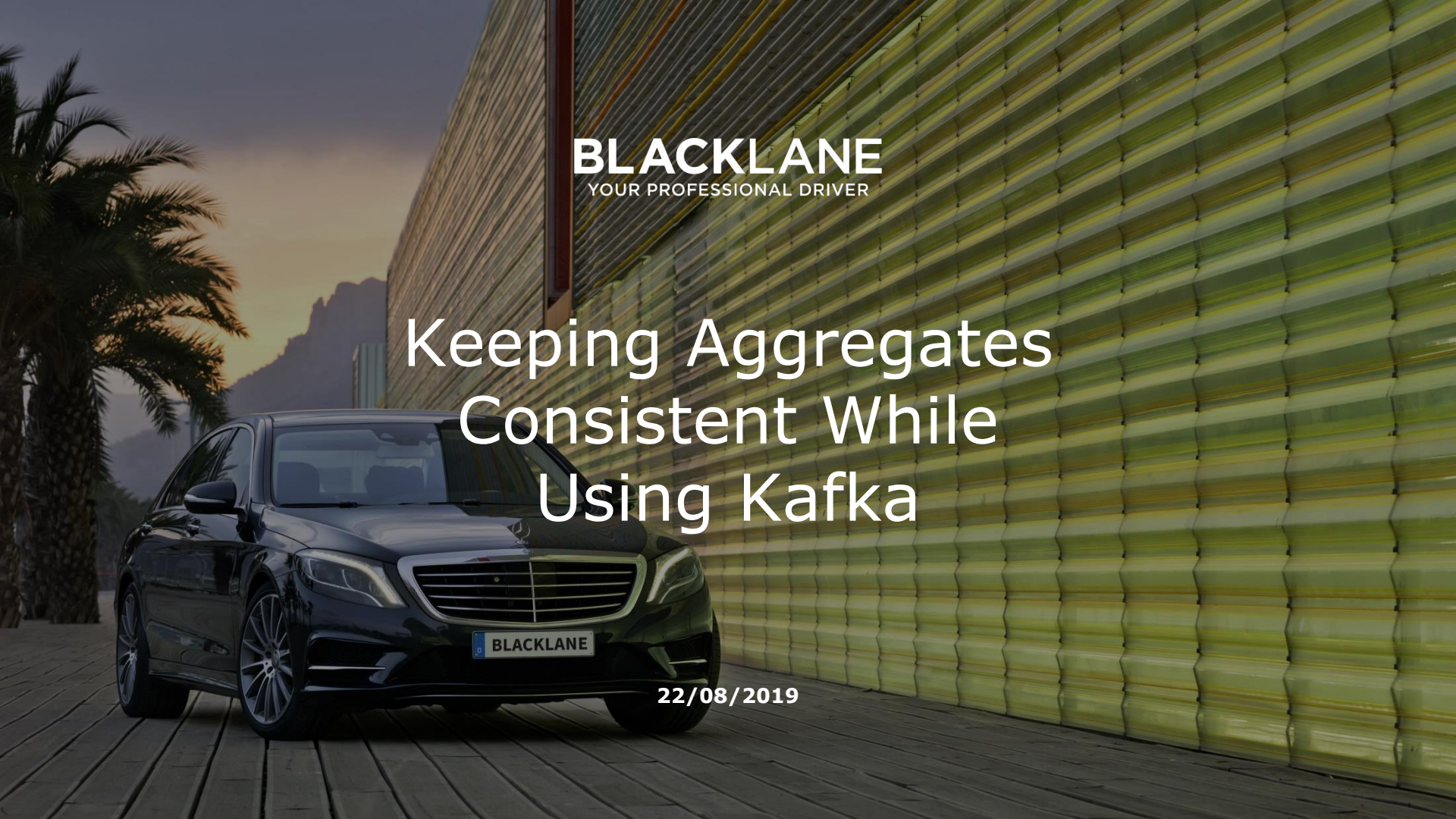


Keeping Aggregates Consistent While Using Kafka

22/08/2019


SUWALLS
BLACKLANE
YOUR PROFESSIONAL DRIVER
Quick intro to
DDD Aggregate

Aggregate - is a DDD pattern

Aggregate is a cluster of domain objects that can be treated as a single unit. An example may be an order and its line-items, these will be separate objects, but it's useful to treat the order (together with its line items) as a single aggregate.

