



```
... "id": 777,
... "customer_id": 1,
... "items": [
...   {
...     "product_name": "Tea - Earl Grey",
...     "product_quantity": 3,
...     "product_price": 271.07
...   },
...   {
...     "product_name": "Sausage - Blood Pudding",
...     "product_quantity": 3,
...     "product_price": 410.74
...   }
... ],
... "total": 2045.43,
... "create_date": "1611851587000",
... "shipping_address": "12066 Sheridan Crossing",
... "shipping_city": "Austin",
... "shipping_state": "TX",
... "shipping_zip": "78753"
```

python™

Orders Producer
Pretend some people are shopping

spring™

SpringBoot WebFlux
user-registration-service

```
... "id": 1,
... "first_name": "Nicolas",
... "last_name": "Nunez",
... "email": "nicolas.nunez@toasty.com",
... "dob": "yyyy-mm-dd",
... "country": "Bolivia",
... "city": "La Paz"
```

python™

Mock Requests
Pretend some users are registering

```
KStream<Long, User> userRegistrationKStream = streamsBuilder
    .stream( topic: "user-registration-events");

KTable<String, User> byCountryUserKTable = userRegistrationKStream
    .selectKey((k, v) -> v.getCountry())
    .toTable(Materialized.with(stringSerde, userSerde));

KTable<String, Long> countByCountryKTable = byCountryUserKTable
    .toStream() KStream<String, User>
    .groupByKey() KGroupedStream<String, User>
    .count(Named.as( name: "registrations-by-country"),
        Materialized.with(stringSerde, longSerde));
```

spring™

SpringBoot Kafka Streams

ksqlDB

```
CREATE STREAM user_registration_events_stream
(id BIGINT,
first_name VARCHAR,
last_name VARCHAR,
email VARCHAR,
dob DATE,
country VARCHAR,
city VARCHAR)
WITH(kafka_topic='user-registration-events', value_format='json', partitions=5);
```

```
CREATE STREAM order_events_stream
(id BIGINT,
customer_id BIGINT,
items ARRAY<STRUCT< product_name VARCHAR, product_quantity INT, product_price DOUBLE>>,
total DECIMAL(10,2),
currency VARCHAR,
create_date BIGINT,
shipping_address VARCHAR,
shipping_city VARCHAR,
shipping_state VARCHAR,
shipping_zip VARCHAR)
WITH(kafka_topic='order-events', value_format='json', partitions=5);
```

```
CREATE STREAM products_stream AS
SELECT
explode(items)->product_name AS name,
explode(items)->product_quantity AS quantity,
explode(items)->product_price AS price
FROM order_events_stream
EMIT CHANGES;
```

```
CREATE TABLE product_demand AS
SELECT name, COUNT(name) AS CNT
FROM products_stream
GROUP BY name
EMIT CHANGES;
```

SASL_SSL

SSL

SASL_SSL

SASL_SSL

SASL_SSL

HTTPS