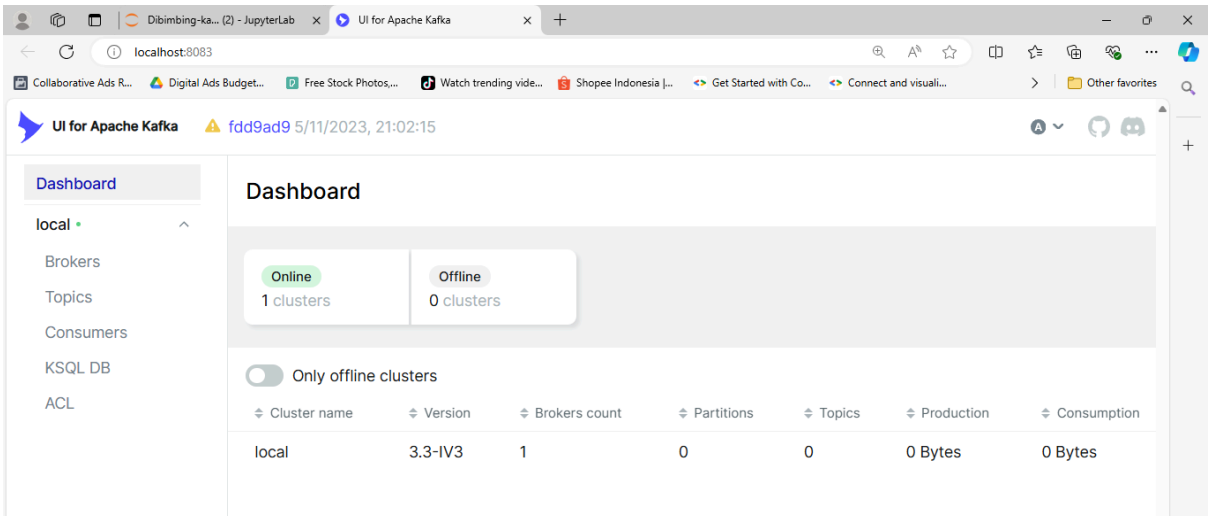
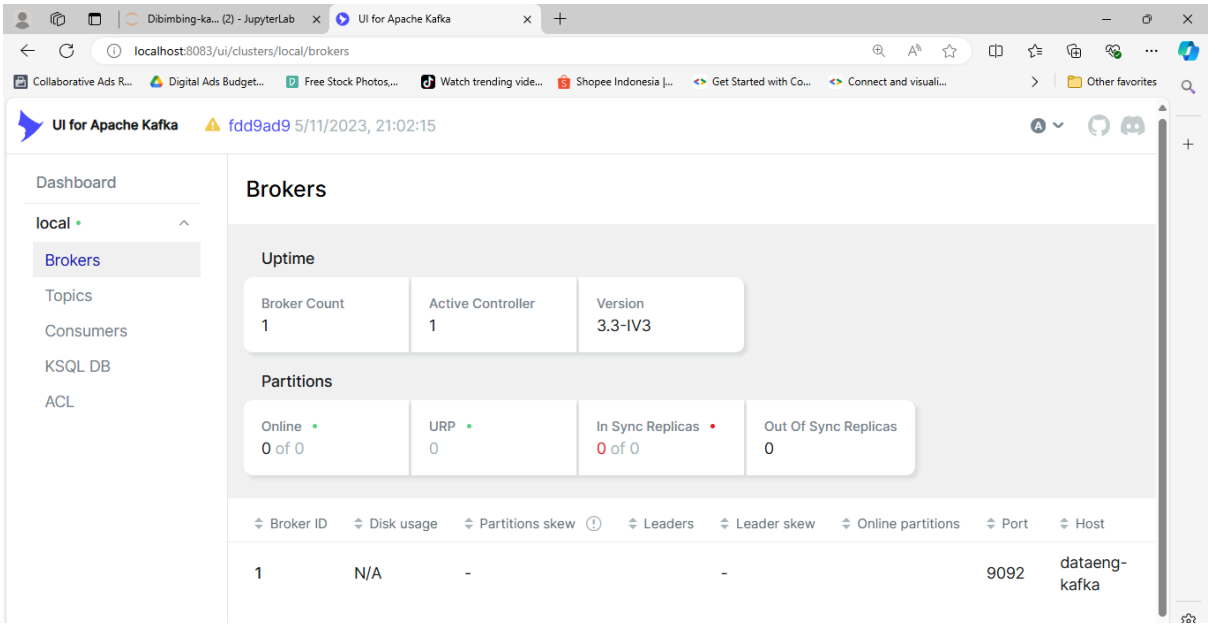
Exercise - 25 Agustus 2024 - Hijir