(C)Martin Fowler

Transactions should not cross aggregate boundaries.

Entities and Value Objects

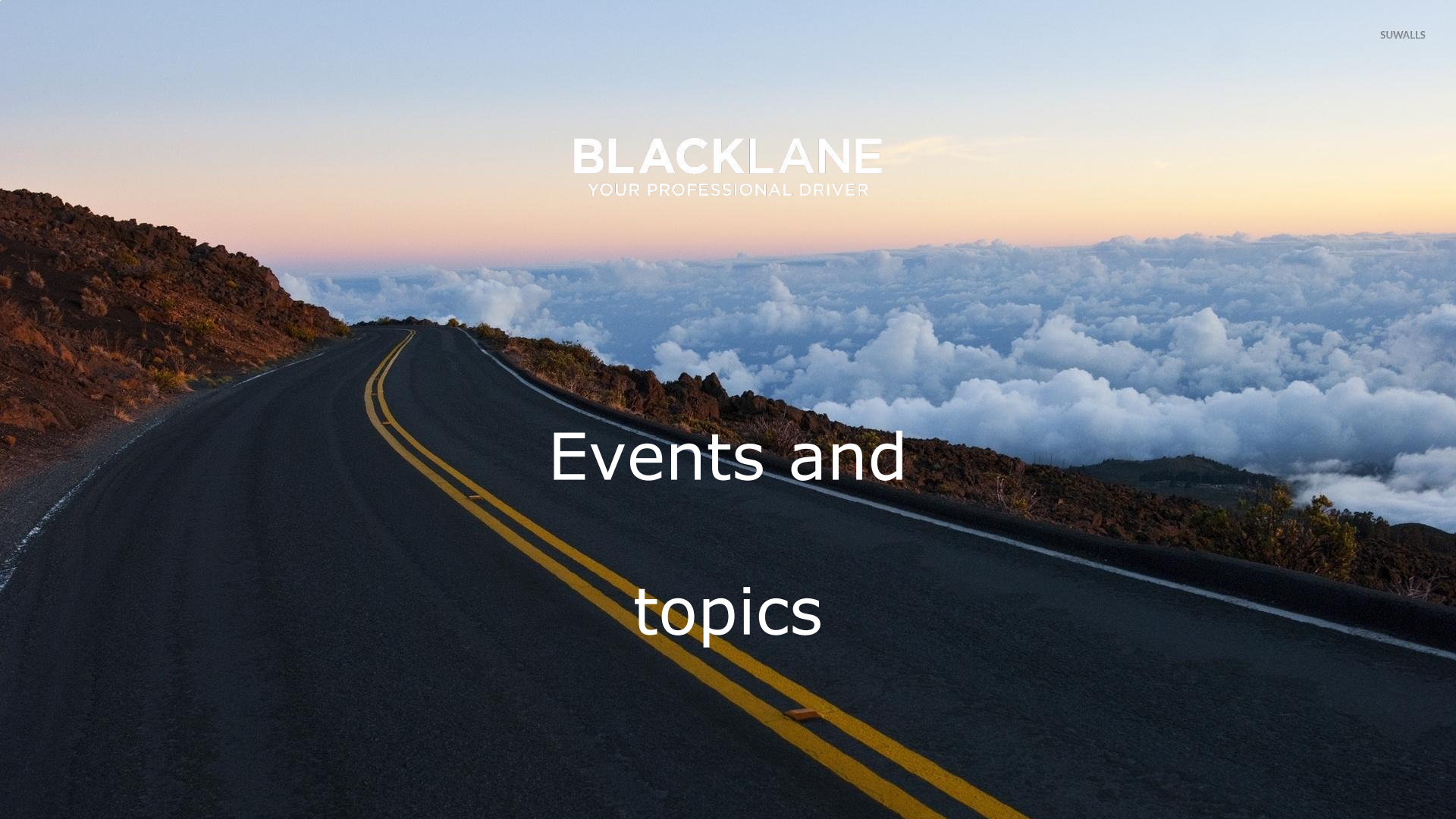
- **Entity:** Objects that have a distinct identity that runs through time and different representations.
  E.g. Booking, Auction/Offer

