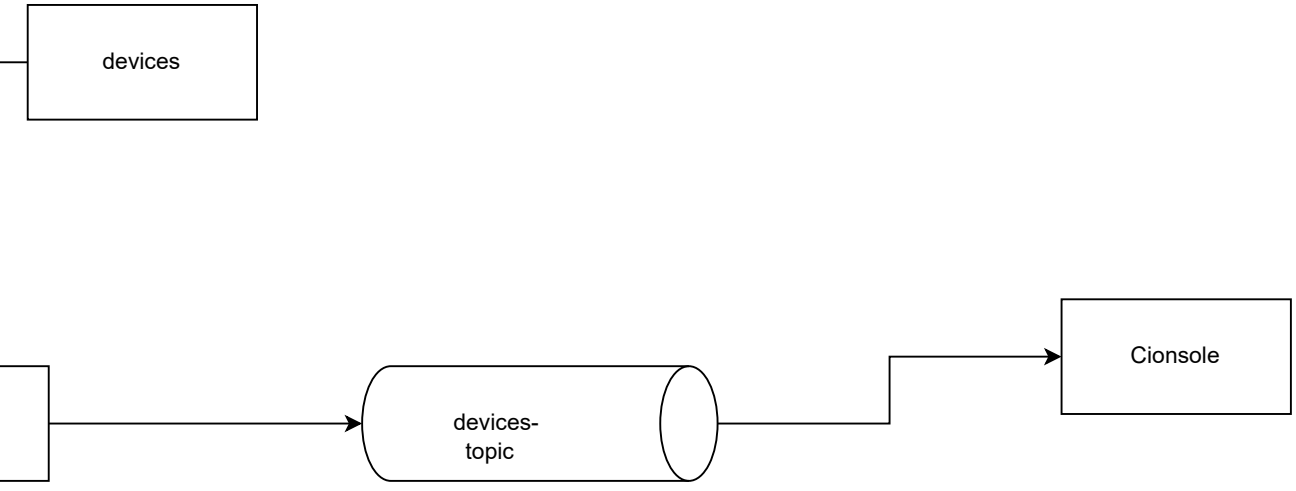

commitSync
Commit Async
Last
polled
offset
Set of
offsets
Particula
offset
Properties file yml
AutoWiring of Kafka
objects
Spring Kafka APIs
Application.yml
A K SDK /API
KafkaProducer
ProducerRecord
RecordMetaData
Apache Kafka
F

