

Consuming Data from Kafka



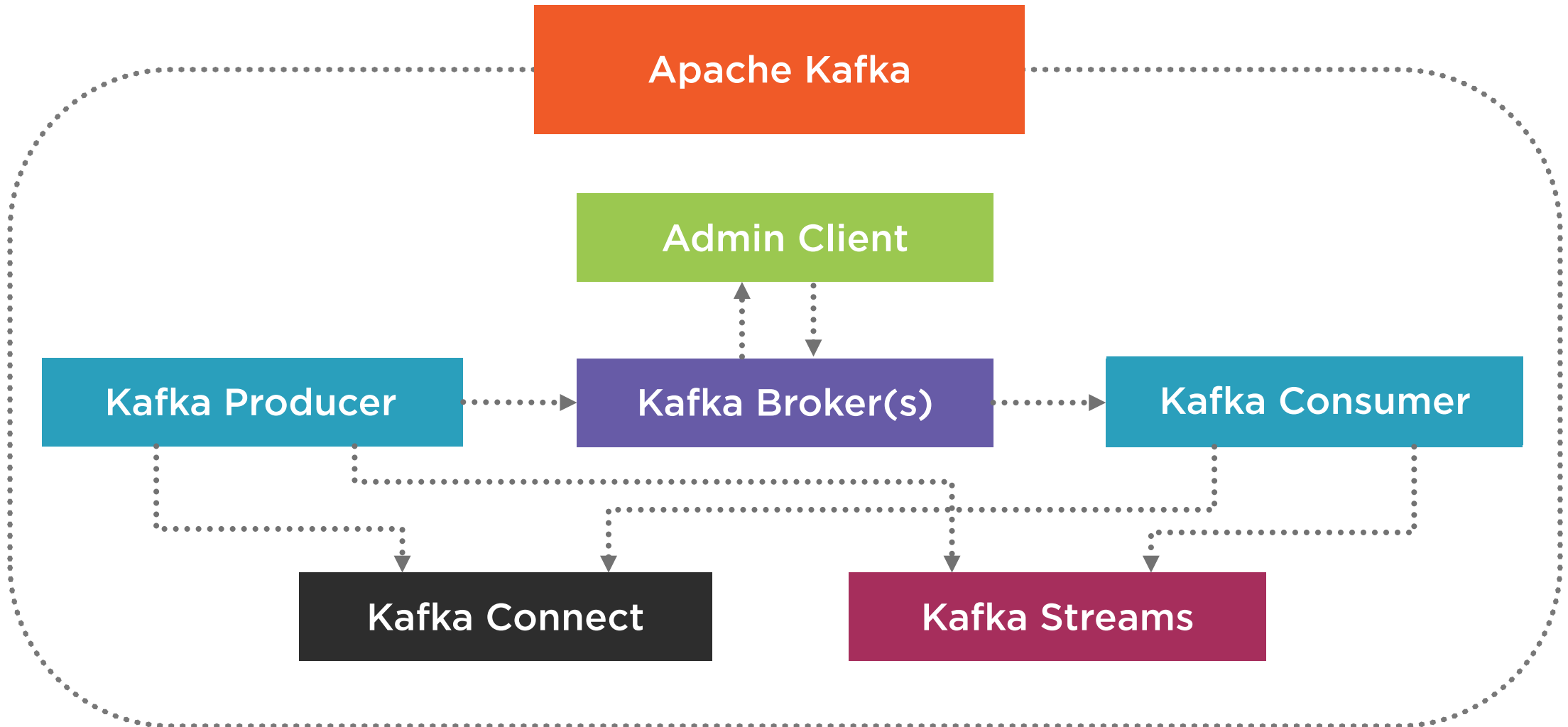
Bogdan Sucaciu

SOFTWARE ENGINEER

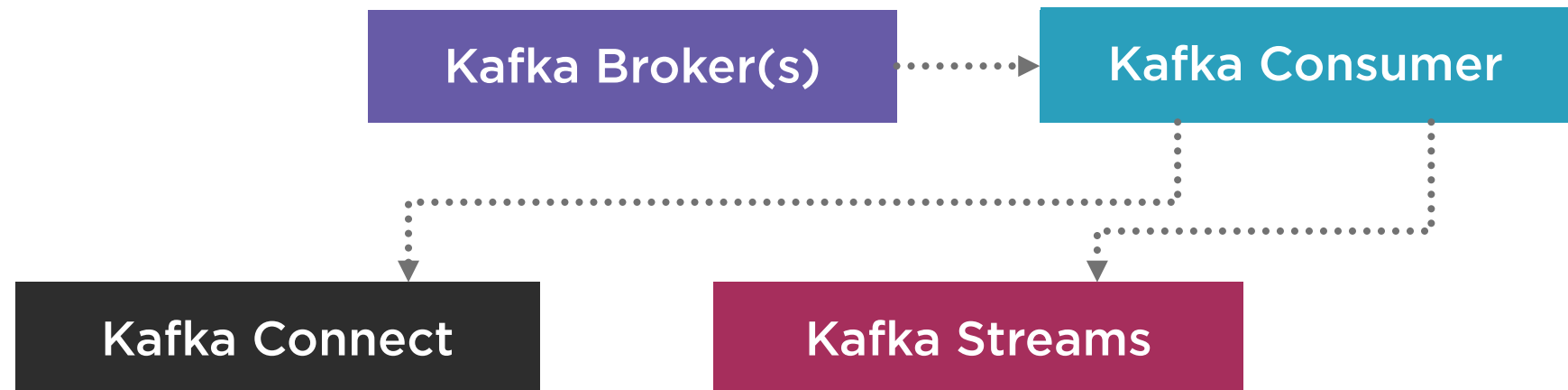
@BSucaciu bsucaciu.com



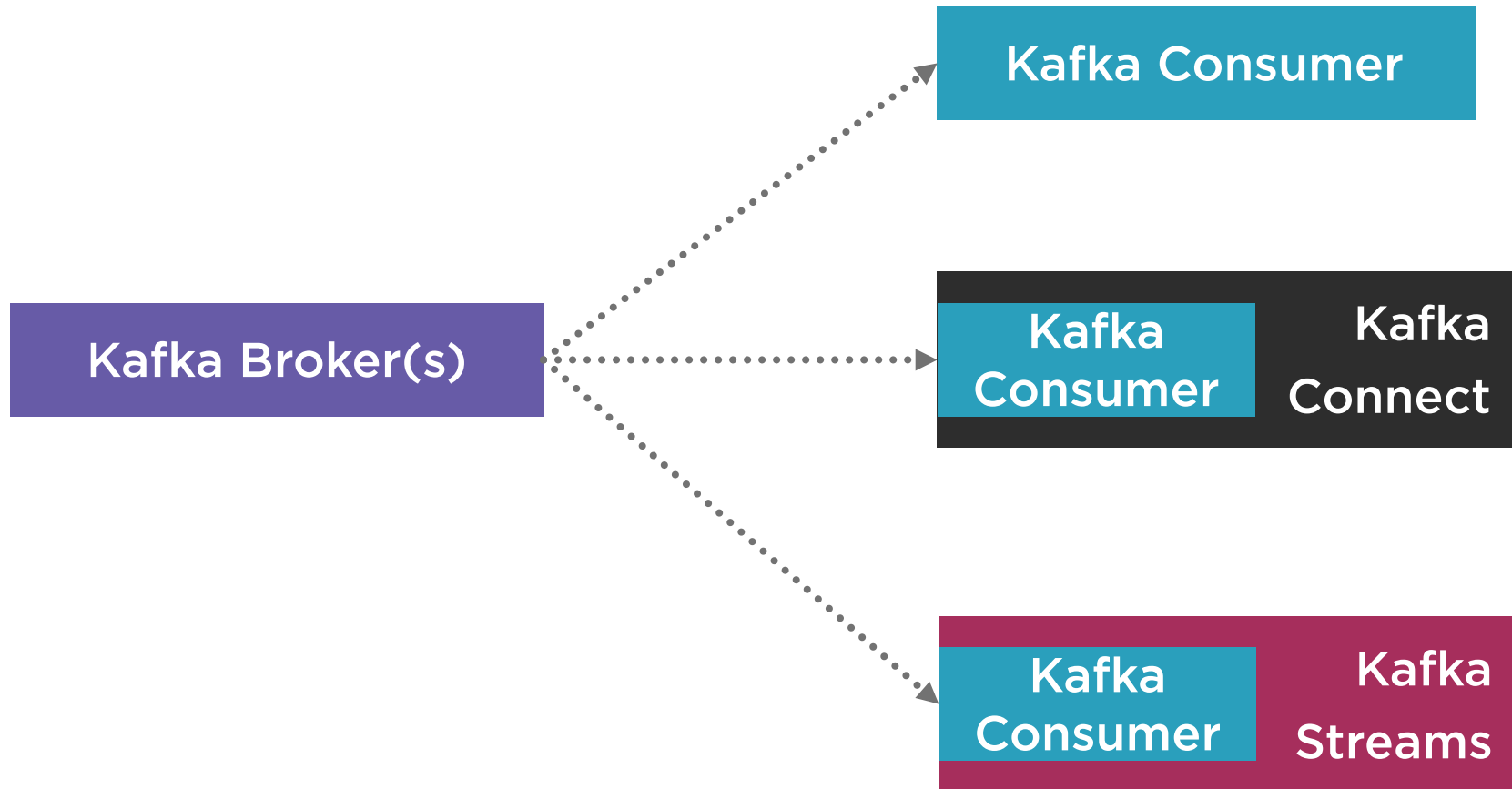
Consuming Data from Kafka



Consuming Data from Kafka



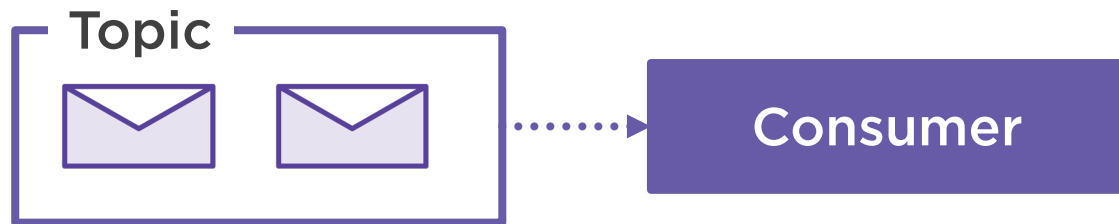
Consuming Data from Kafka



