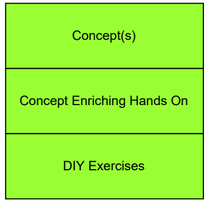
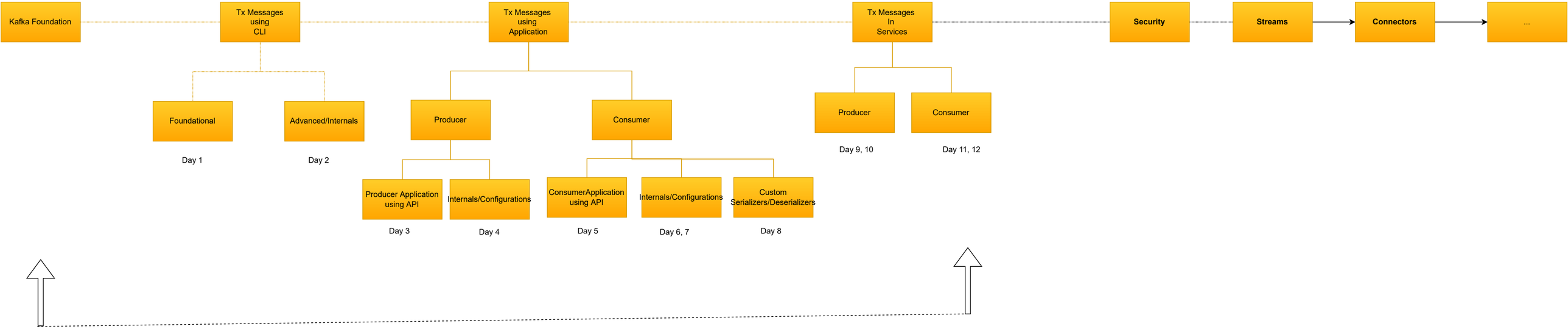
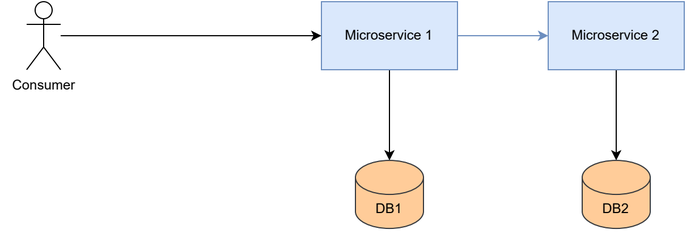
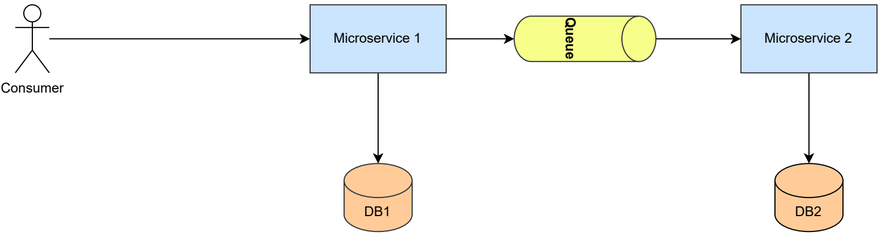
Teaching Principle