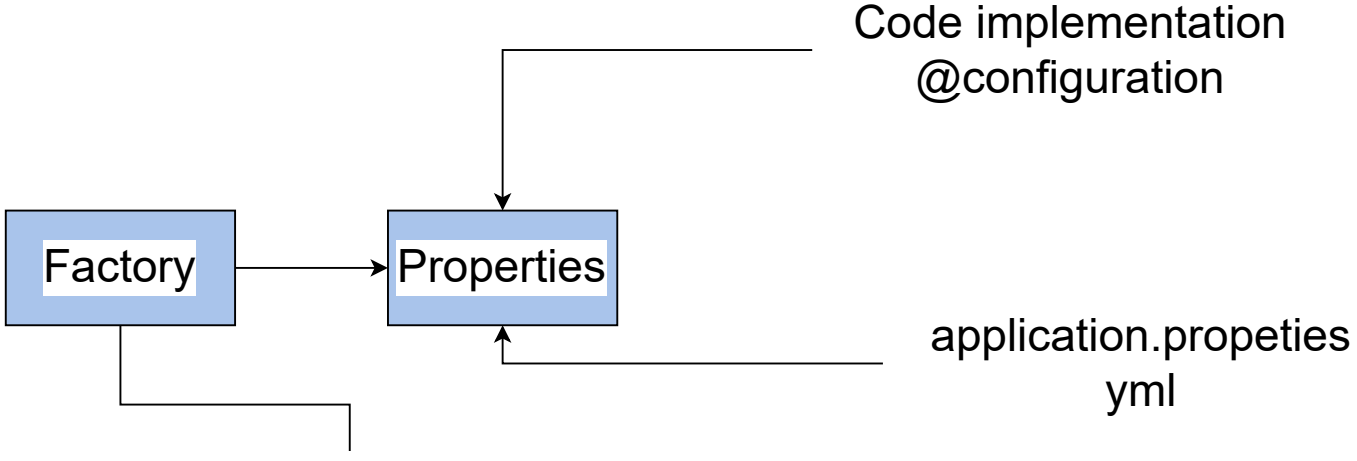
ar


KafkaTemplate
k,v
Send
ProducerRecord
SetResult
RecordMetadata
offset,
partition,
topic