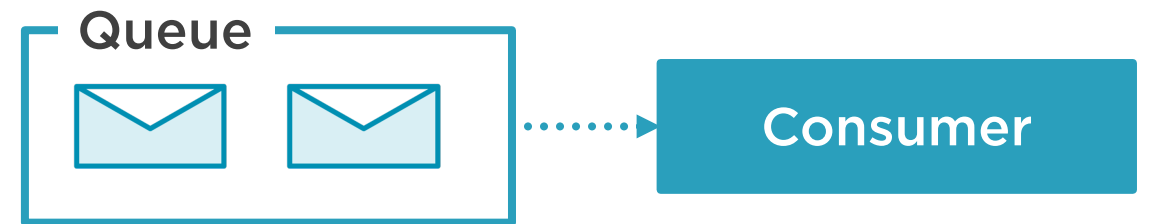
Kafka Consumer



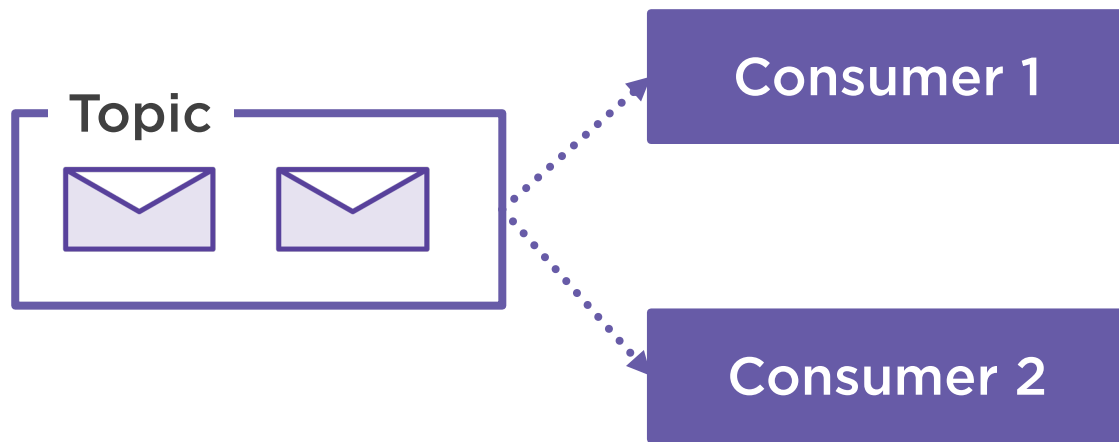
Topic



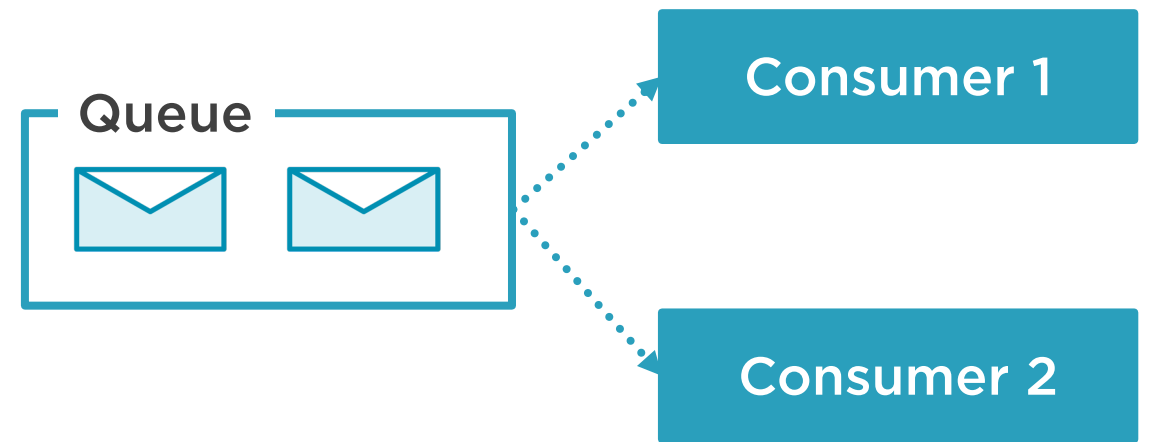
Queue



Topic



Queue



Setting up Consumer(s)

Kafka Consumer

Step 1: Define Properties

```
bootstrap.servers=broker-1:9092  
key/value.deserializer=StringDeserializer  
group.id=kafka.consumer
```