- **Value Object:** Objects that matter only as the combination of their attributes. Two value objects with the same values for all their attributes are considered equal.
  E.g. Date, Money, Pickup/DropOff points

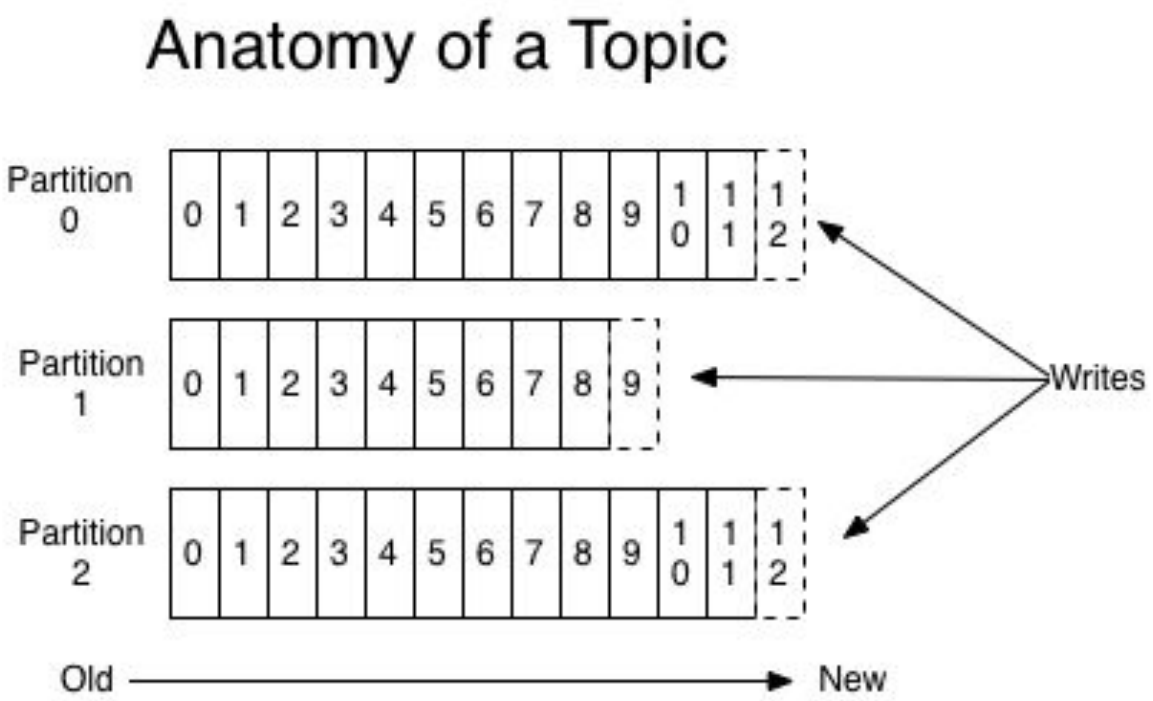
(C)Martin Fowler

Aggregate = Entities + Value objects

Aggregate consist of at least one Entity, called *Root Entity*,
and optional *Value Objects*


SUWALLS
BLACKLANE
YOUR PROFESSIONAL DRIVER
Events and
topics

Kafka topic partitioning



How we manage events and topics

- **Any events that need to stay in a fixed order must go in the same topic**
- **Even though there may be many different event types, all of the events that define an aggregate must go in the same topic**
- ***Format*: JSON, without a statically defined schema => different event types in the same topic**