devices
1090
AddDevice
MS


Producer
Consumer
H2
data
model
kafkalistener


devices
devices-
topic
Cionsole


Code implementation
@configuration
Factory
Properties
application.propeties
yml

me

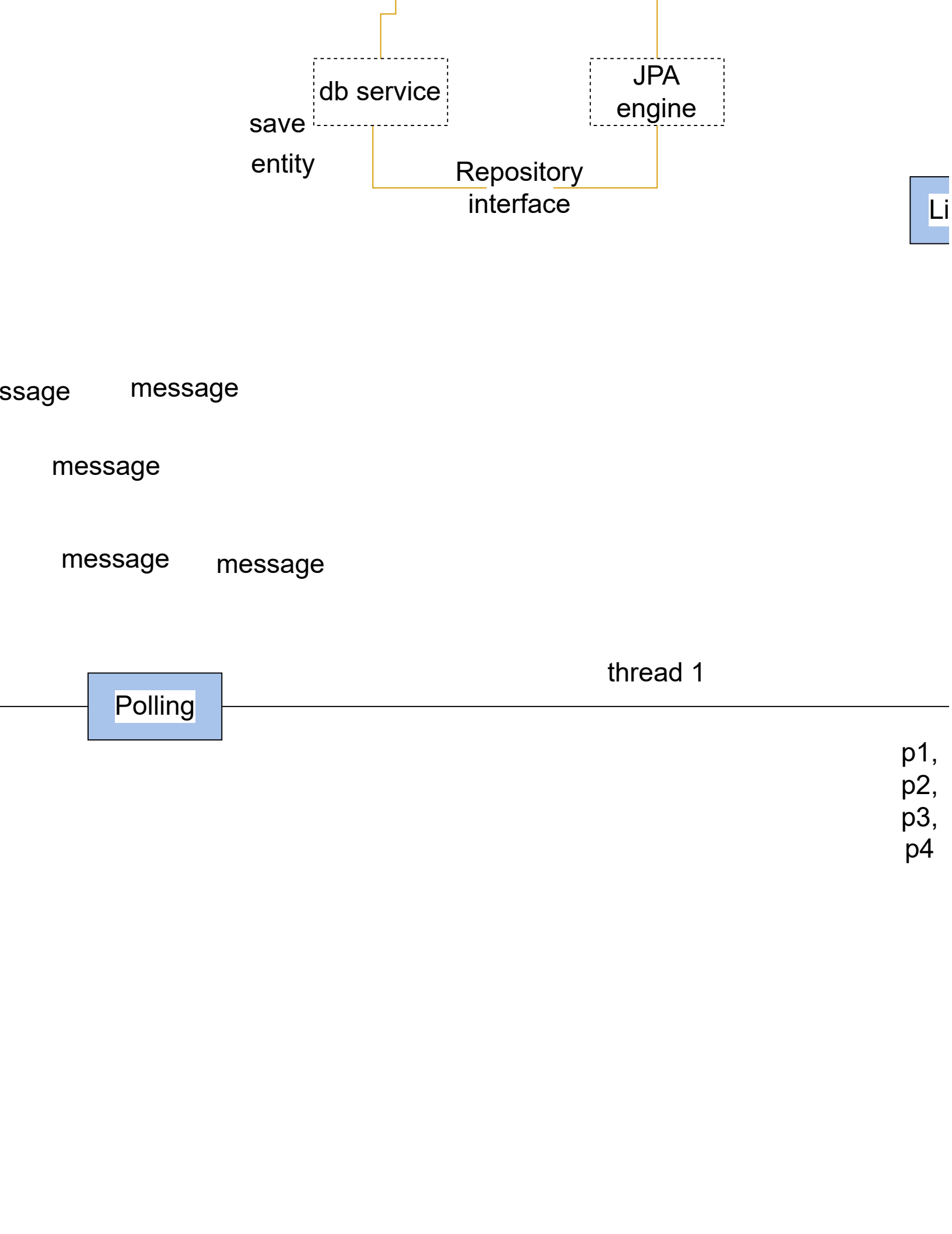
message

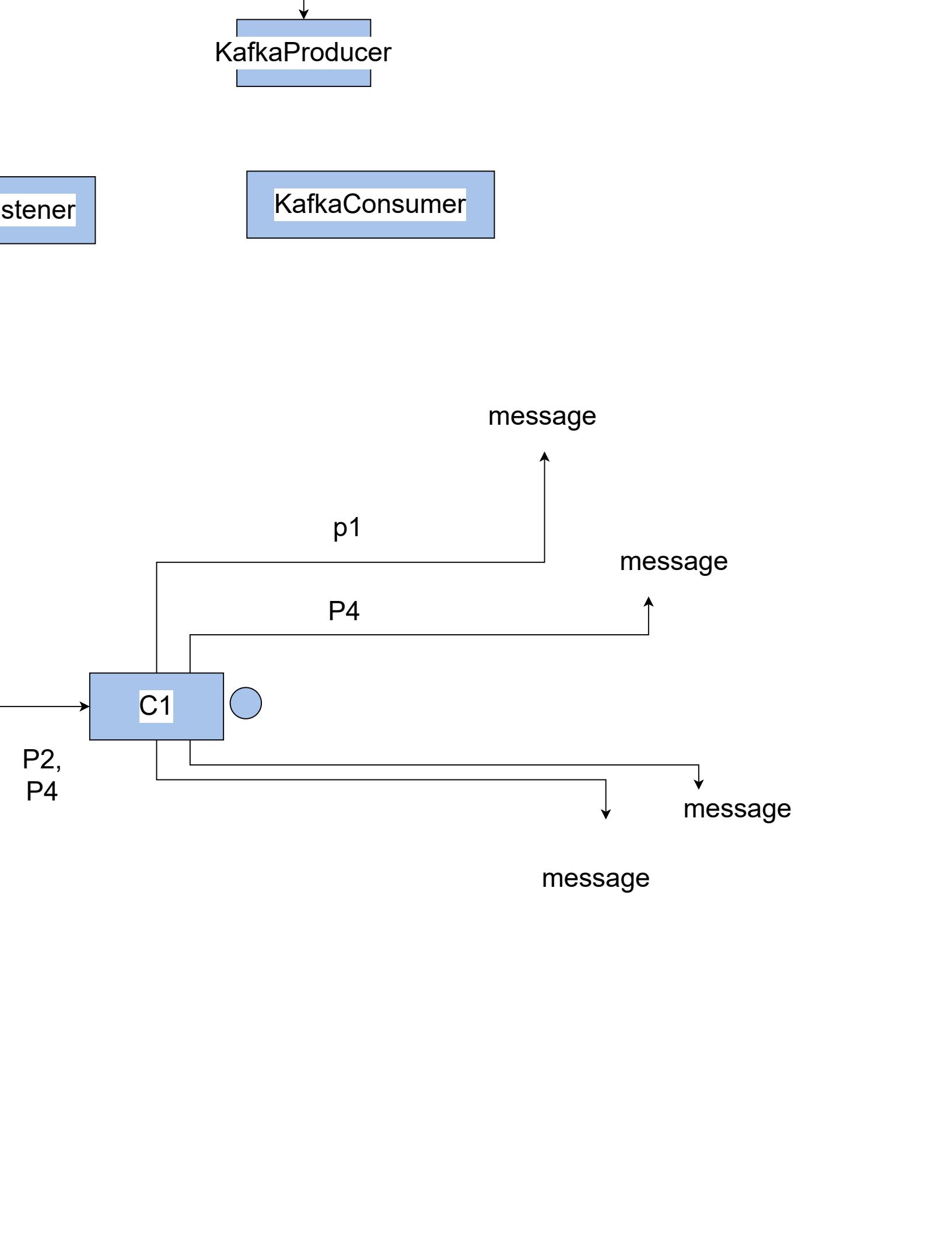