Step 2: Create Consumer

```
new KafkaConsumer<>(properties)
```

Step 3: Subscribe

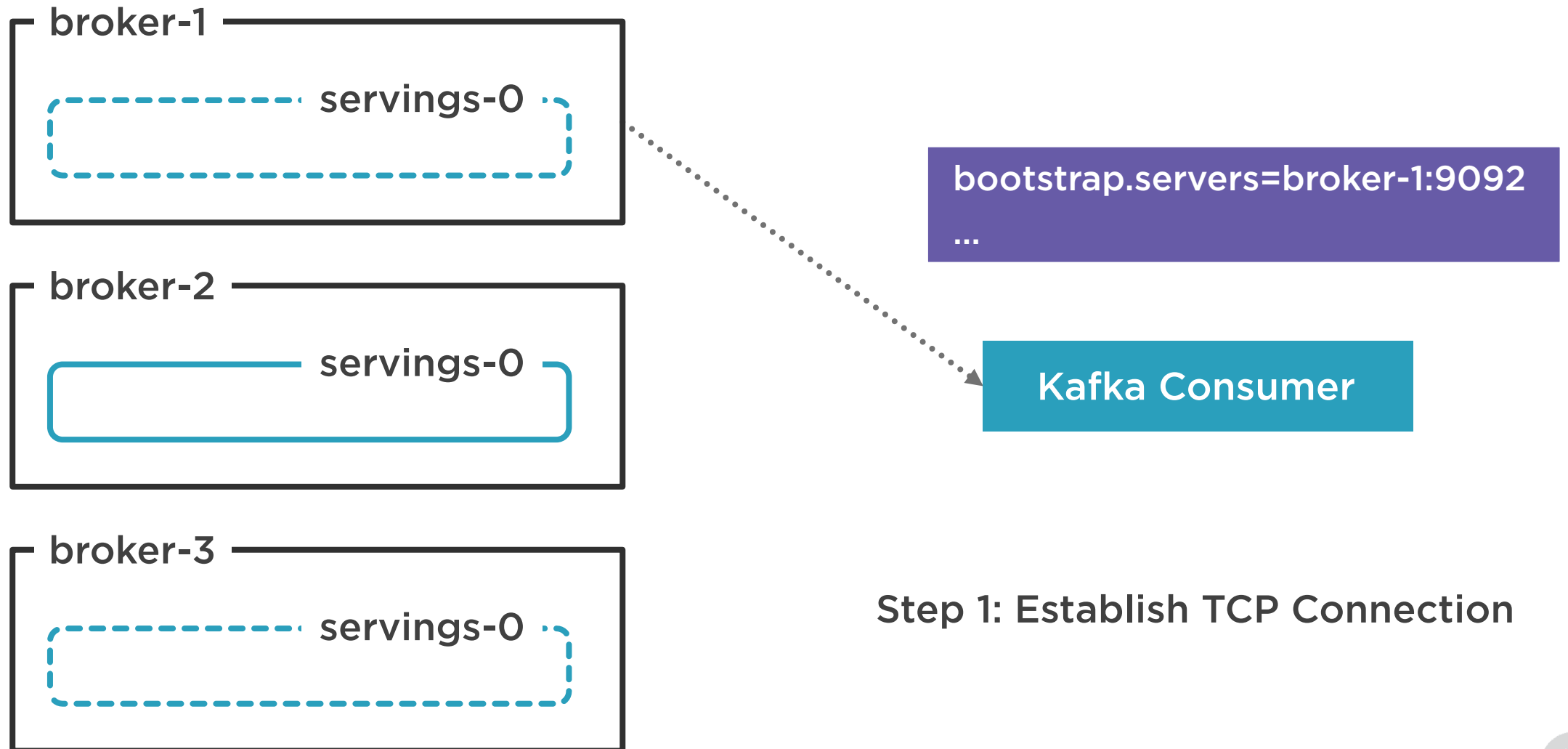
```
consumer.subscribe(topics)
```

Step 4: Poll

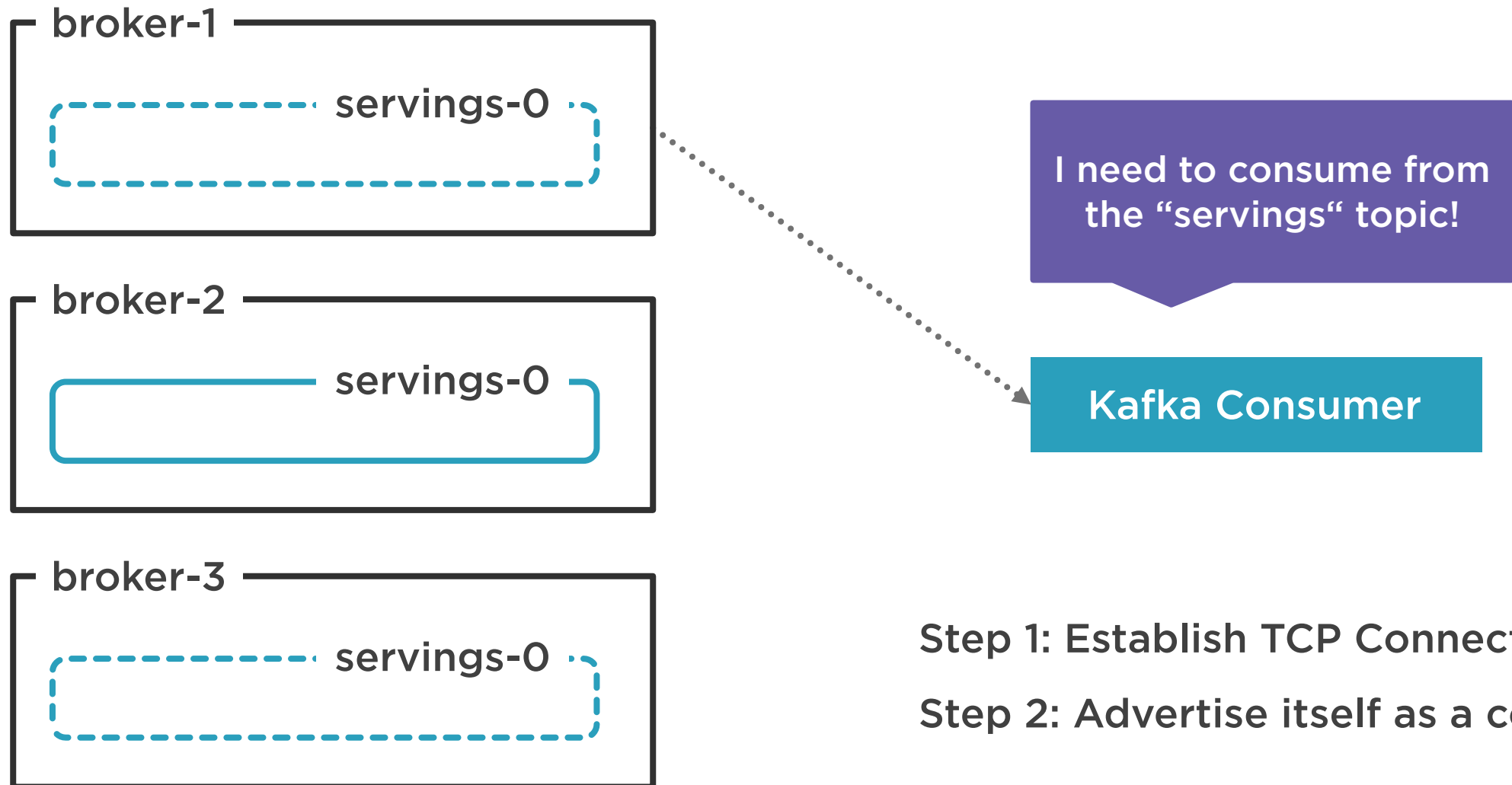
```
consumer.poll()
```



Consuming from Kafka



Consuming from Kafka

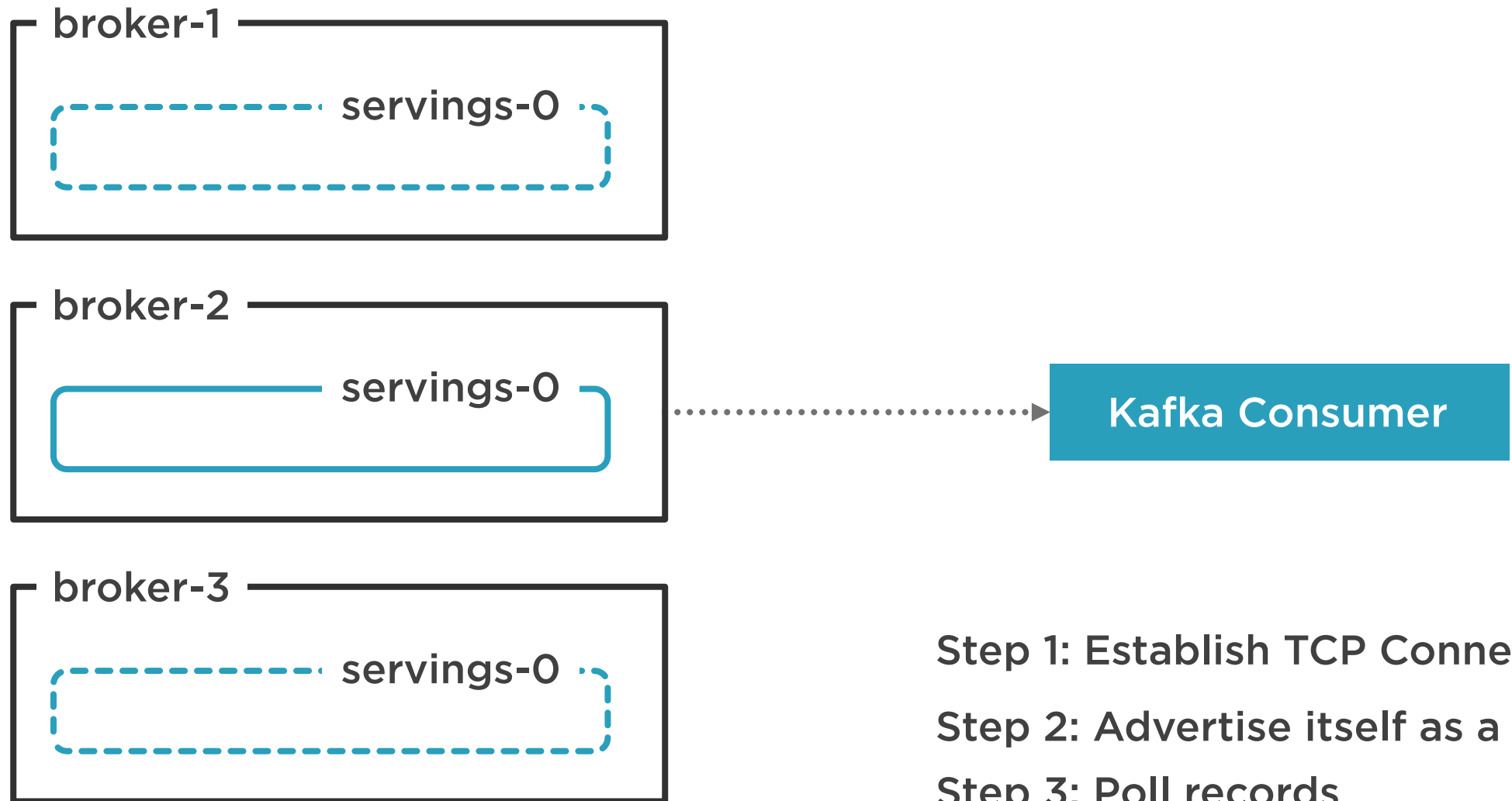


Step 1: Establish TCP Connection

Step 2: Advertise itself as a consumer