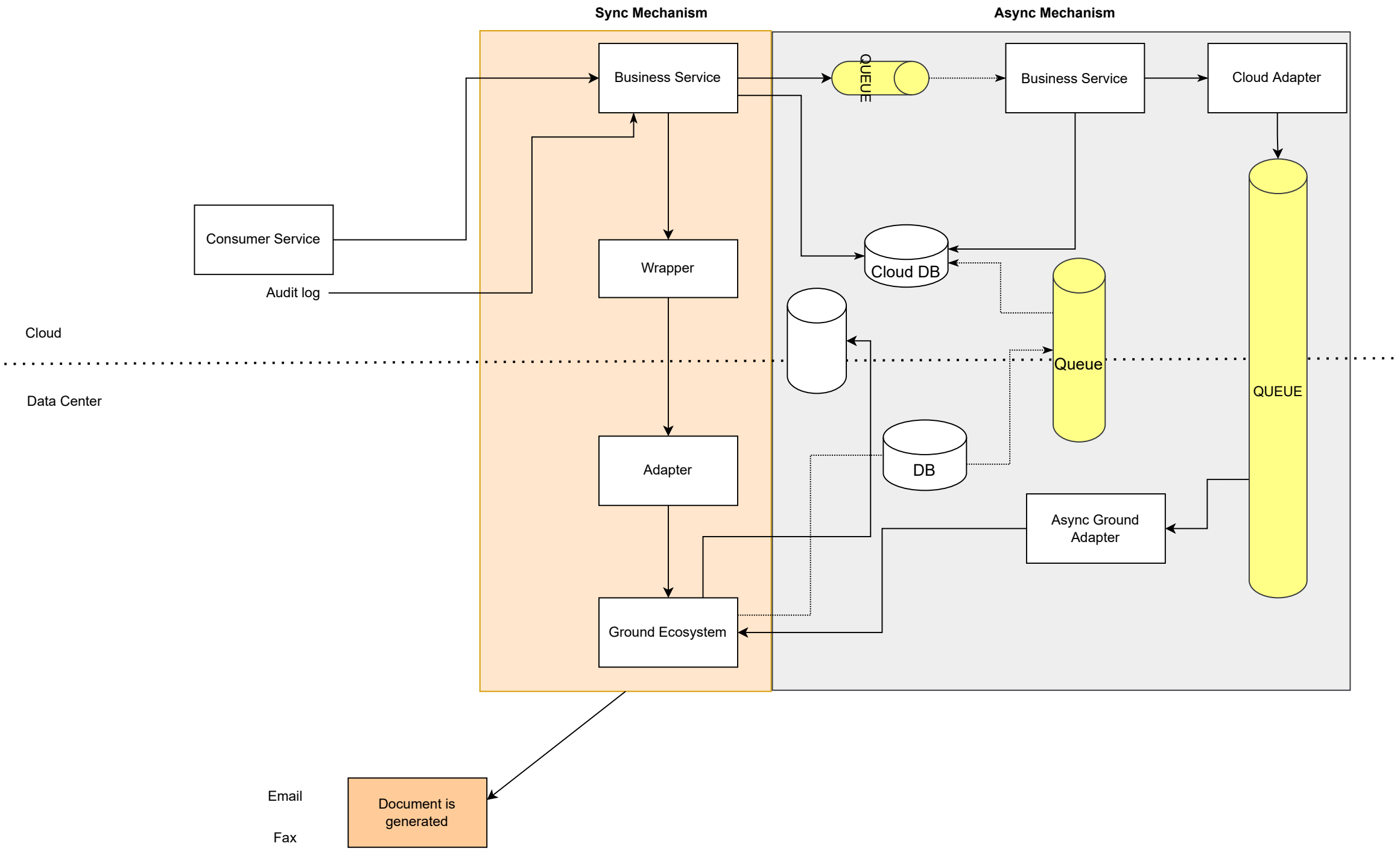
Learning Map



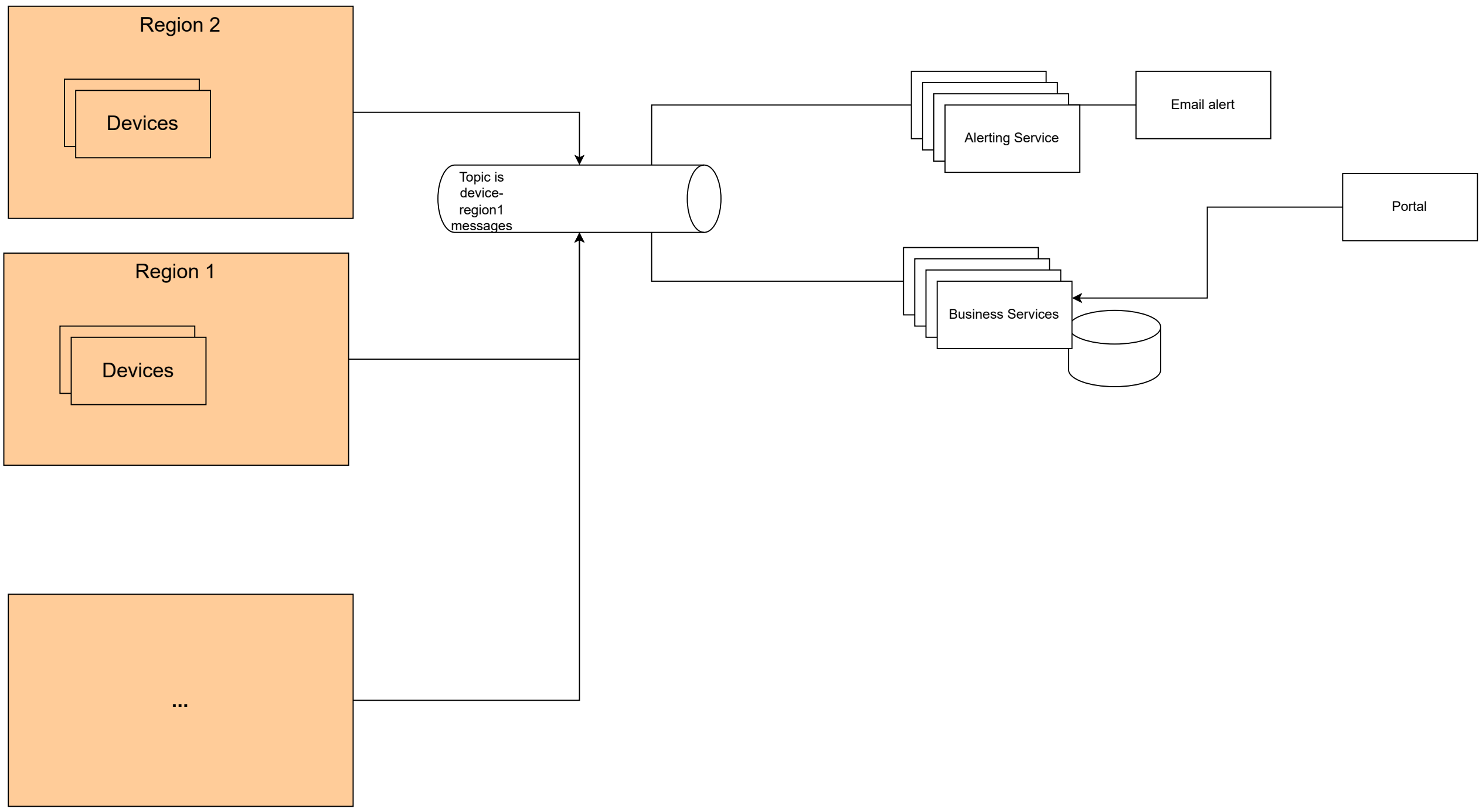

Consumer
Microservice 1
Microservice 2
DB1
DB2


Consumer
Microservice 1
Queue
Microservice 2
DB1
DB2

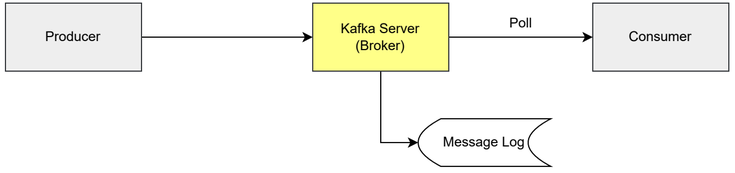
Use case 1



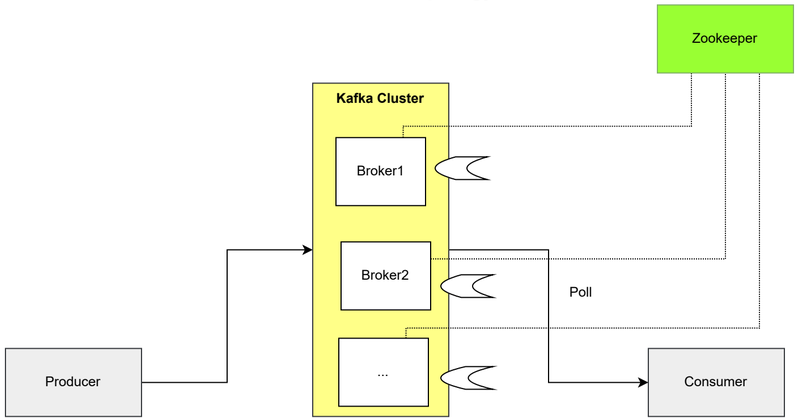
Use case 2



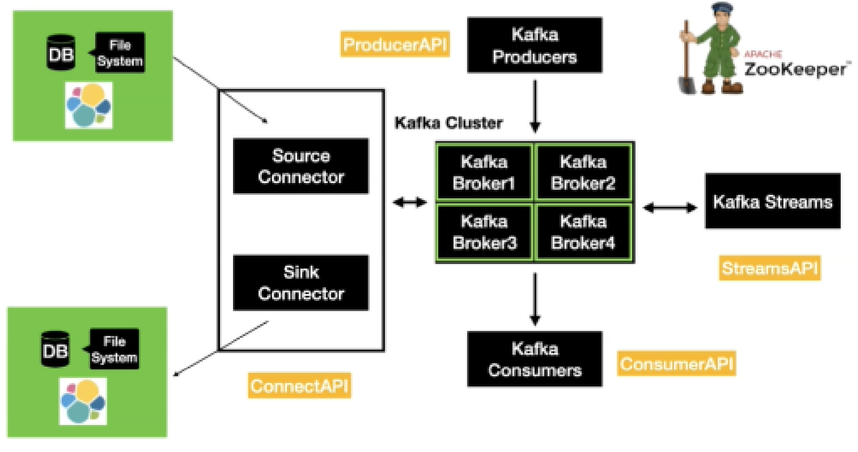
Basic Topology



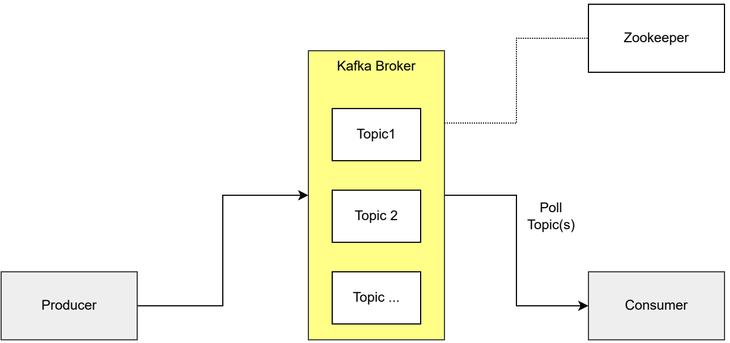
Distributed Topology



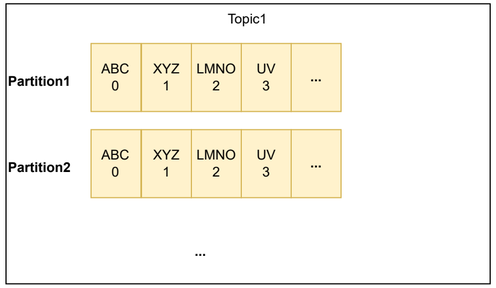
Kafka Landscape



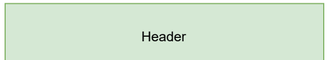
Broker Anatomy



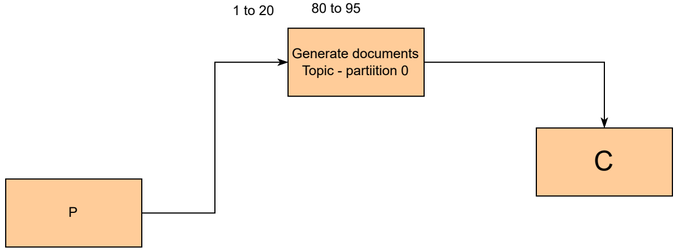
Topic Anatomy



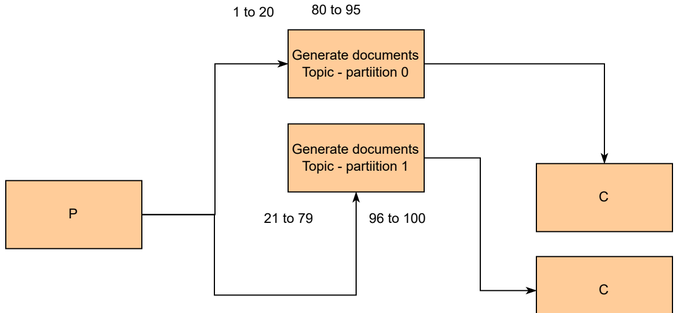
Message Anatomy



Topic-Same

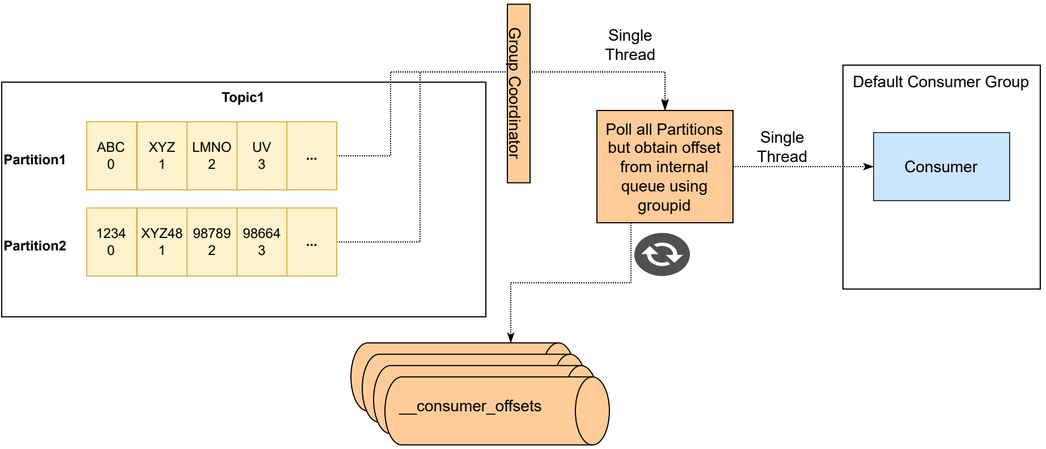


Topic-Same

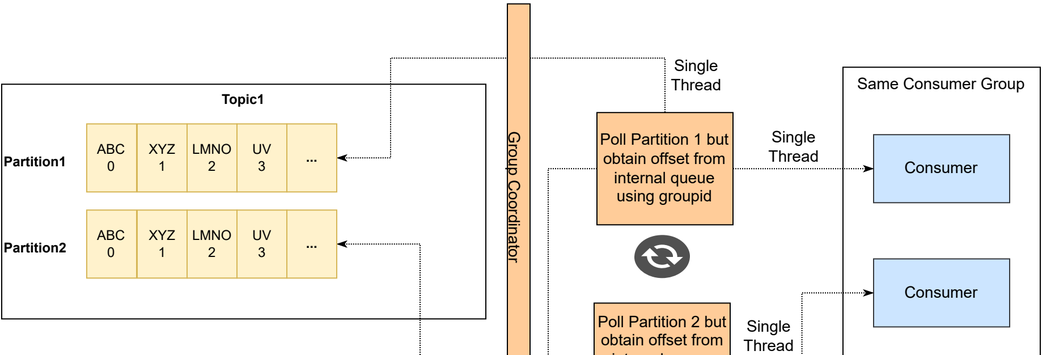


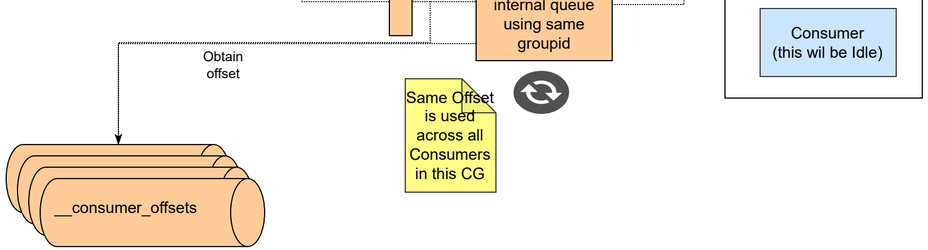
Key(optional)
Value
Timestamp

Default Consumer Group

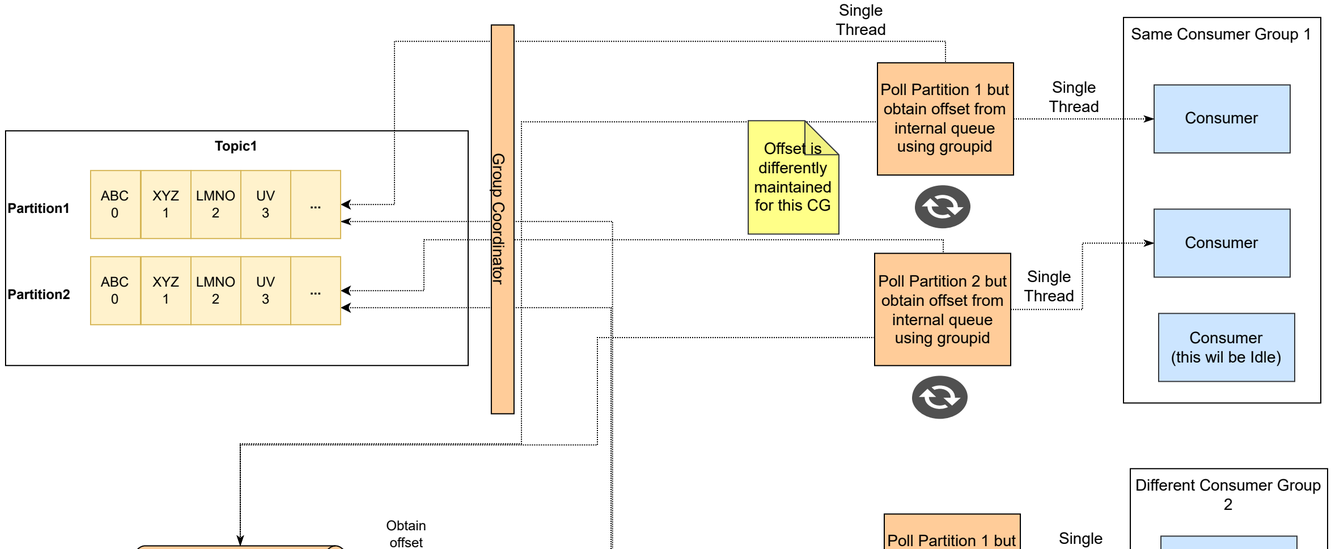


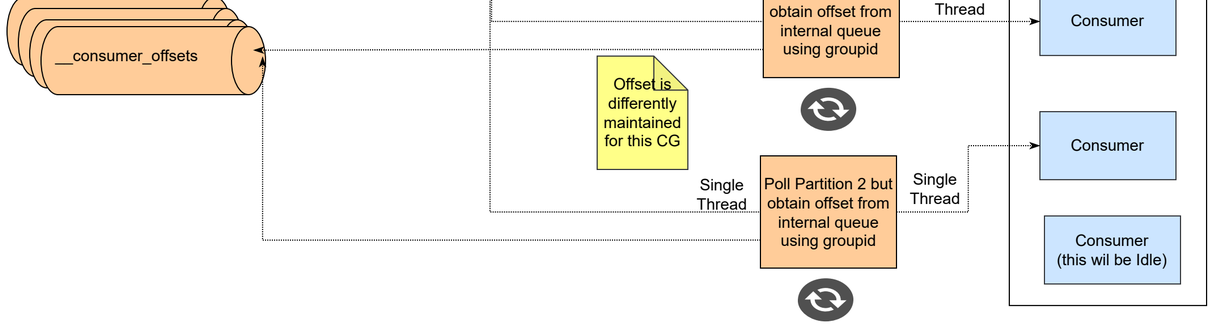
Using same Consumer Group to Read Messages at Scale