Queue

Partion

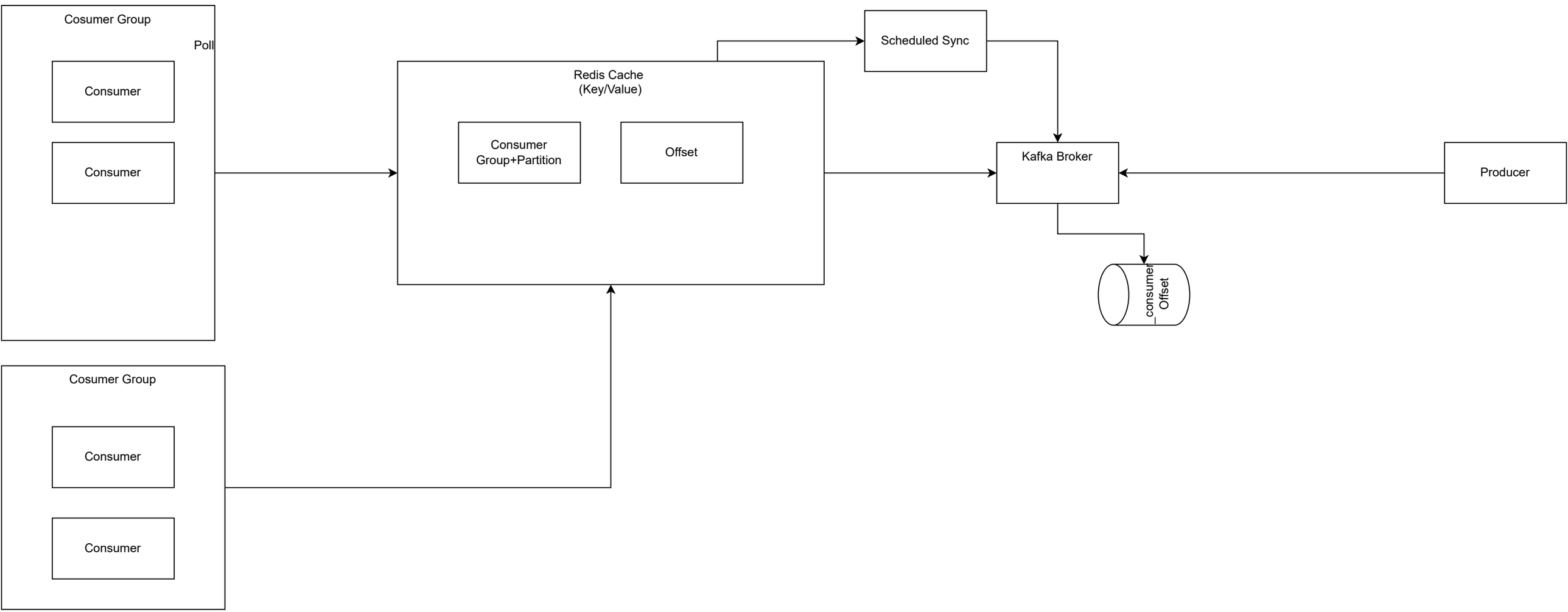
Partion

Partion

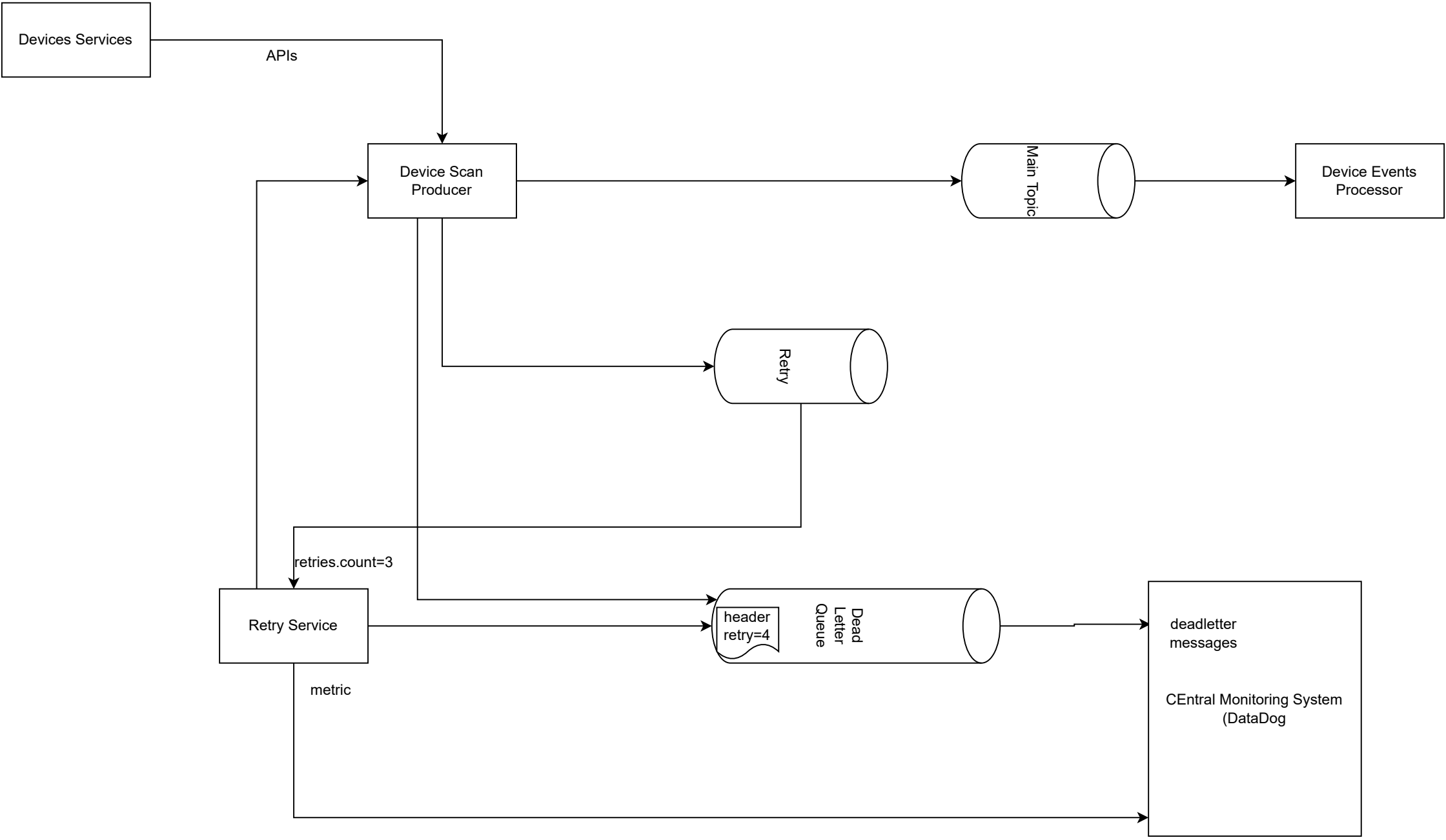

db service
JPA engine
save
entity
Repository
interface
Li
ssage
message
message
message
message
Polling
thread 1
p1,
p2,
p3,
p4