Consuming from Kafka



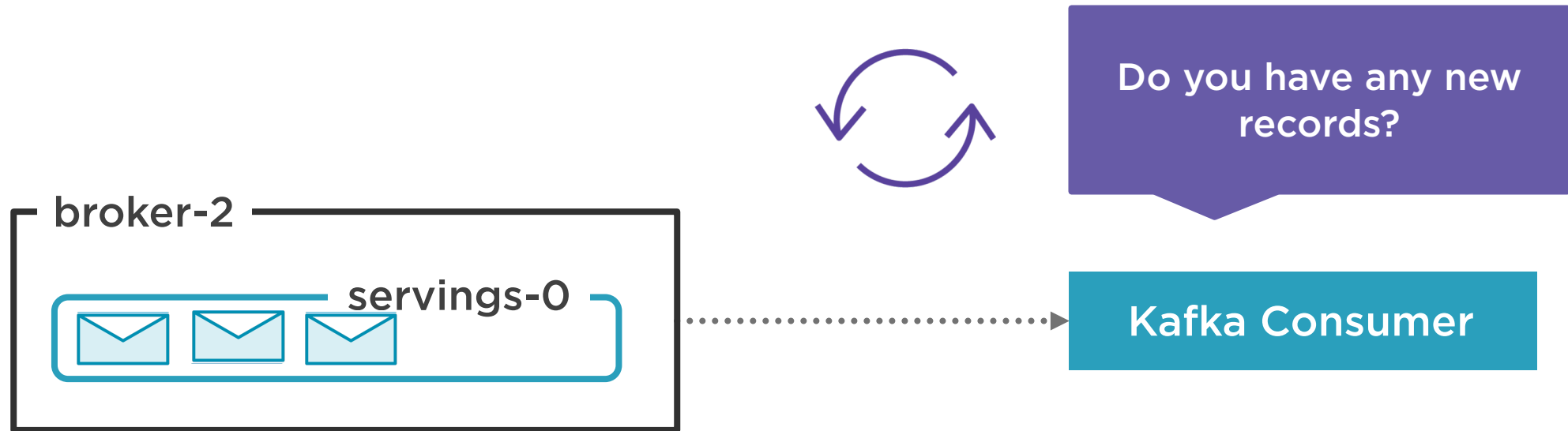
Step 1: Establish TCP Connection

Step 2: Advertise itself as a consumer

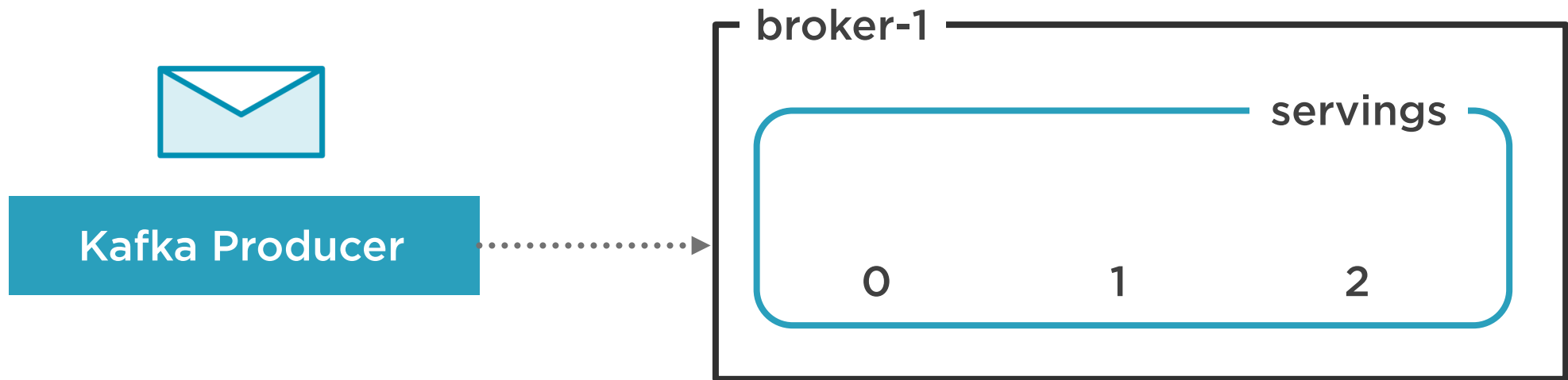
Step 3: Poll records



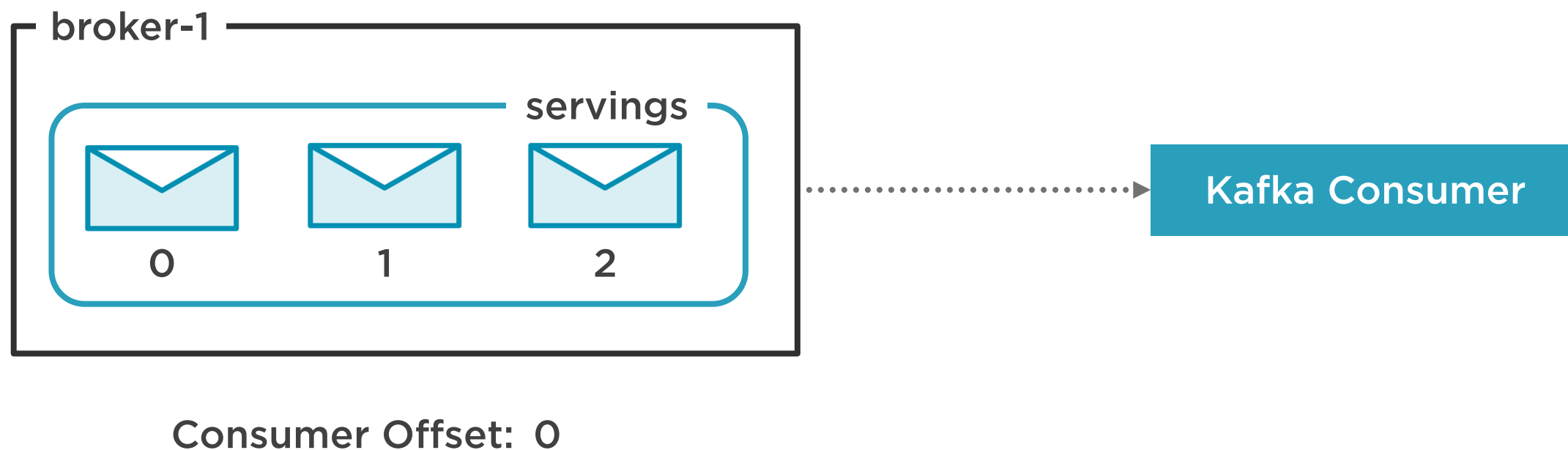
Polling Records



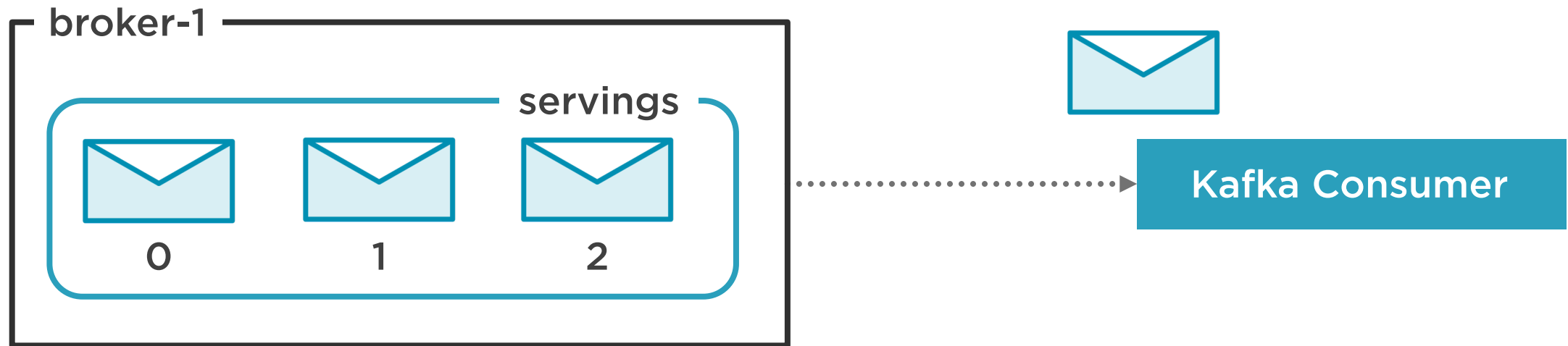
Partition Offset



Consumer Offset



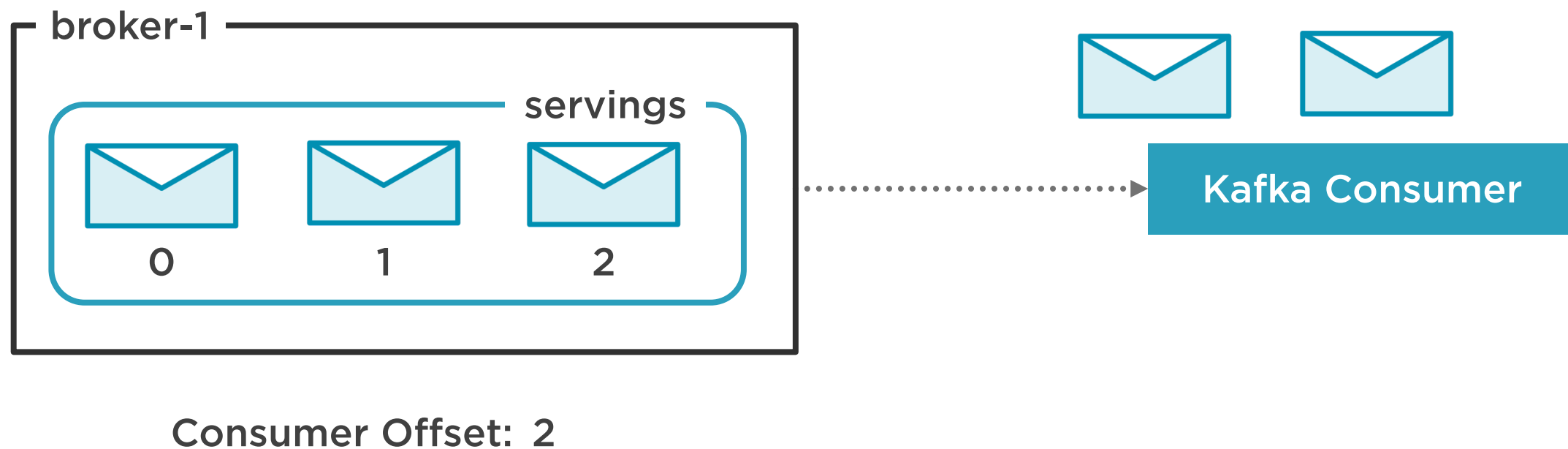