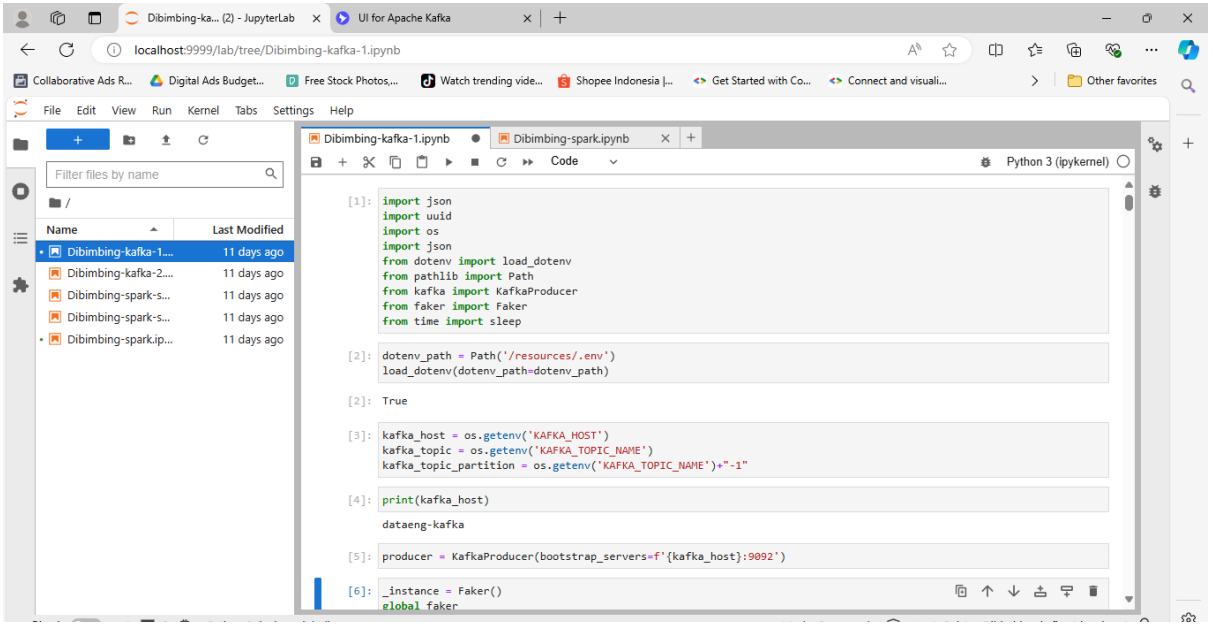
UI Kafka



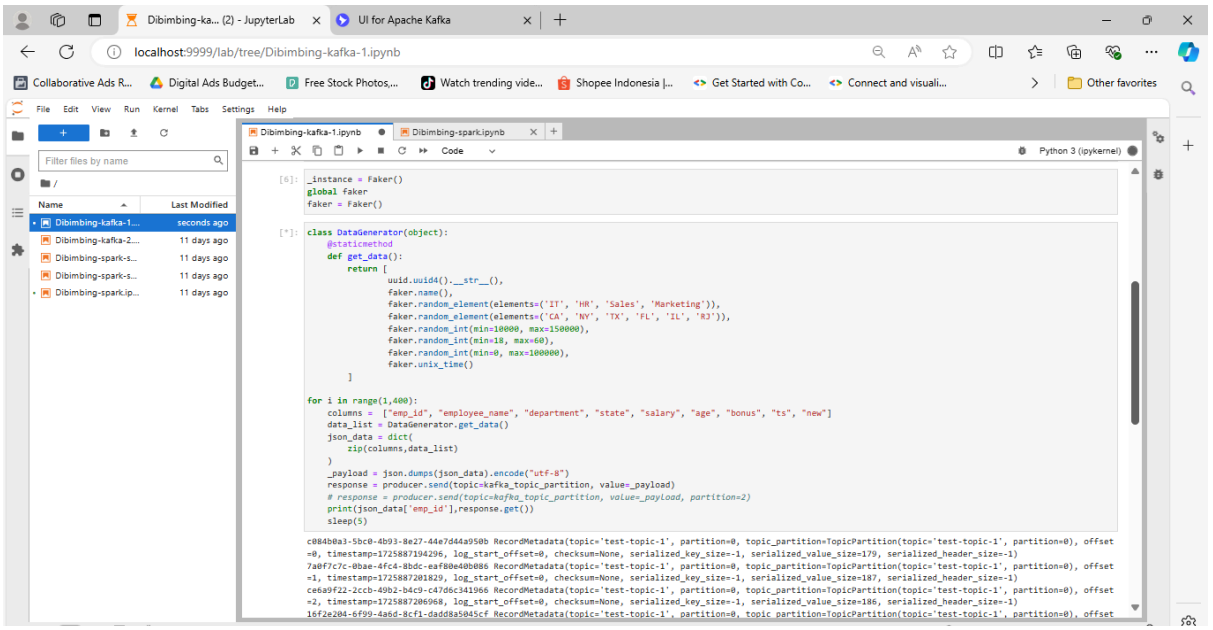
Broker



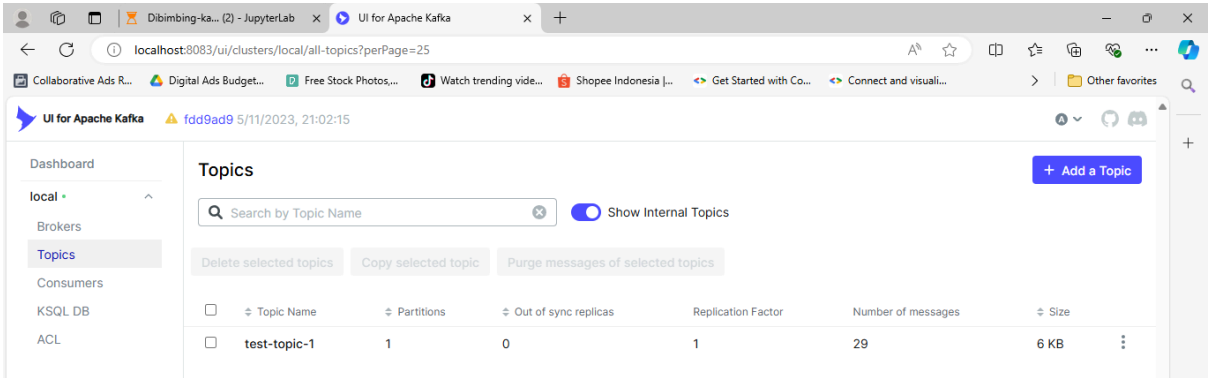