KafkaProducer
stener
KafkaConsumer
message
p1
message
P4
C1
P2,
P4
message
message

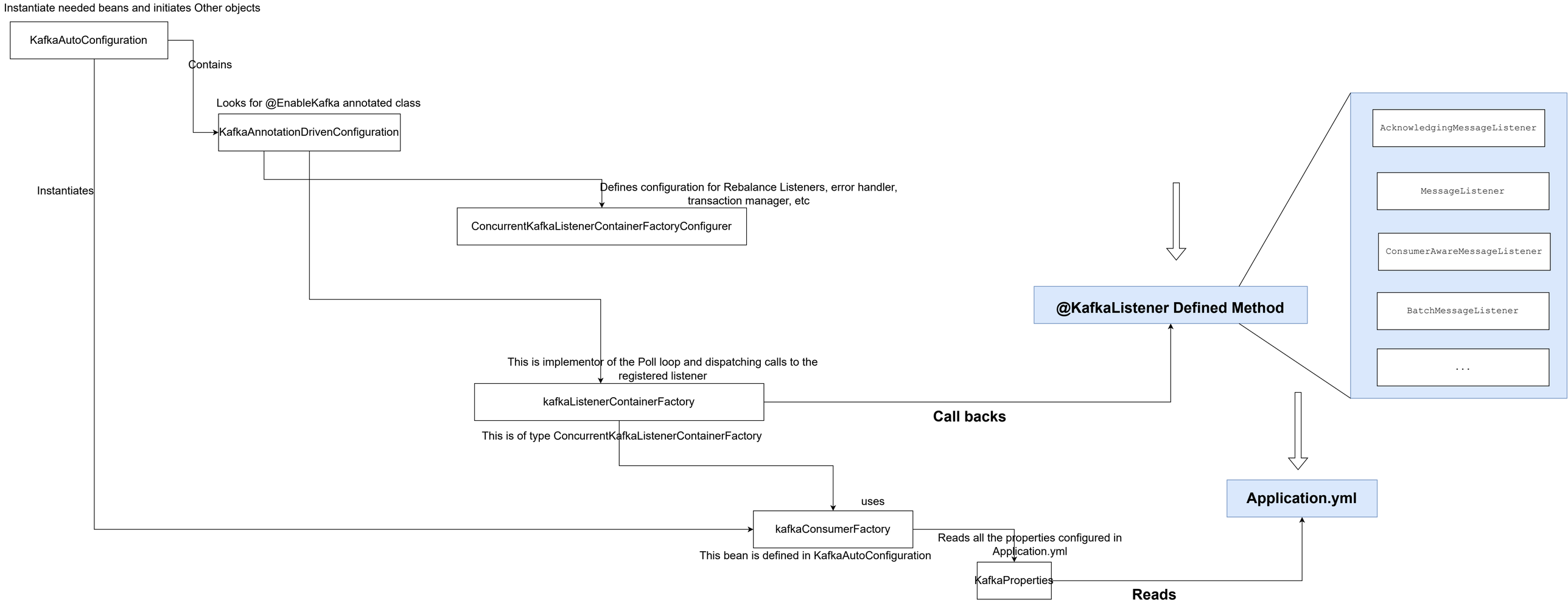
DIY Exercise - day 7



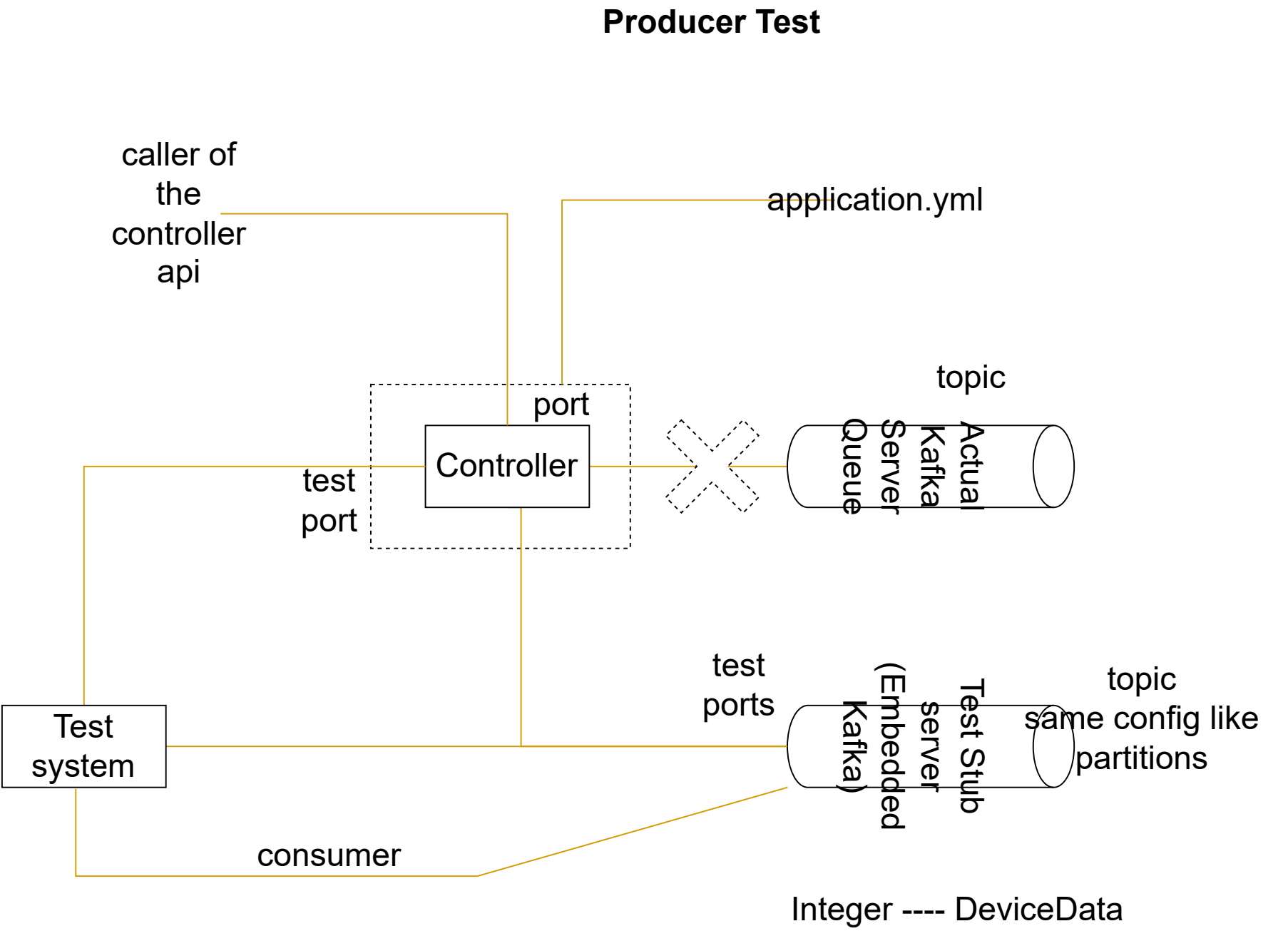