Consumer Offset



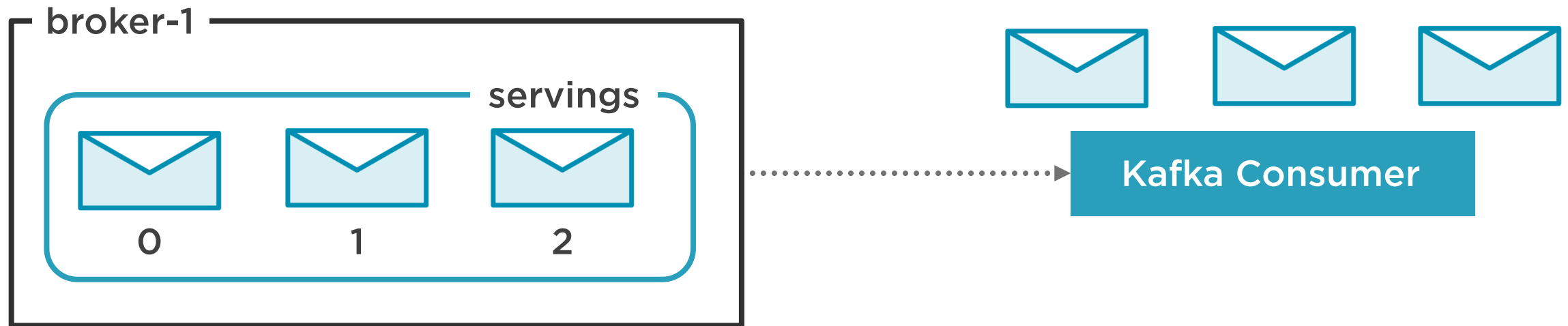
Consumer Offset: 1



Consumer Offset



Consumer Offset



Consumer Offset: 3

`__offsets`



Demo

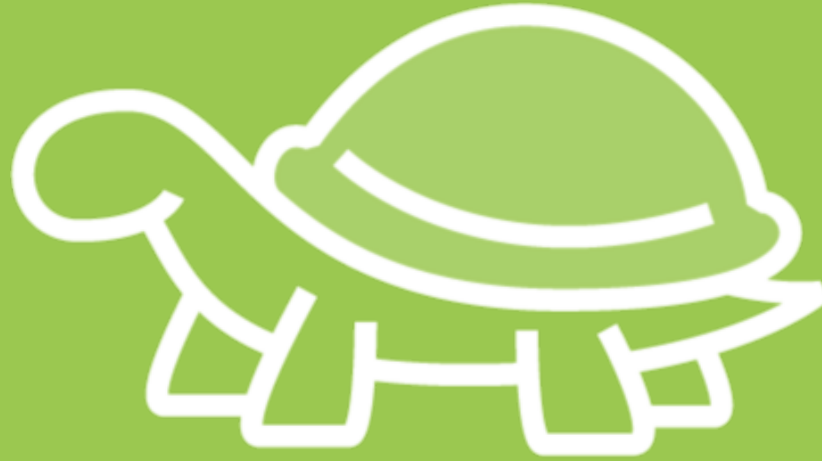


Create a Kafka Consumer



Grouping Consumers





Consumer Lag

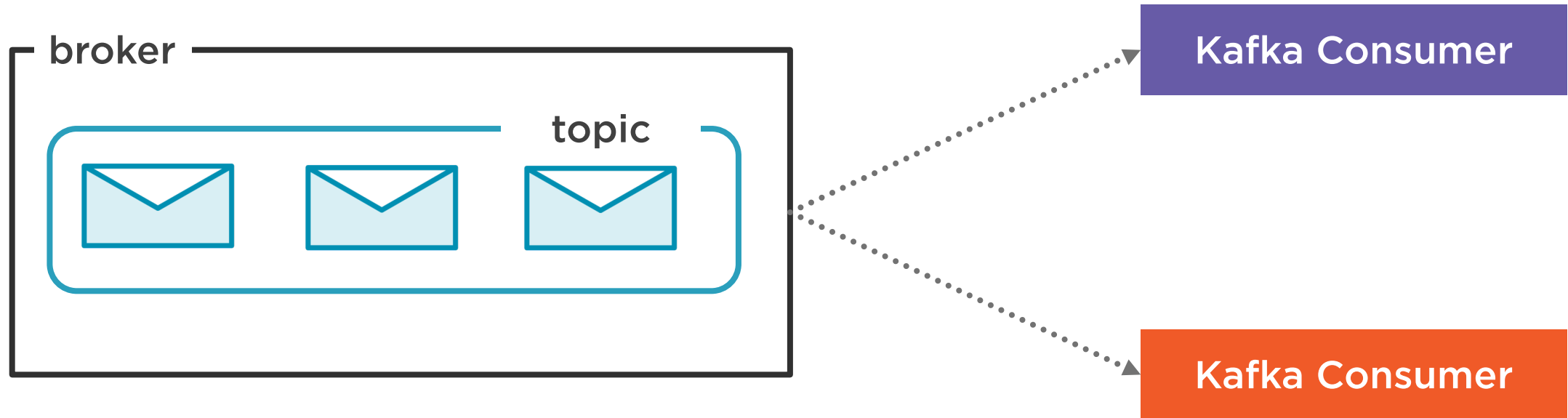
The difference between the last produced message and the last consumed message