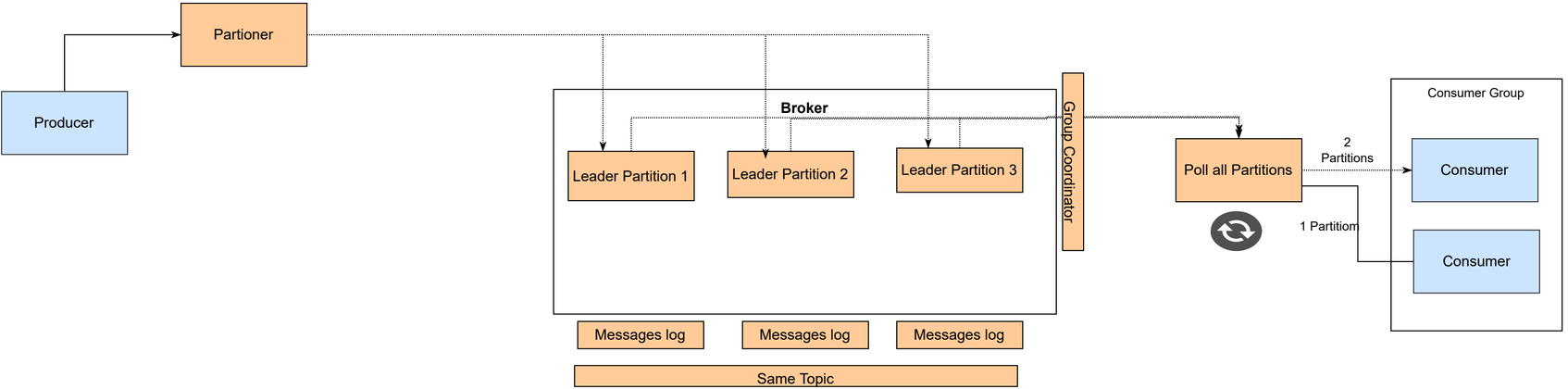


Using Different Consumer Group to Read Messages From Same Topic at Scale

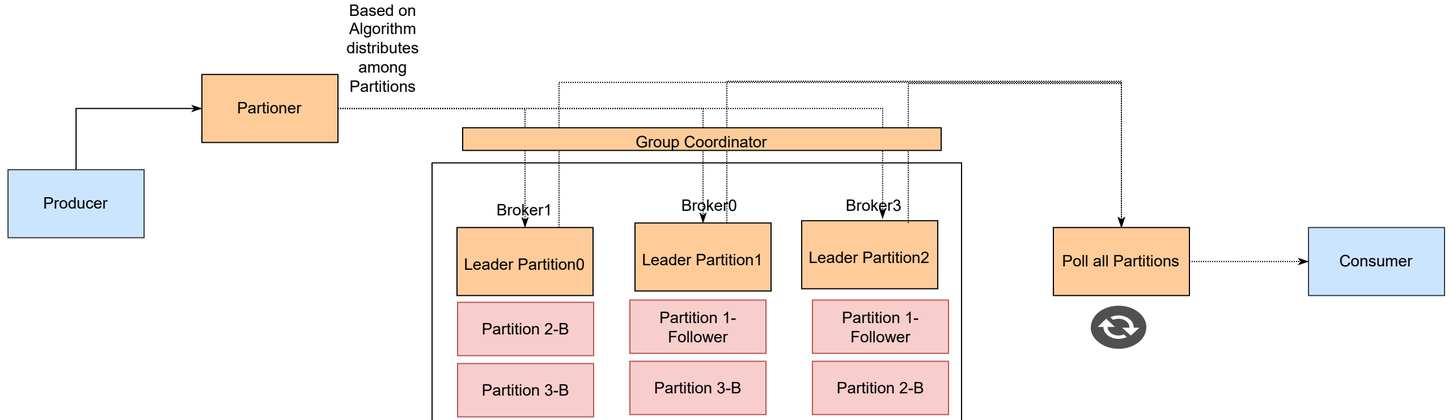


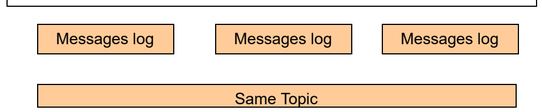

__consumer_offsets
Offset is differently maintained for this CG
Single Thread
obtain offset from internal queue using groupid
Single Thread
Consumer
Poll Partition 2 but obtain offset from internal queue using groupid
Single Thread
Consumer
Consumer (this wil be Idle)