Jupyter Kafka 1 - untuk producer



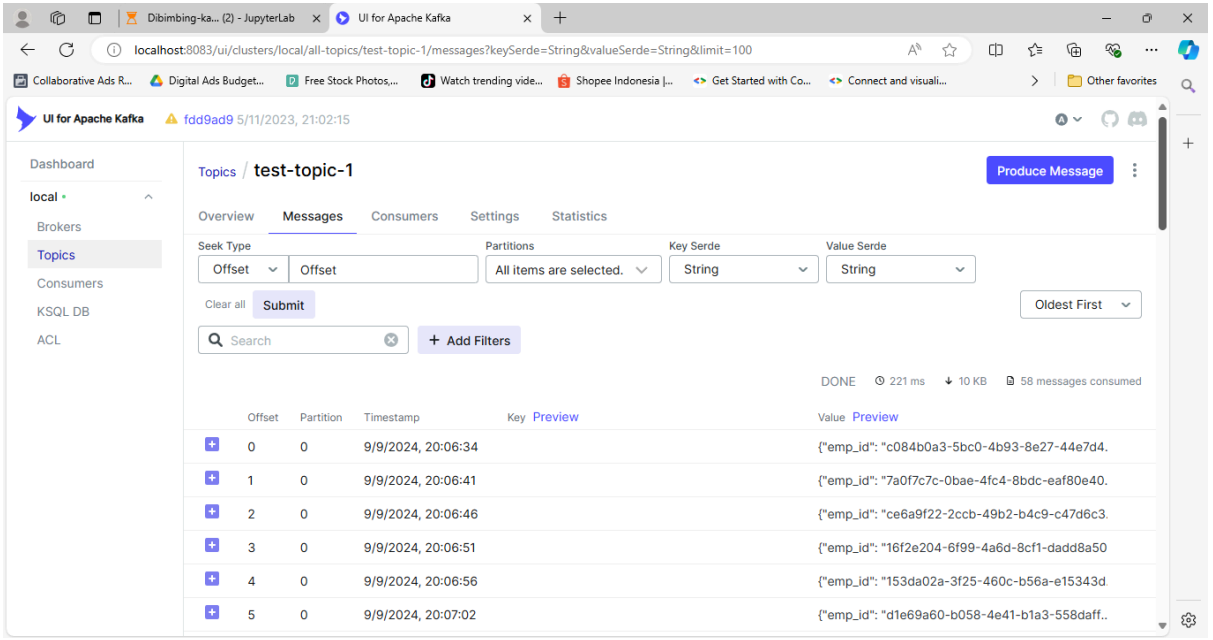
Membuat koneksi produser