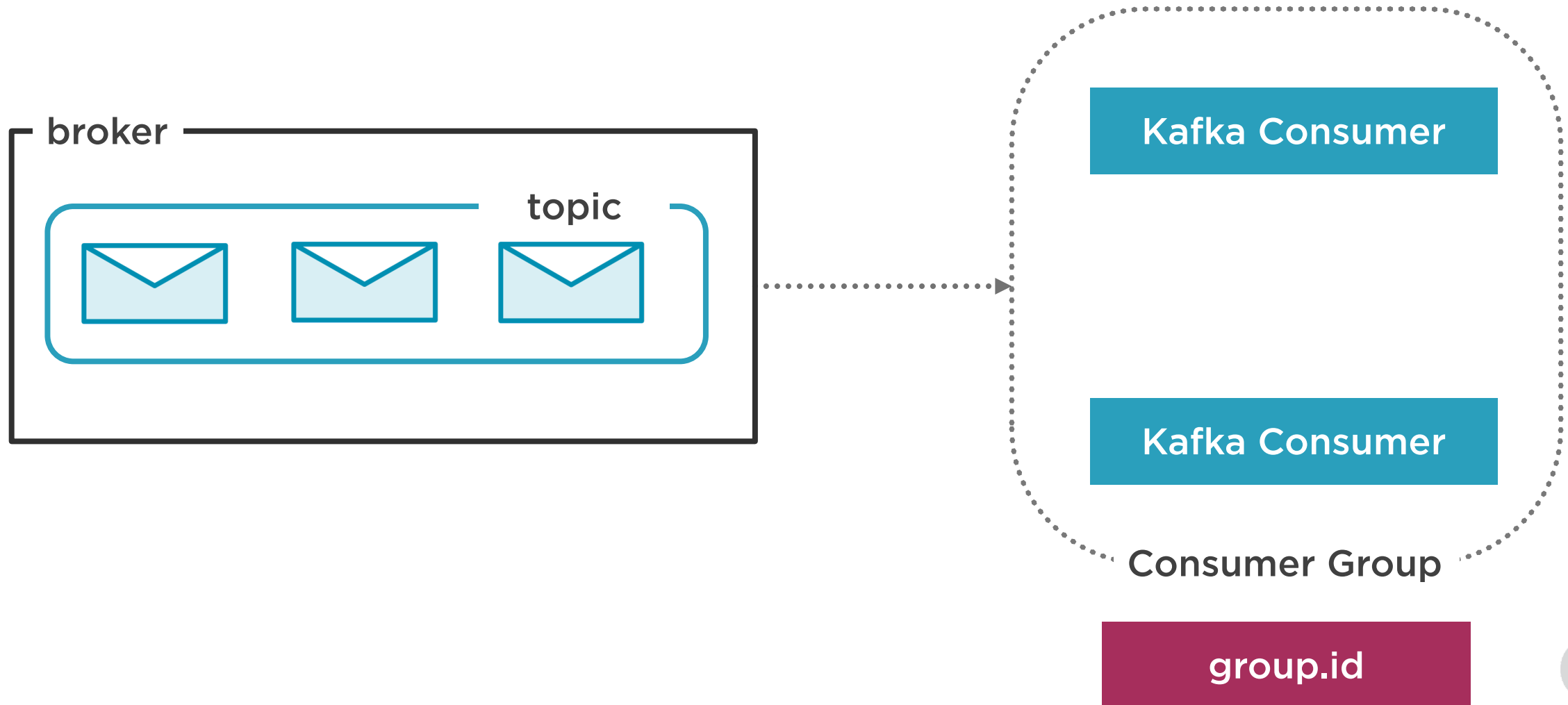
**Consumer Groups are used
when a single consumer cannot
handle high load topics**