Standalone Topology

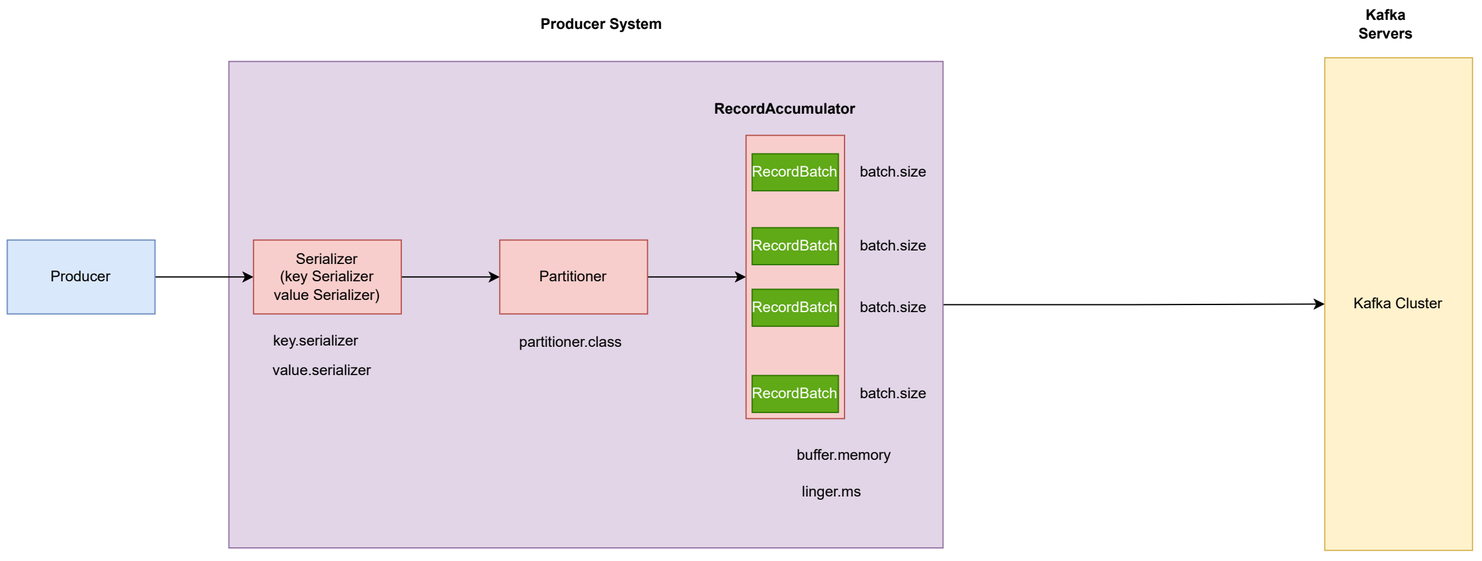


Distributed Topology

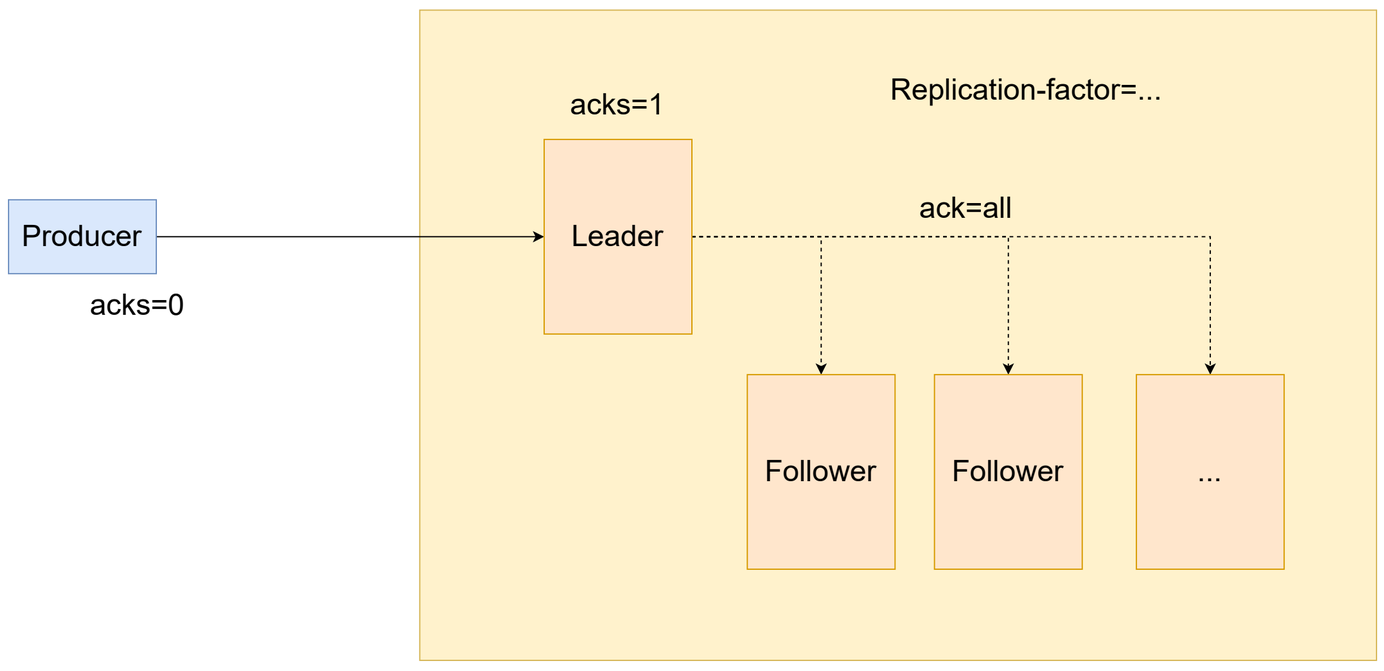



Messages log
Messages log
Messages log
Same Topic

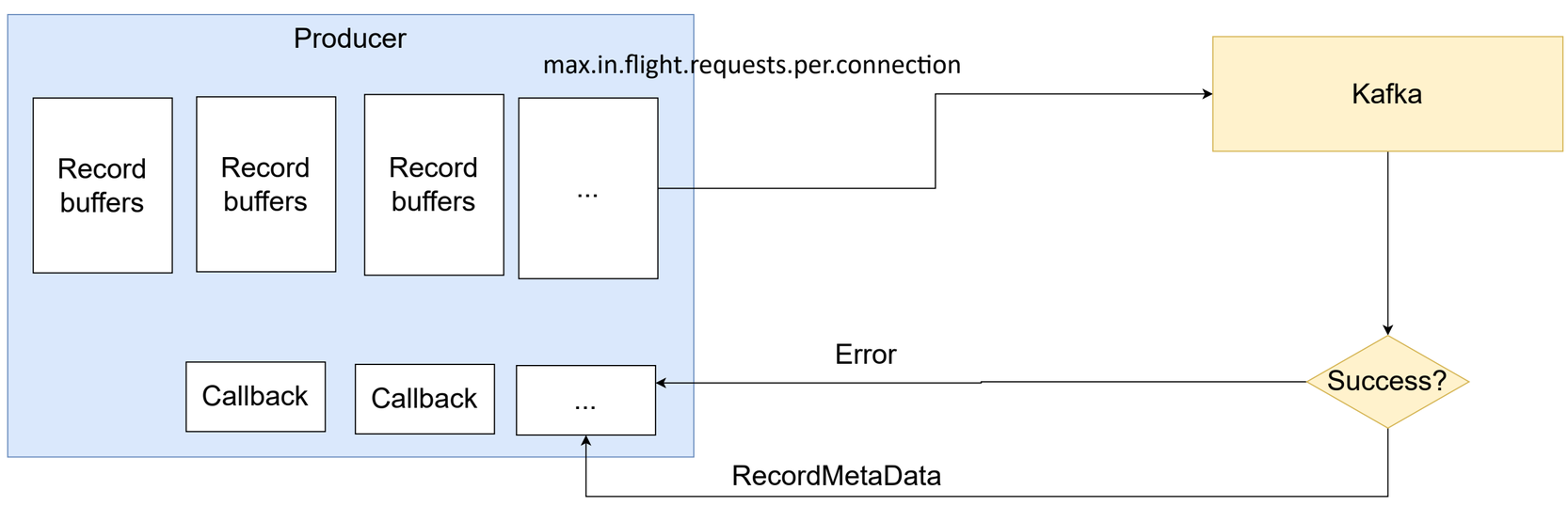
Producer Application Internals & Configurations



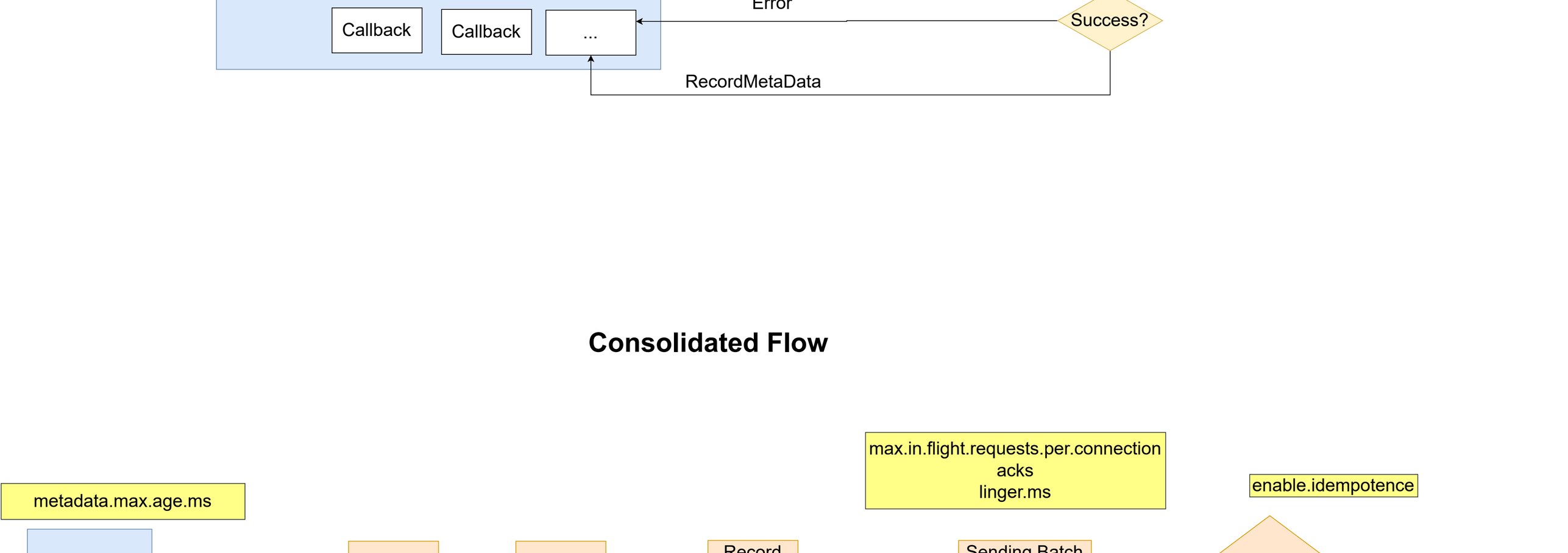
ack configuration



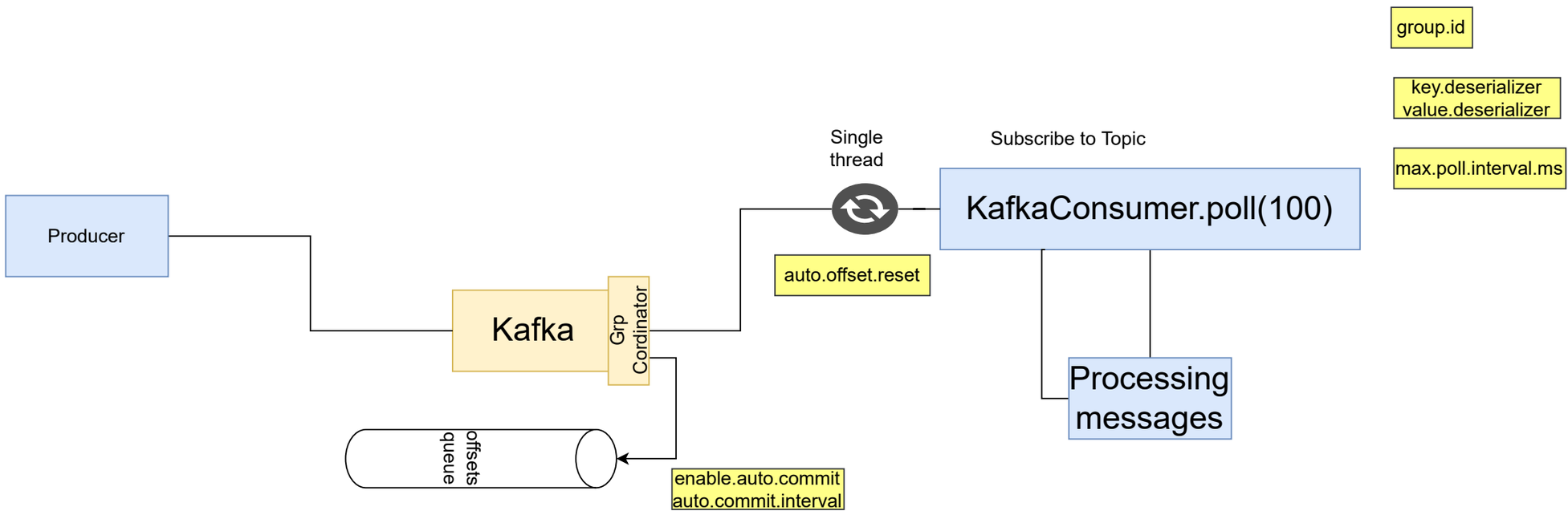
max.in.flight.requests.per.connection Configuration