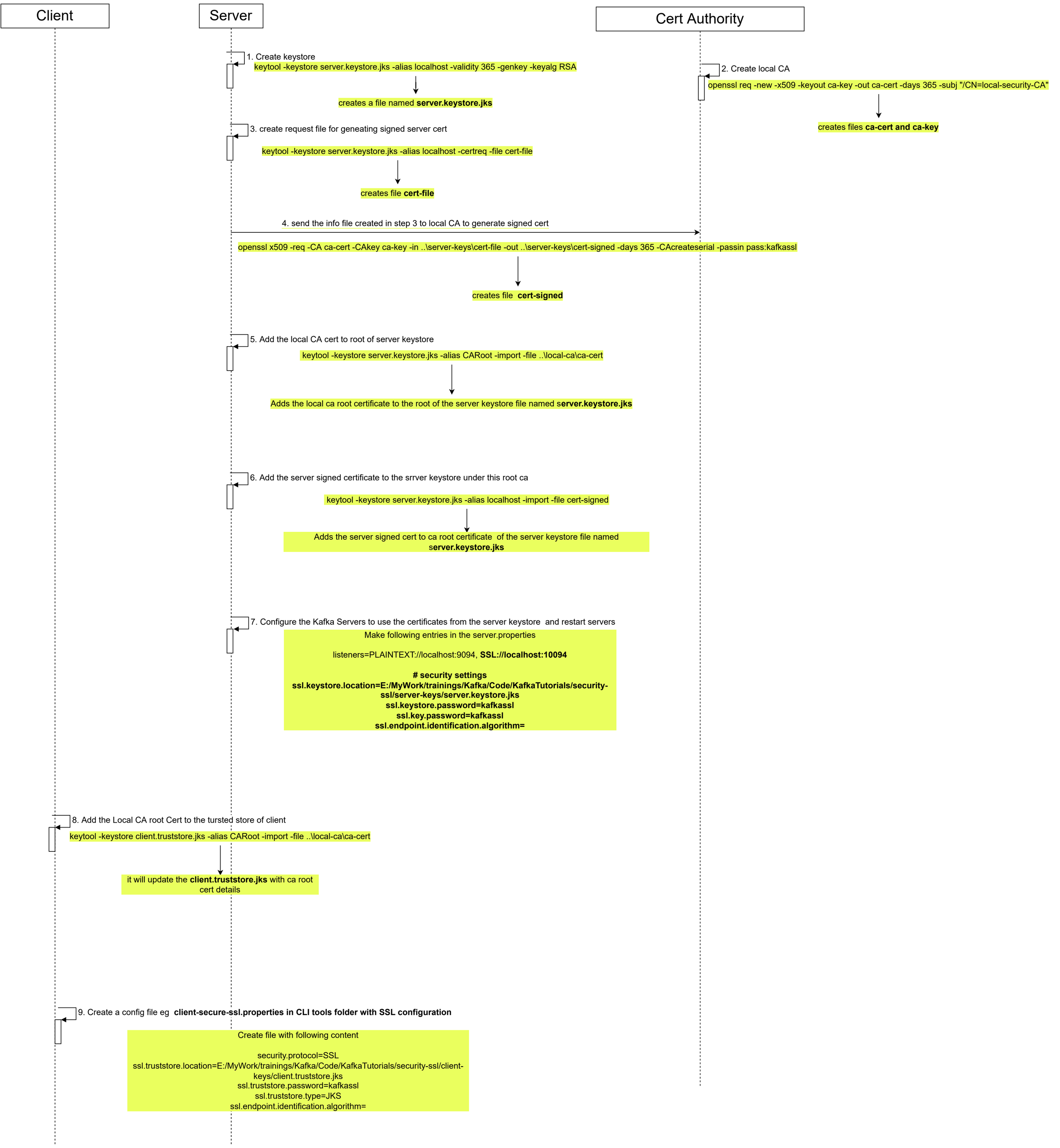
Producer Retry Mechanism



Spring Kafka Consumer Internals



Producer Test



SSL Setup for securing Kafka Server and Clients