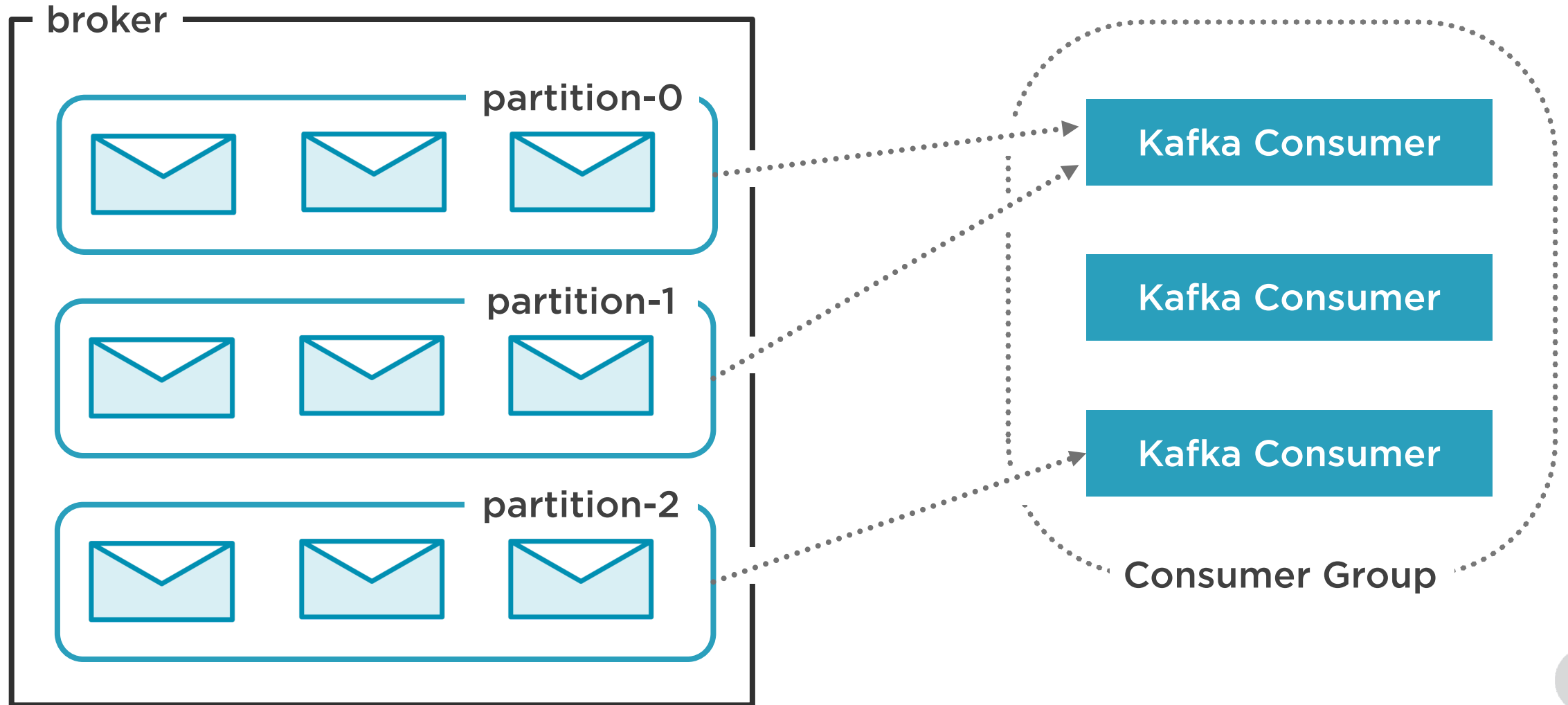
Consumers



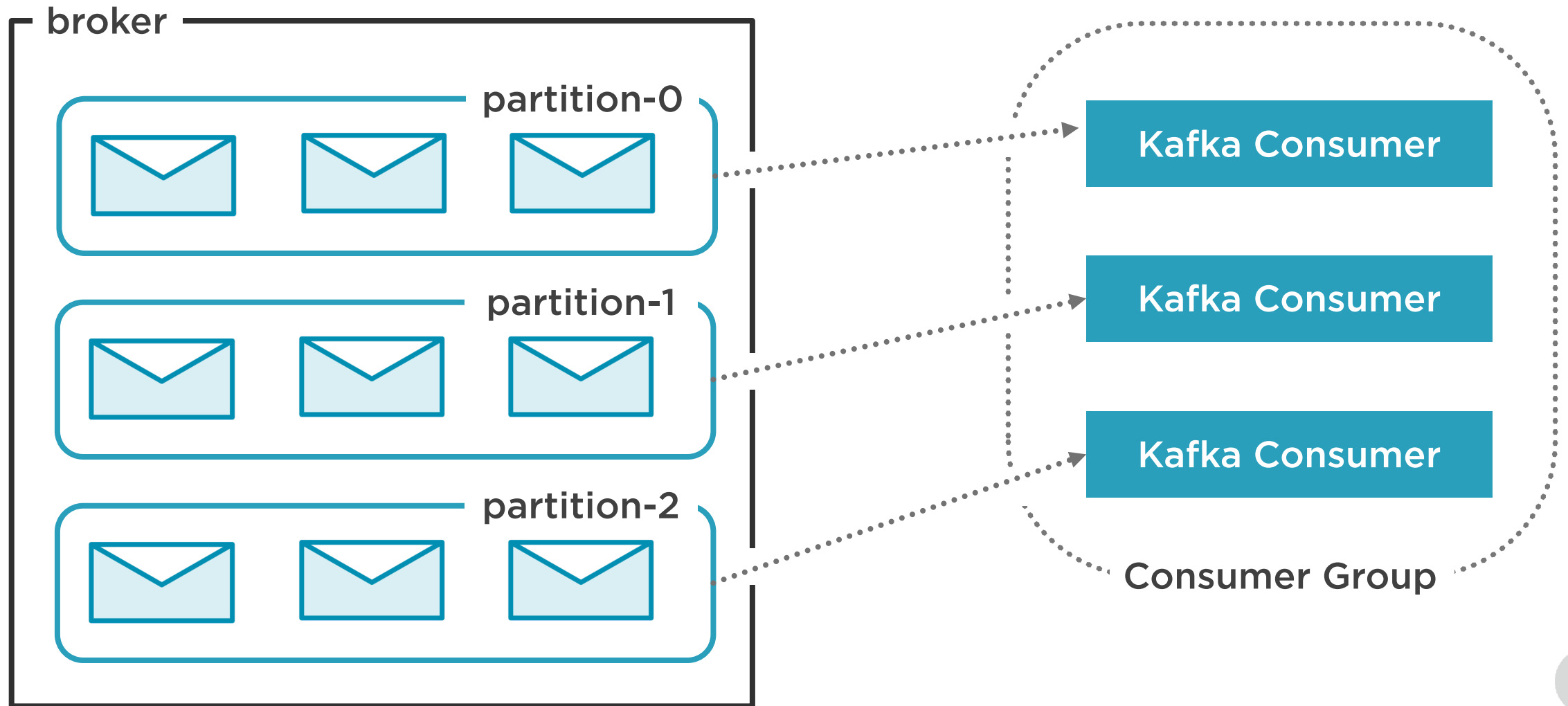
Consumer Group



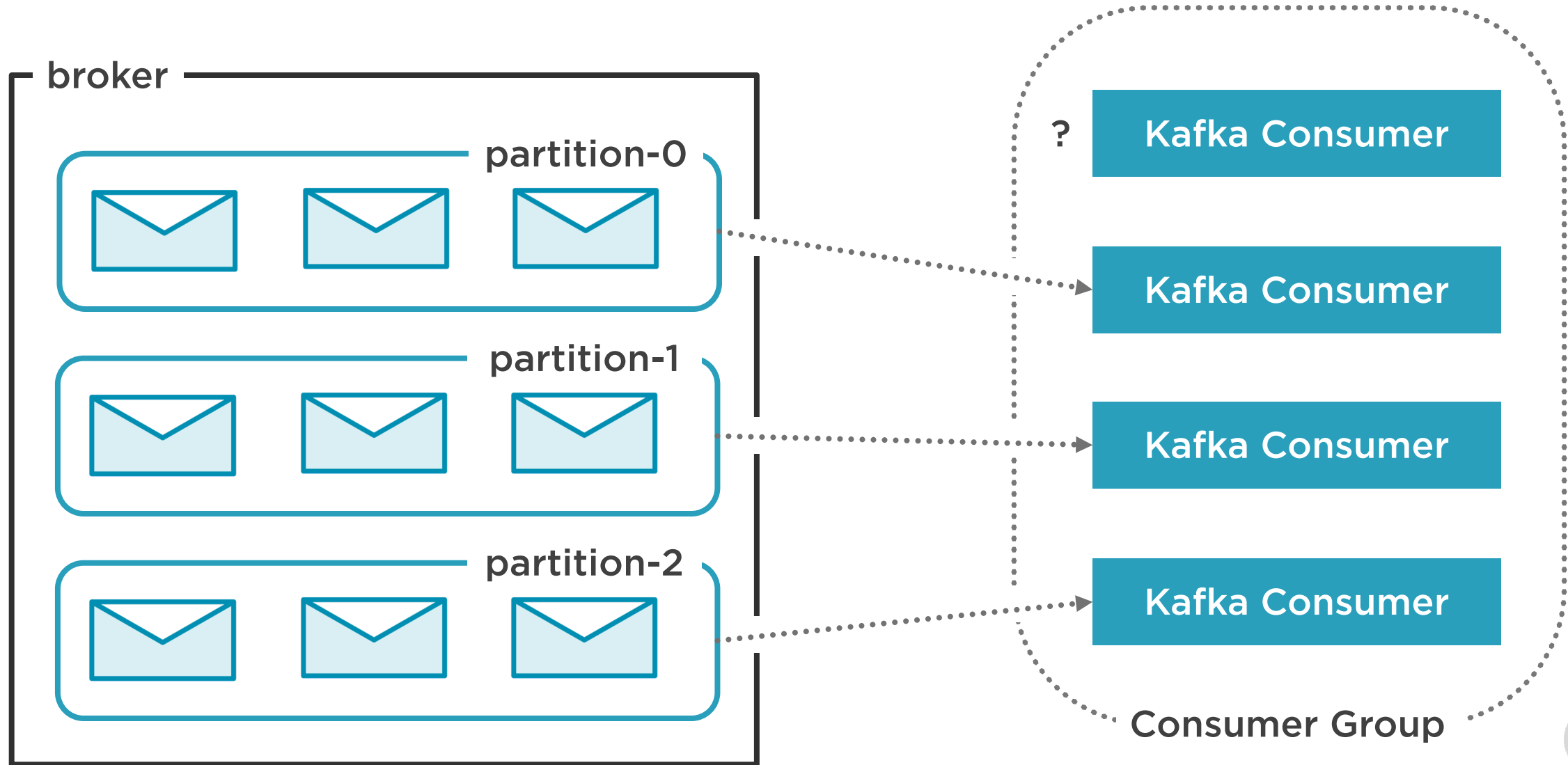
Consumer Group



Consumer Group



Consumer Group



Max number of
consumers in a
group

=

number of
partitions
in a topic



Partitions = Desired Throughput / Partition Speed

Partition Speed \pm 10 MB/s

e.g:

Desired Throughput = 10 TB/Day = 120 MB/s

Partitions = 12



Demo



Grouping Consumers

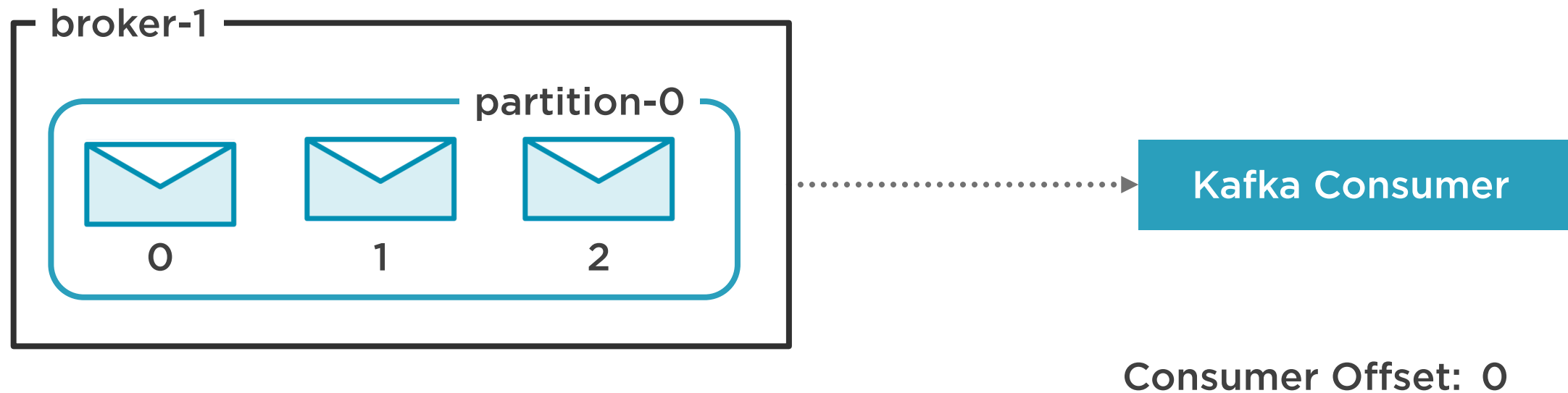
Consumer Lag



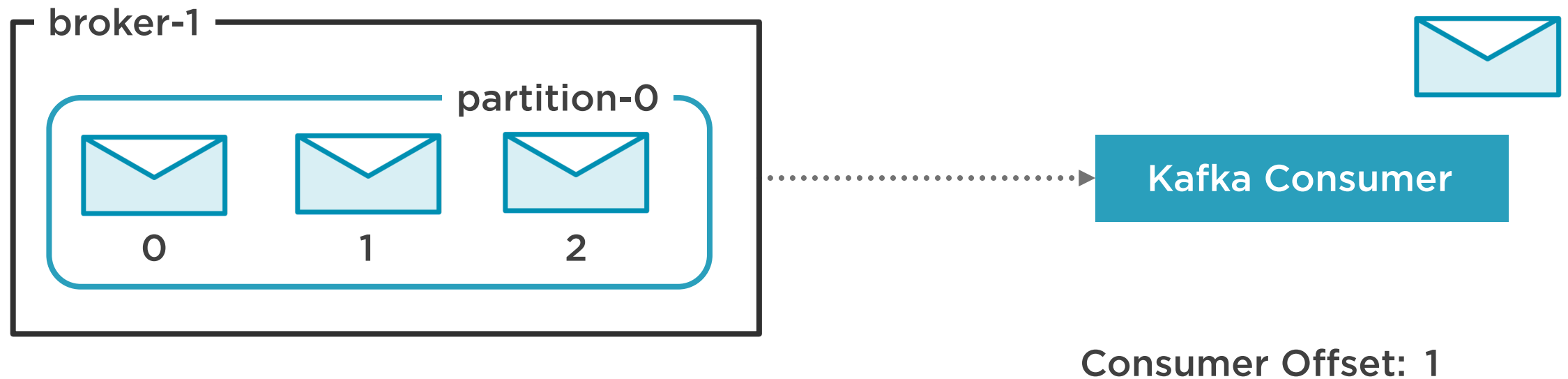
Going Back in Time



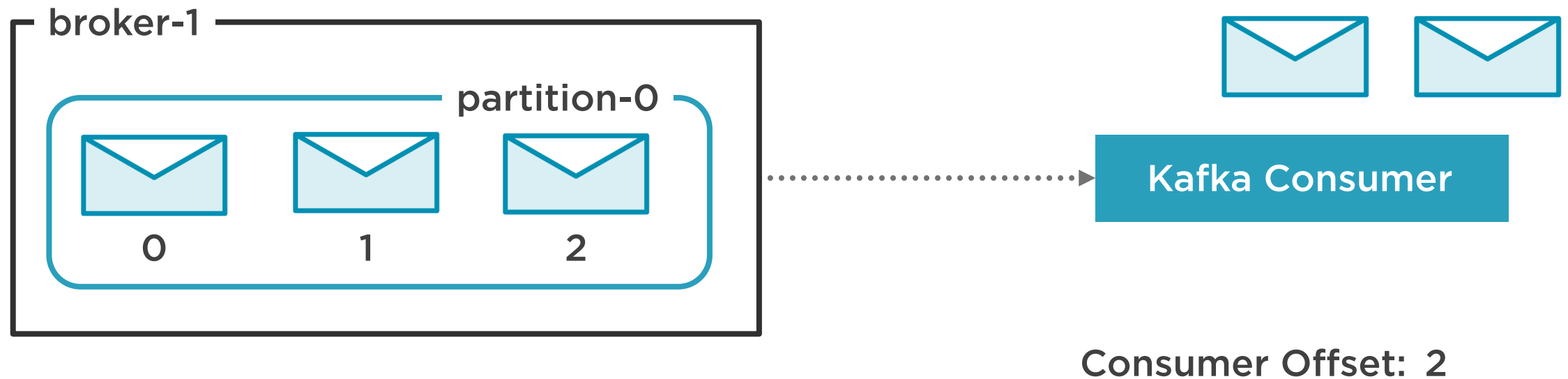
Going Back in Time



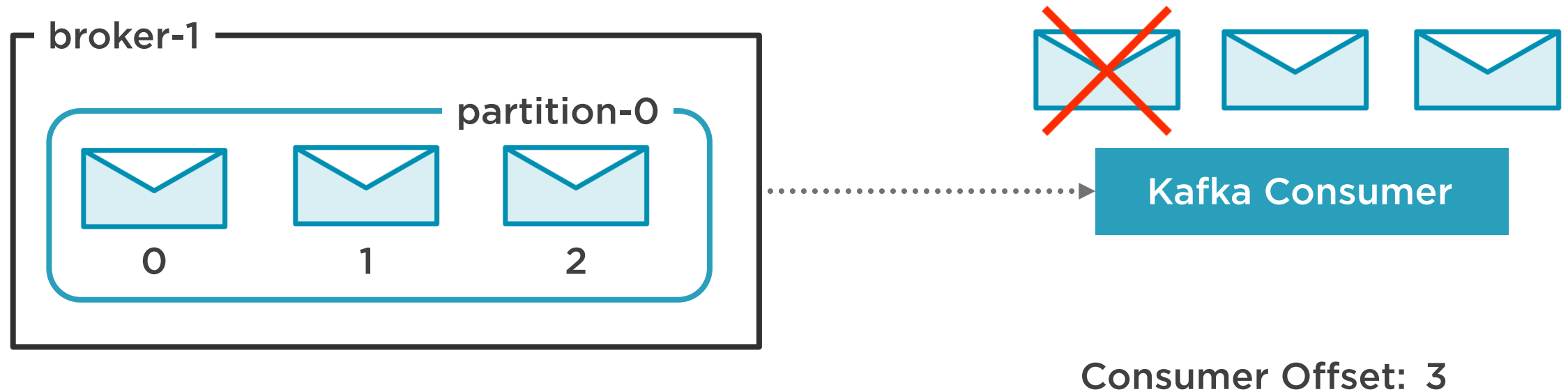
Going Back in Time



Going Back in Time



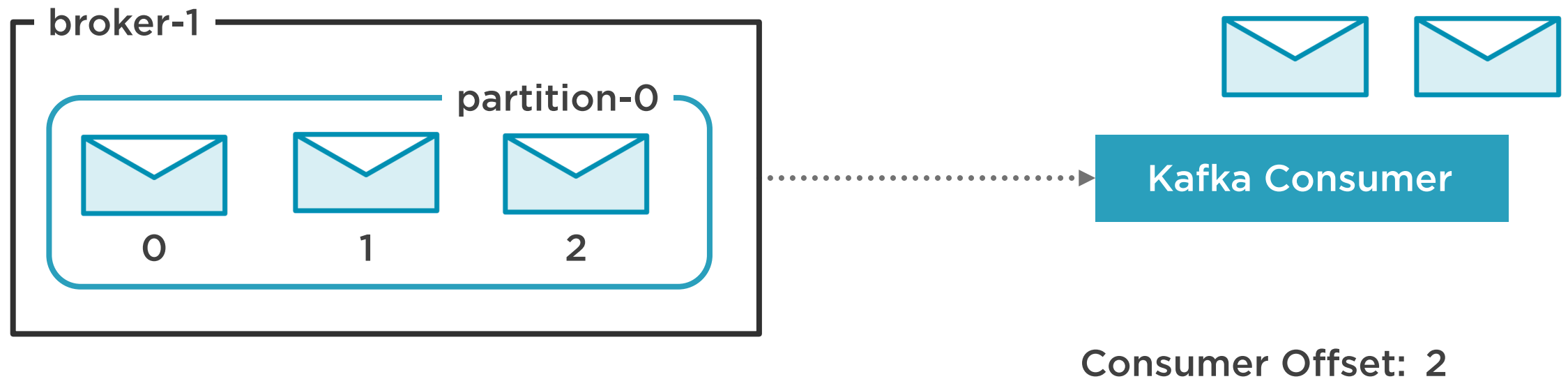
Going Back in Time



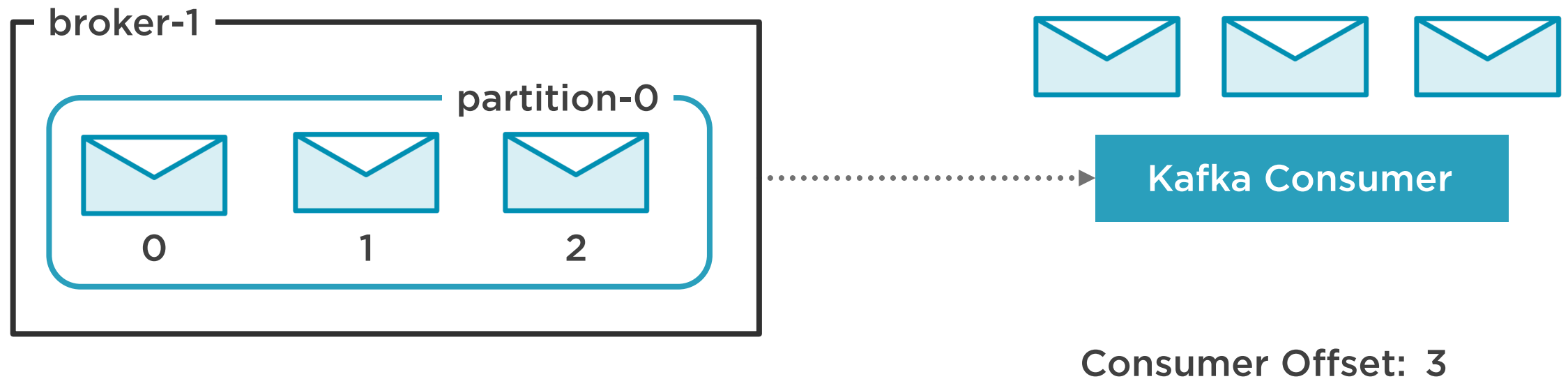
```
consumer.seek( partition-0, 2 )
```



Going Back in Time



Going Back in Time



Demo



Consumer seek



Summary



Kafka Consumer

Grouping Consumers

Re-consuming Messages