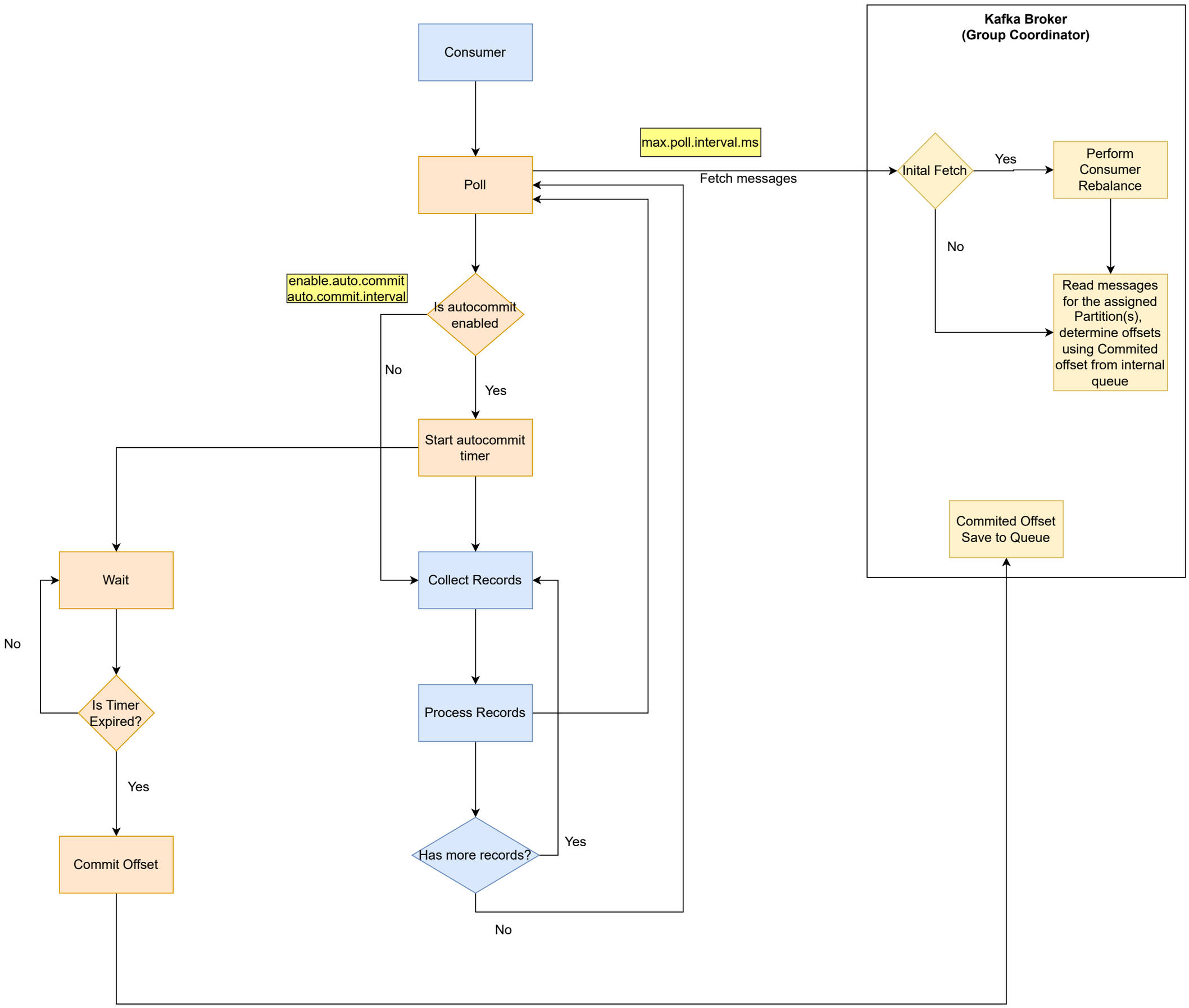
Consolidated Flow



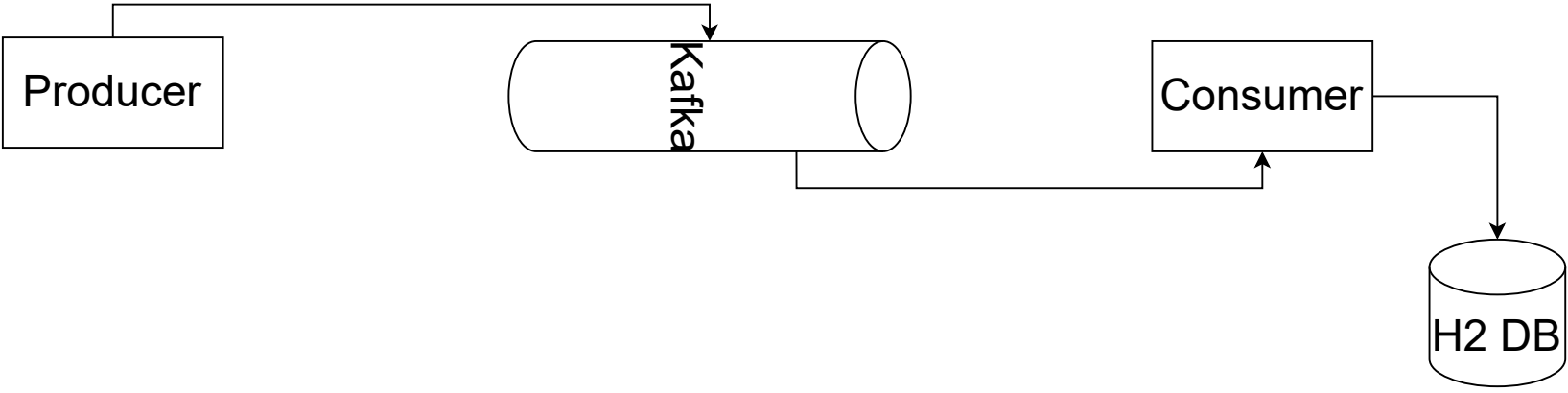
Consumer Pooling

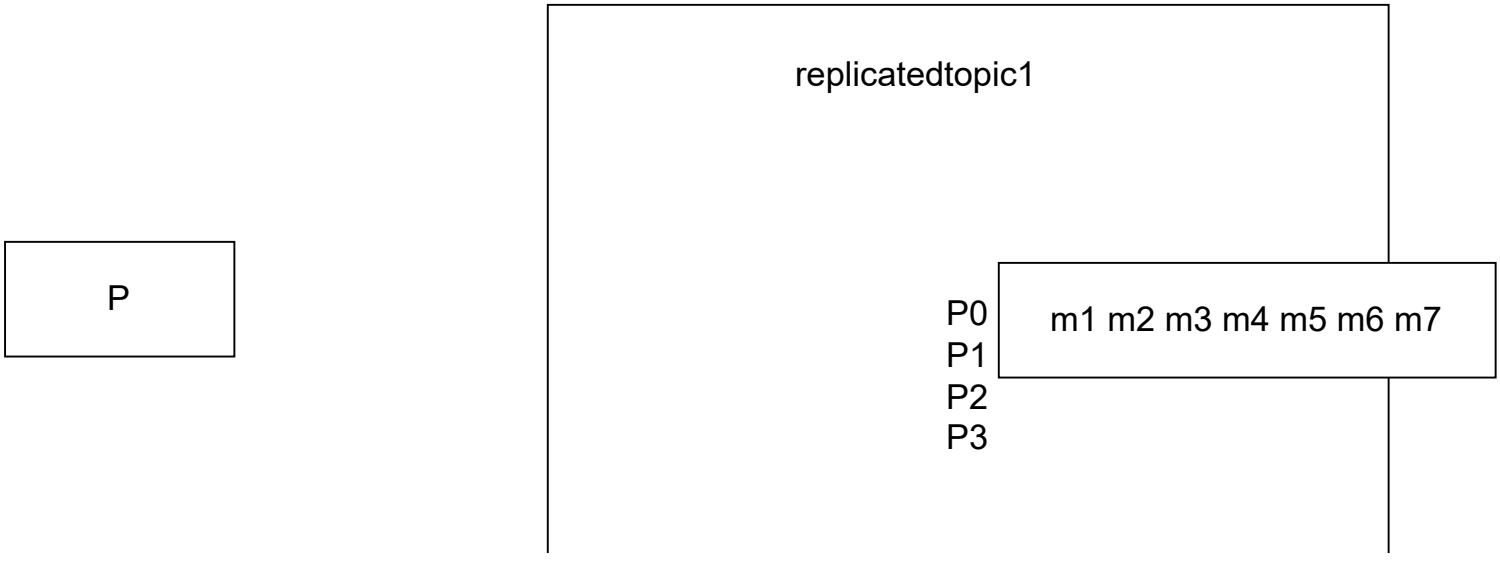


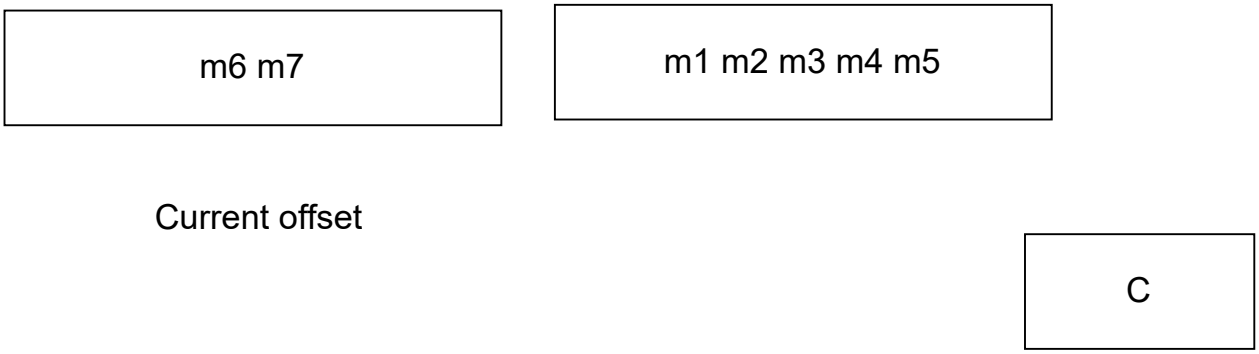
Consumer Internal Working

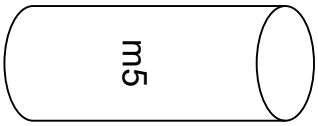


Persistency of read messages




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