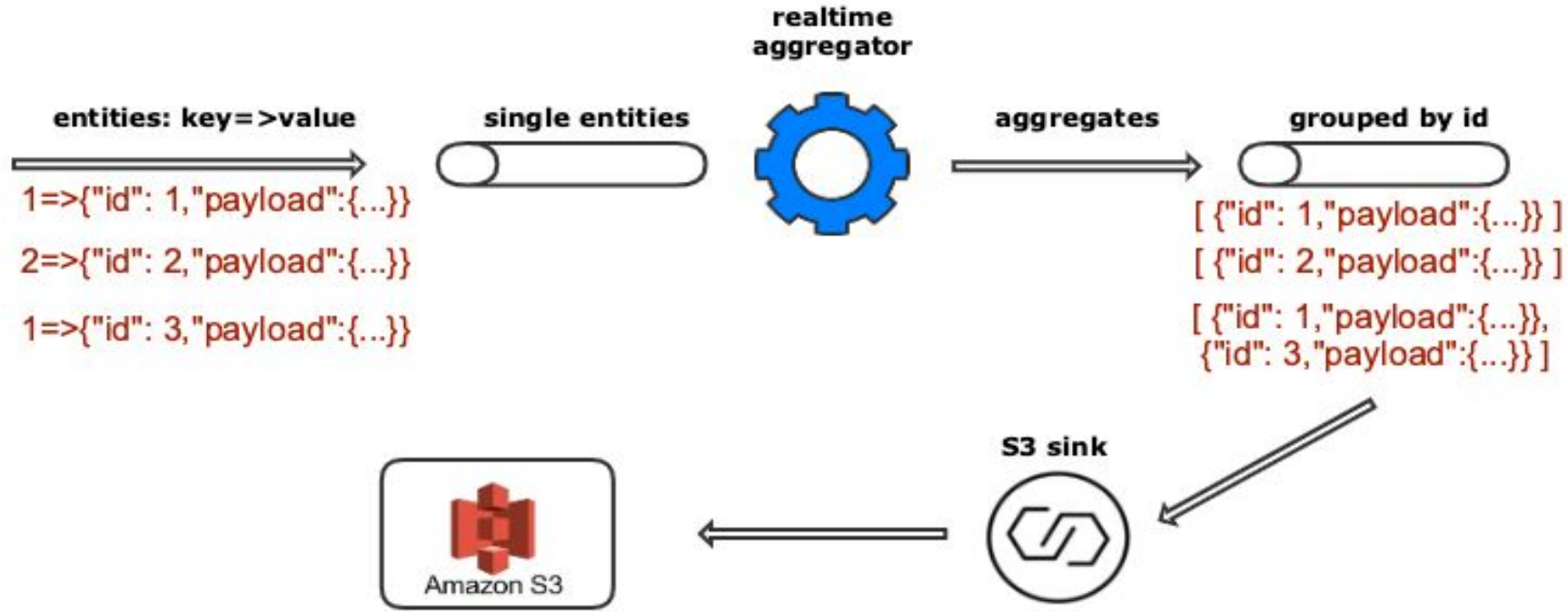
Bookings Aggregate

Streaming to the **bookings topic:**

BookingIsCreated PassengerIsAdded PassengerIsUpdated BookingIsUpdated BookingIsCanceled BookingIsStarted BookingIsFinished

Booking: Car class, Pickup & Dropoff address and time, Duration, Flight#, etc
Passenger: First & Last name, email, phone, etc.

Aggregation Schema



Takes JSON events and coalesce them into an ordered JSON array for further processing

Few more details

- https://github.com/blacklane/event-coalescer/tree/add-connect-s3
- **Create S3 bucket**
- **Make sure the S3 connector has write access to the S3 bucket set in s3.bucket.name and can deploy credentials**

```
name=s3-sink
connector.class=io.confluent.connect.s3.S3SinkConnector
tasks.max=1
topics=events-generic-21-by-id
s3.region=eu-central-1
s3.bucket.name=events-coalescer-bucket
s3.part.size=5242880
flush.size=3
```

Thank you!

BLACKLANE
YOUR PROFESSIONAL DRIVER