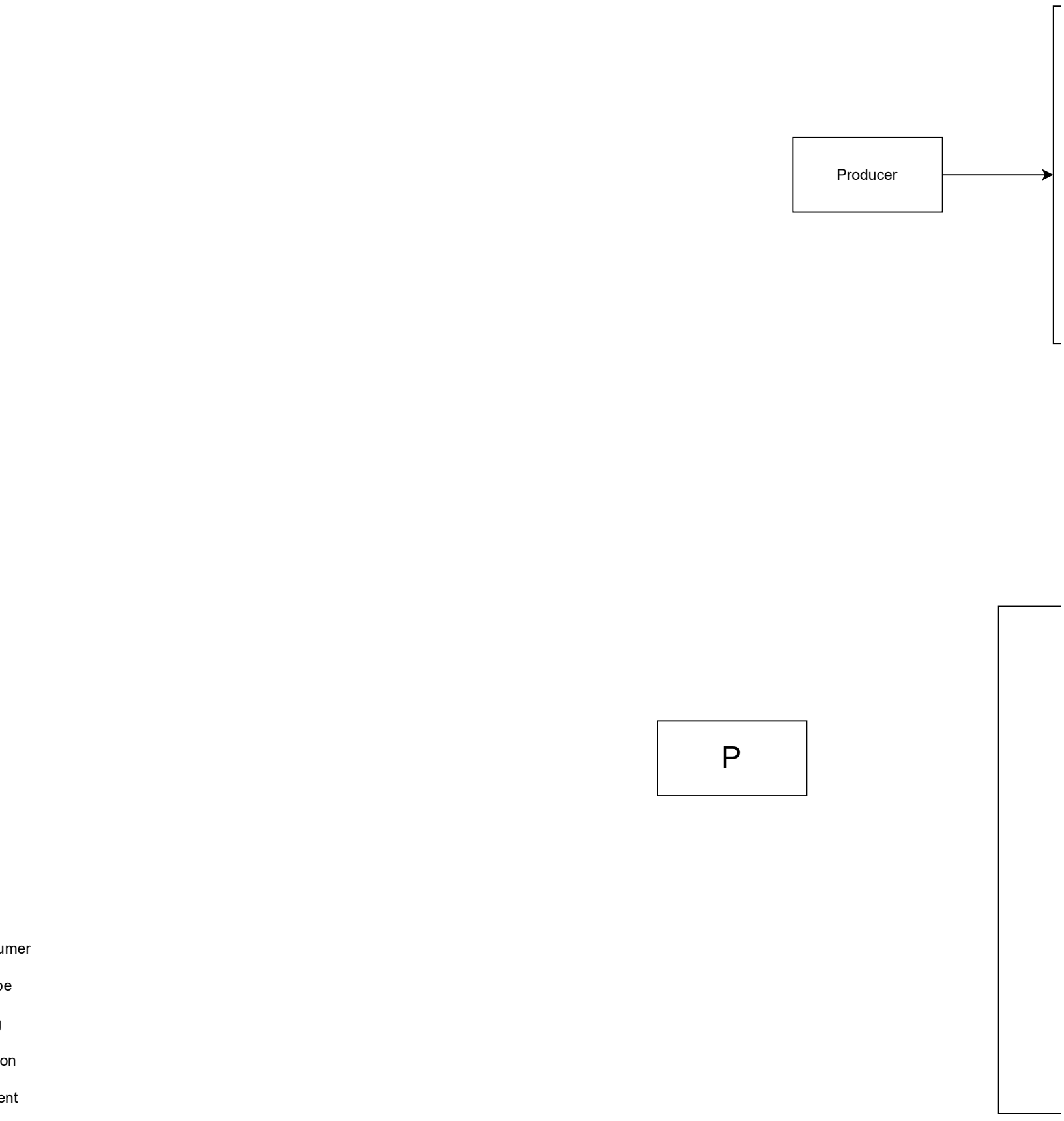
Subscrib

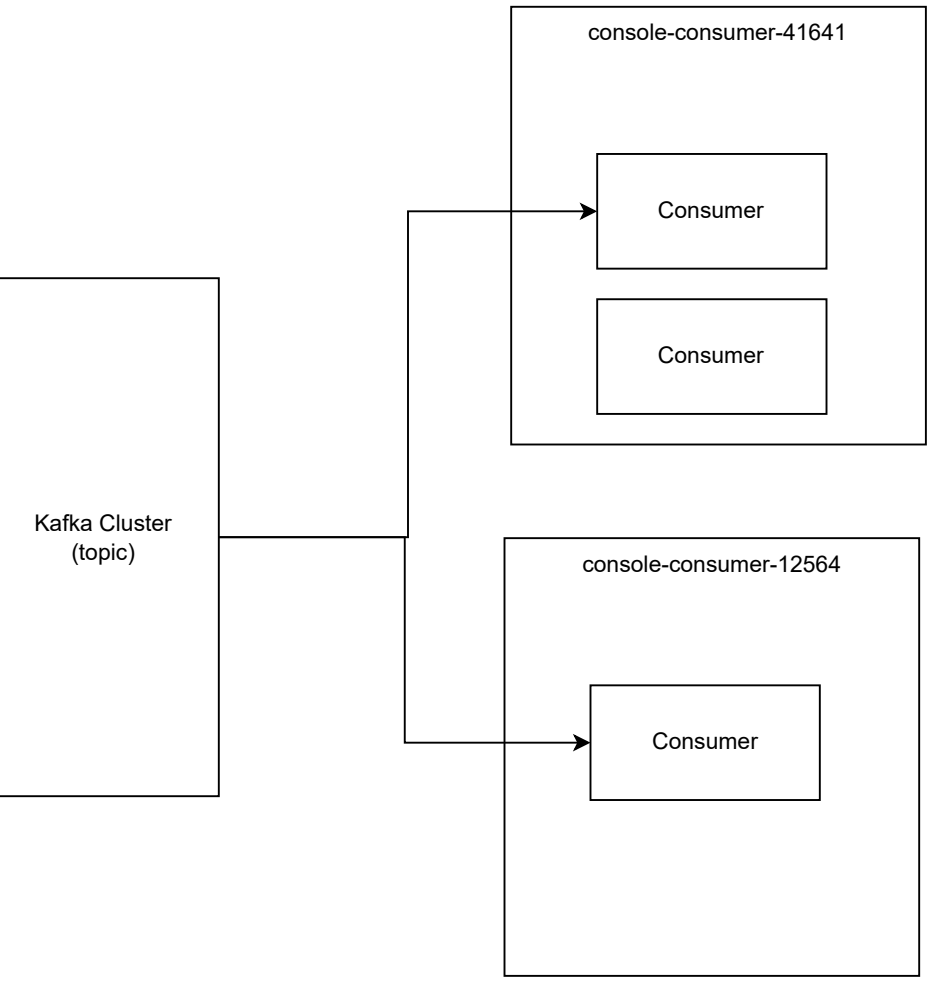
Polling

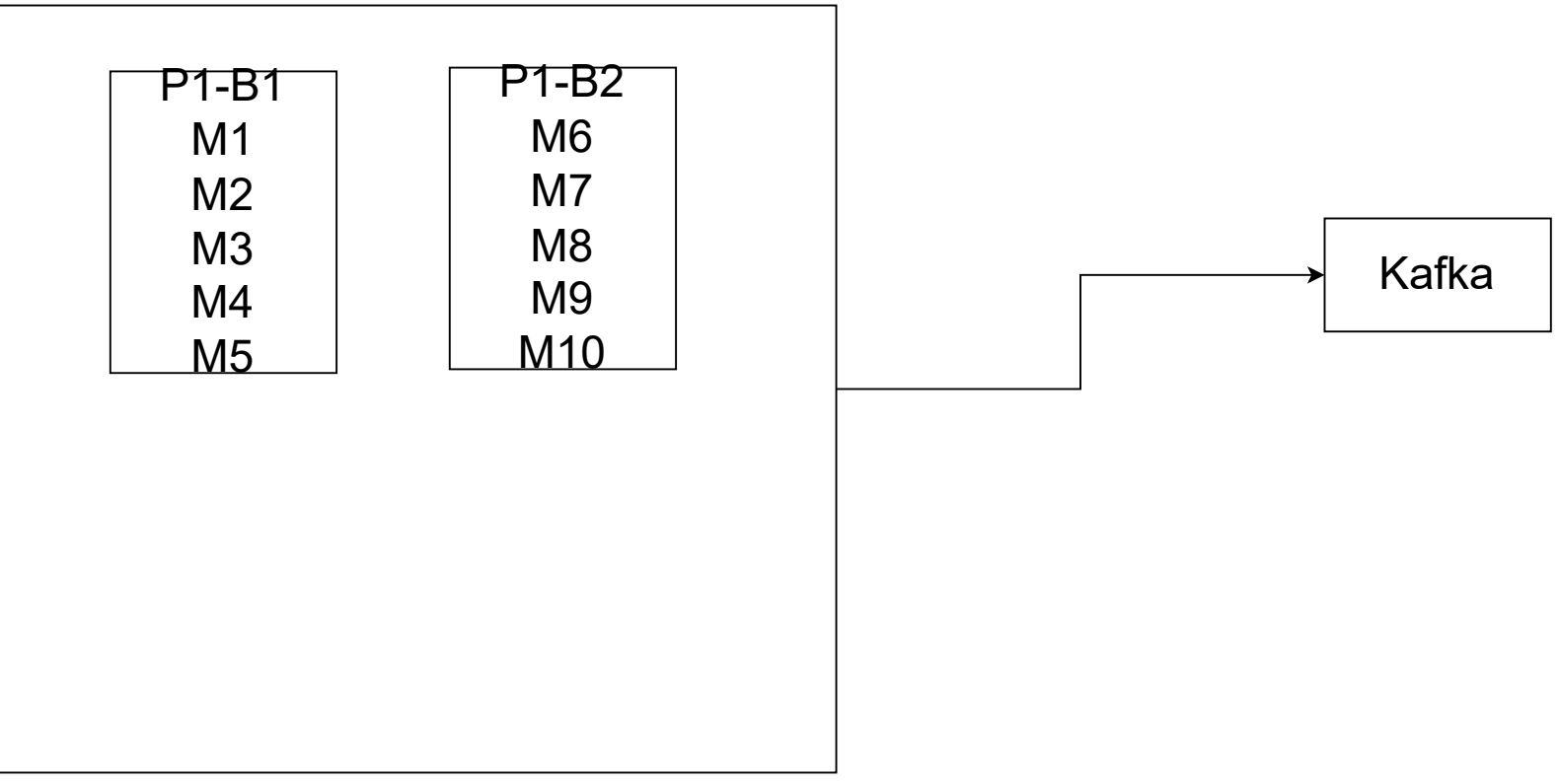
Partitions

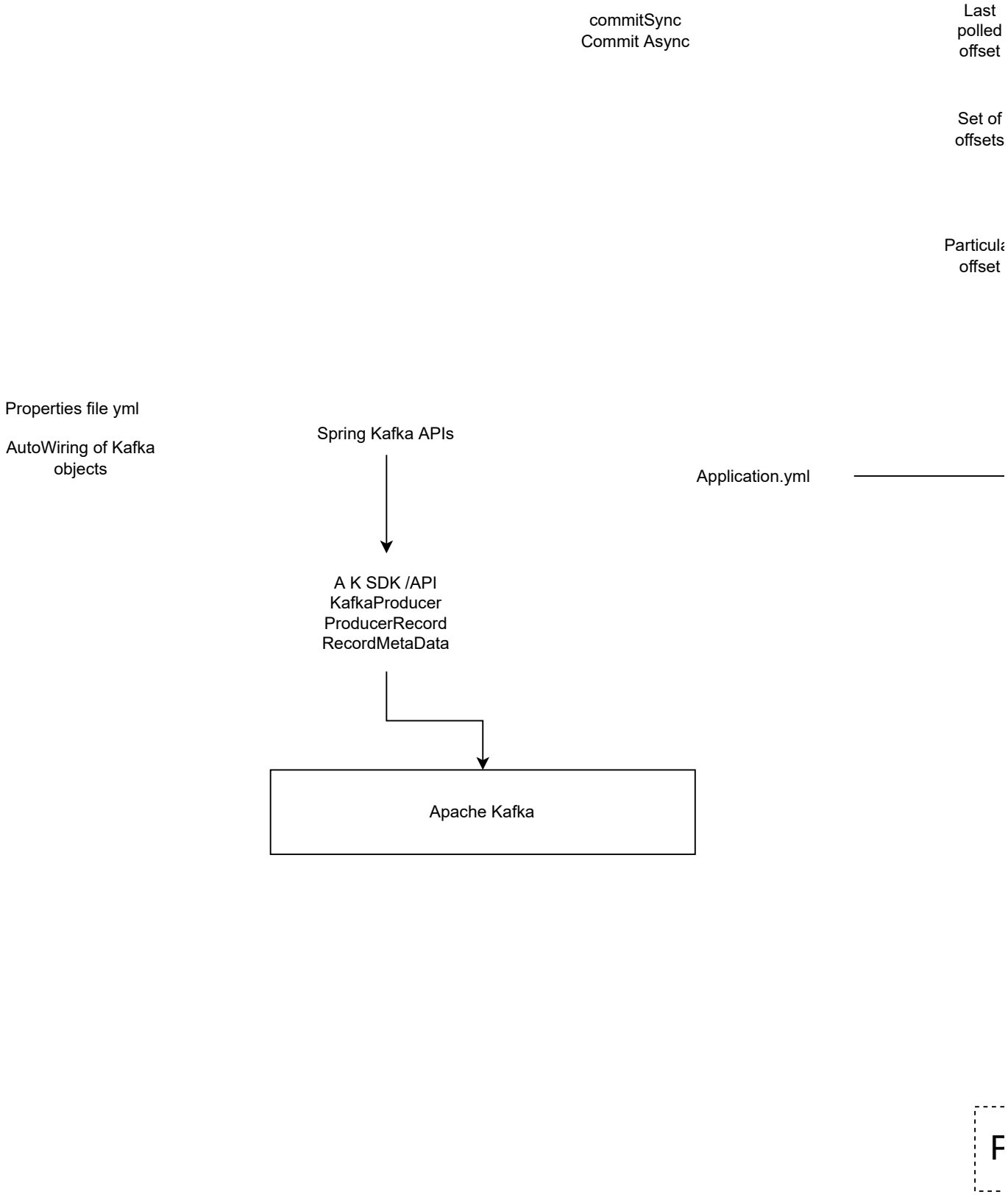
Revocati

Assignme

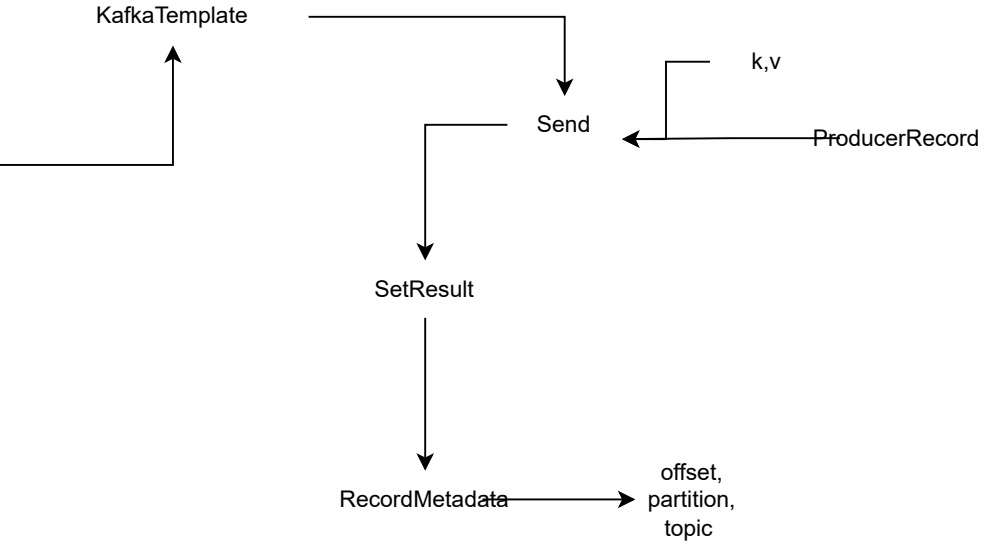

Producer
P
umer
oe
on
ent

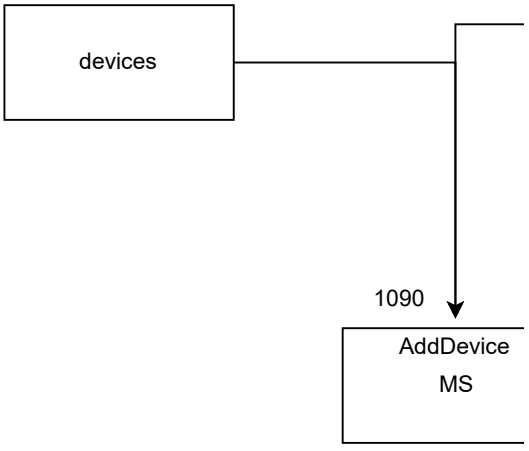

console-consumer-41641
Consumer
Consumer
Kafka Cluster
(topic)
console-consumer-12564
Consumer

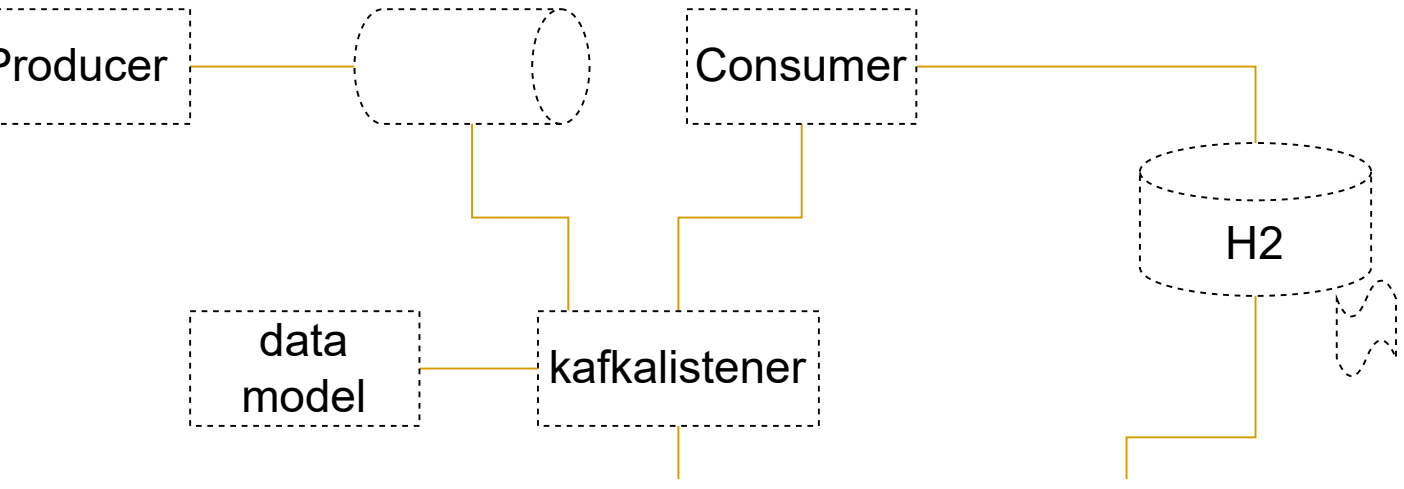

P1-B1
M1
M2
M3
M4
M5
P1-B2
M6
M7
M8
M9
M10
Kafka

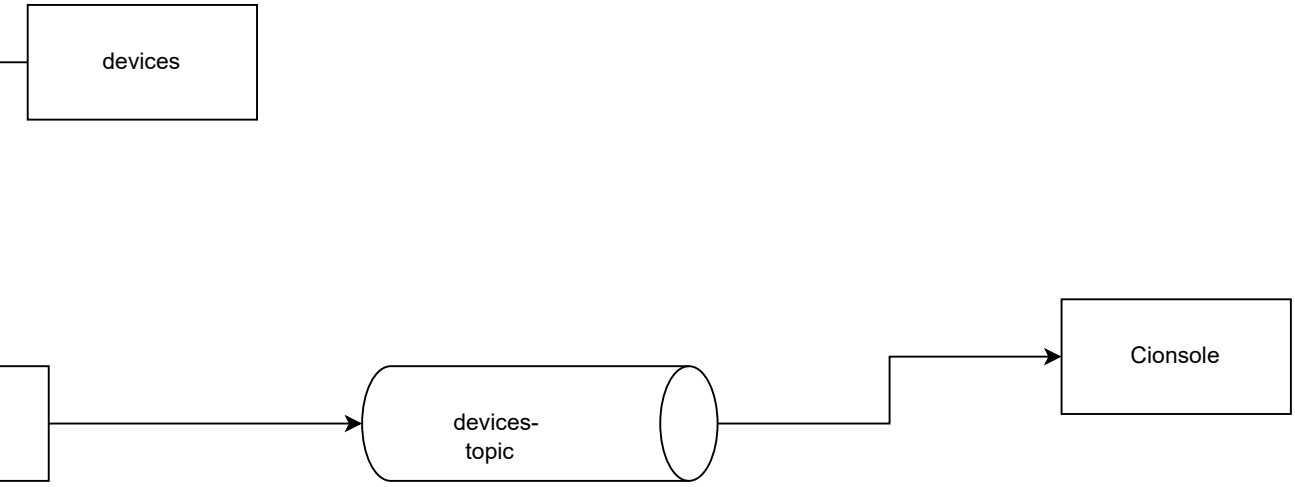

commitSync
Commit Async
Last
polled
offset
Set of
offsets
Particula
offset
Properties file yml
AutoWiring of Kafka
objects
Spring Kafka APIs
Application.yml
A K SDK /API
KafkaProducer
ProducerRecord
RecordMetaData
Apache Kafka
F

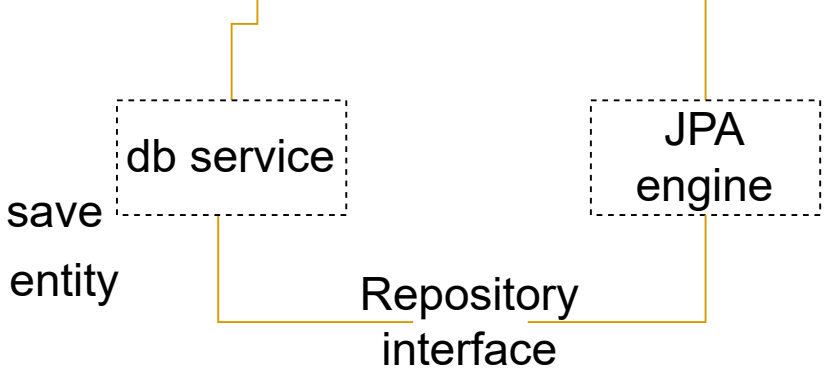
ar


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

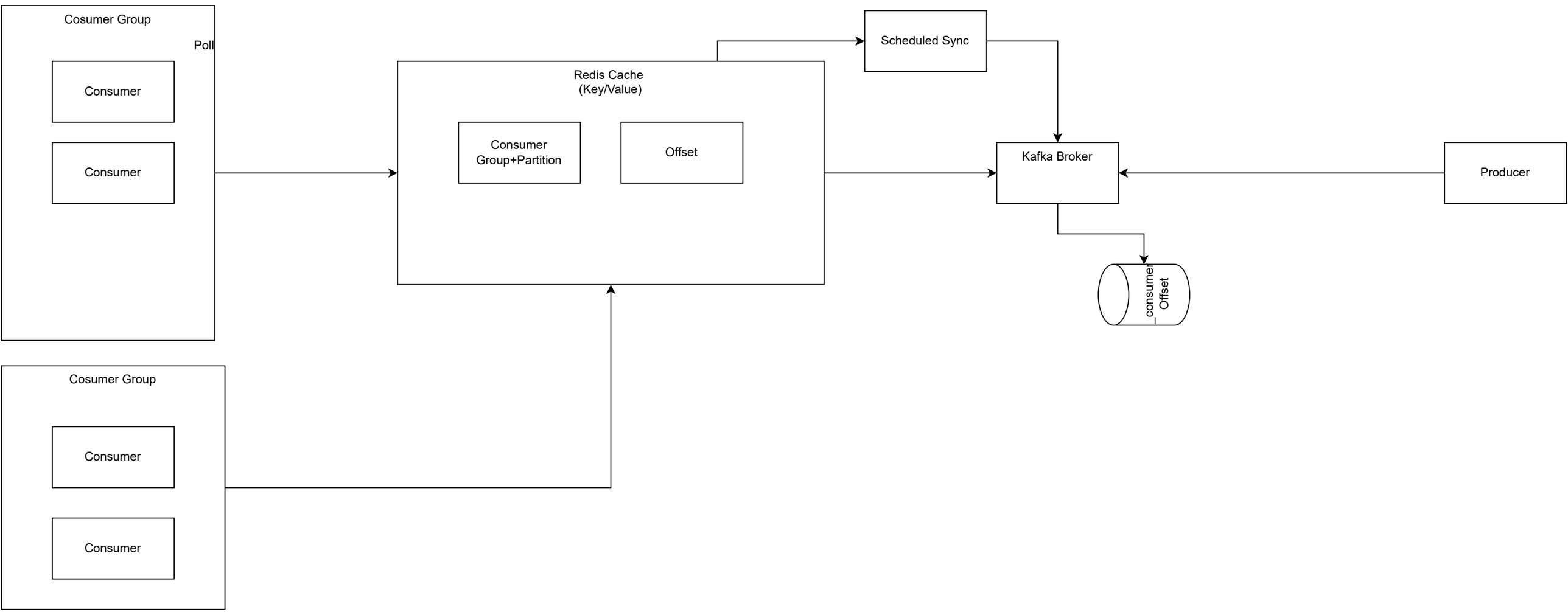

devices
1090
AddDevice
MS


Producer
Consumer
H2
data
model
kafkalistener

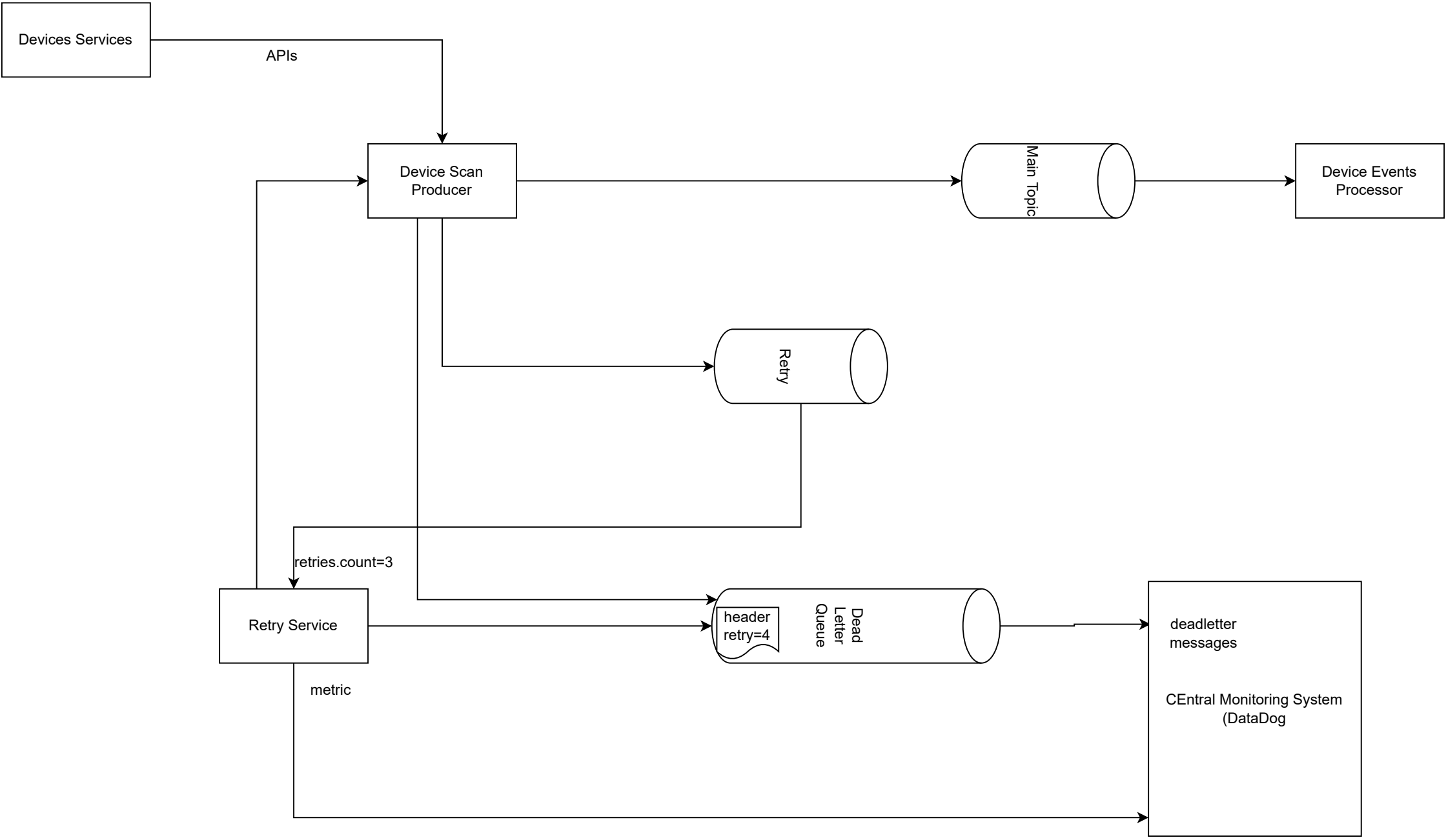

devices
devices-
topic
Cionsole


db service
JPA
engine
save
entity
Repository
interface

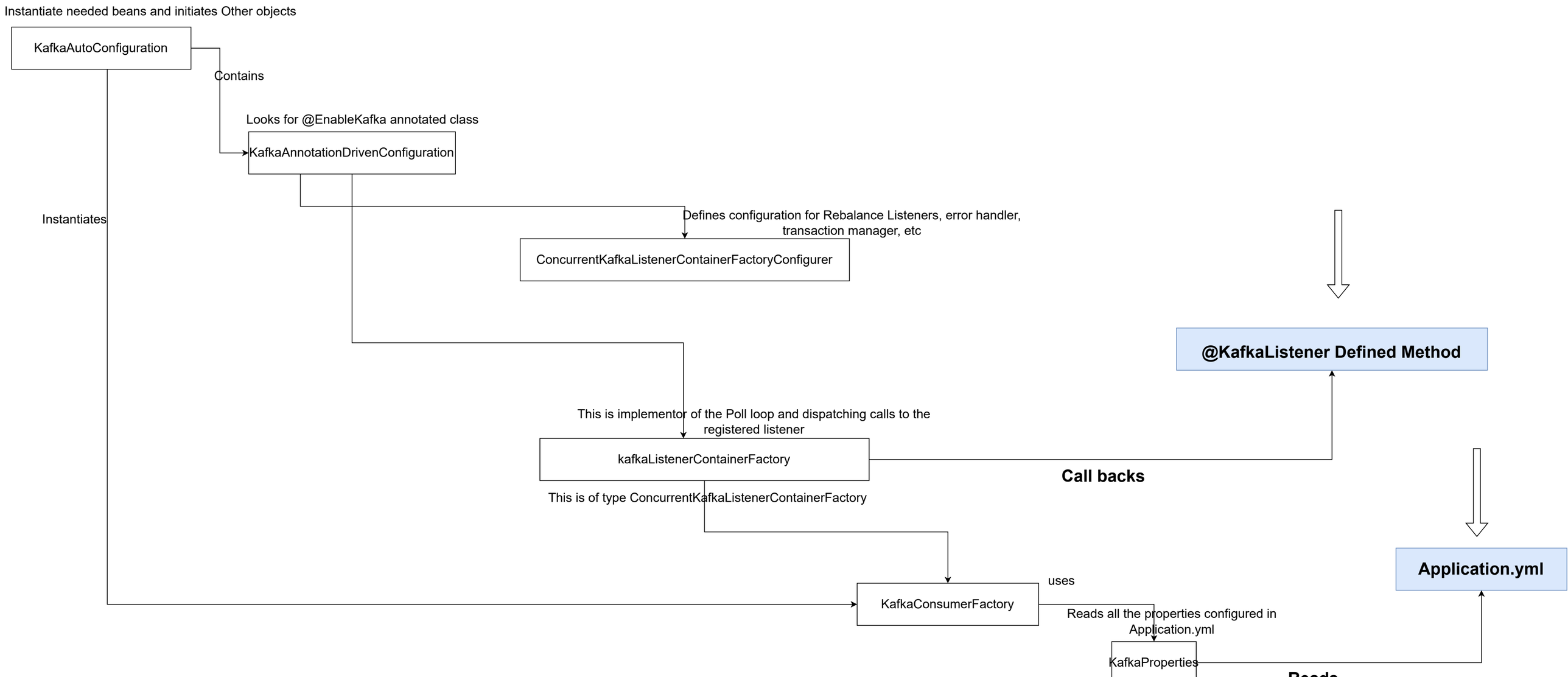
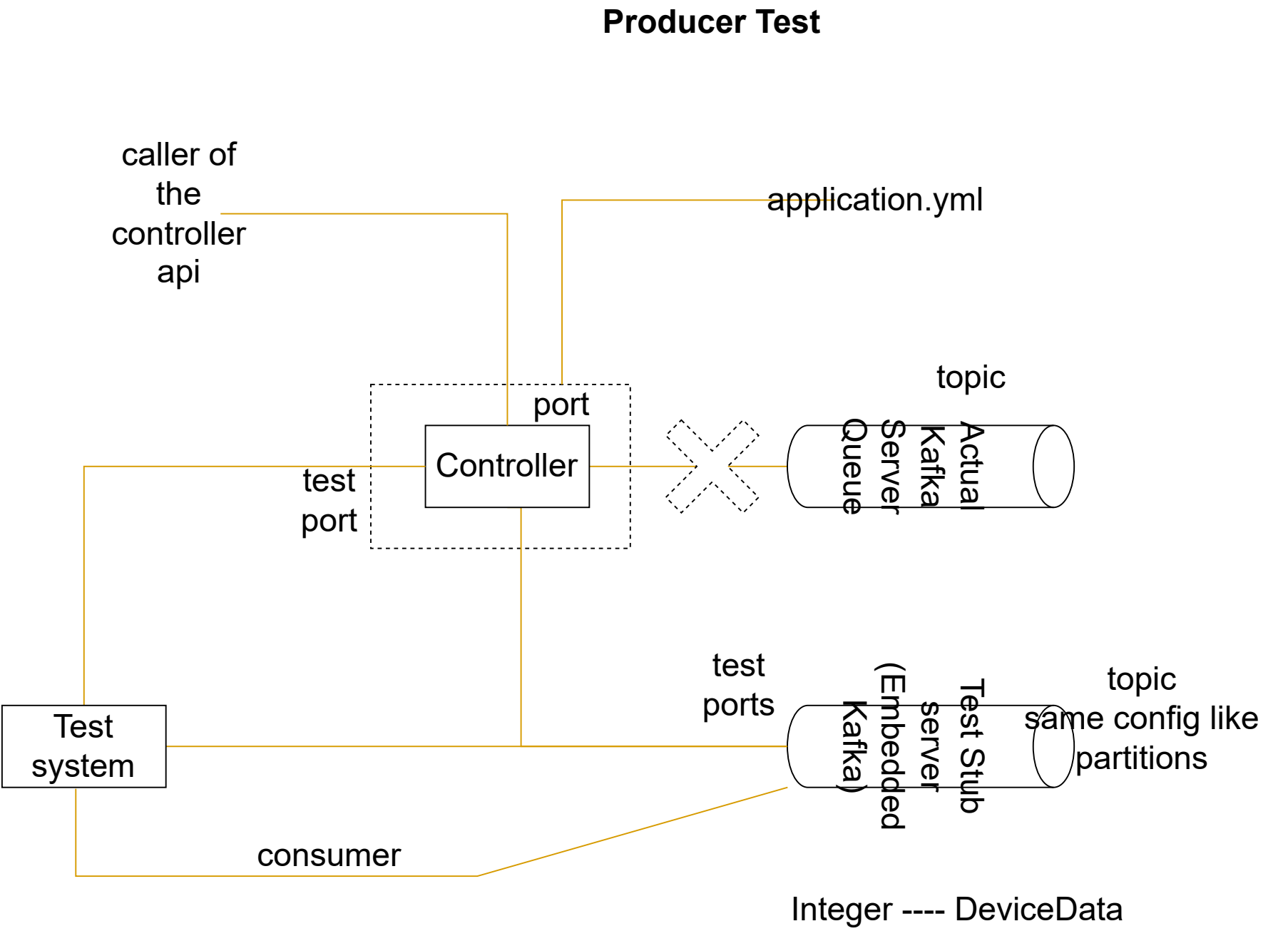
DIY Exercise - day 7



Producer Retry Mechanism



Spring Kafka Consumer Internals



Producer Test