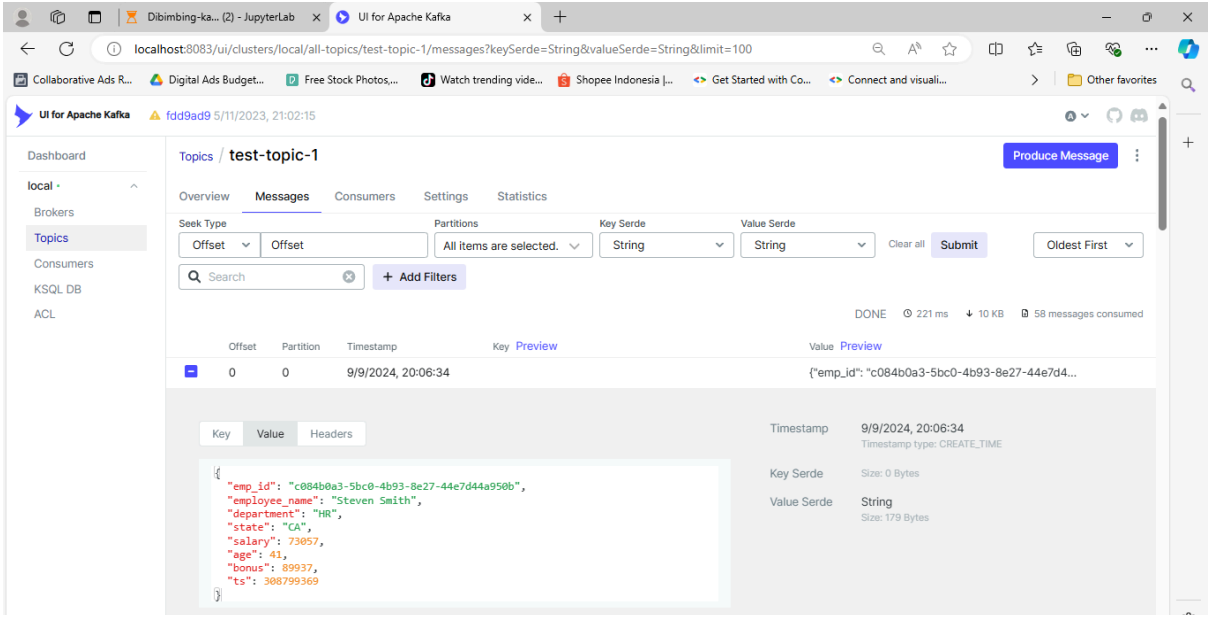
Membuat data faker ke kafka



Event sudah terkirim ke kafka yaitu test-topic-1

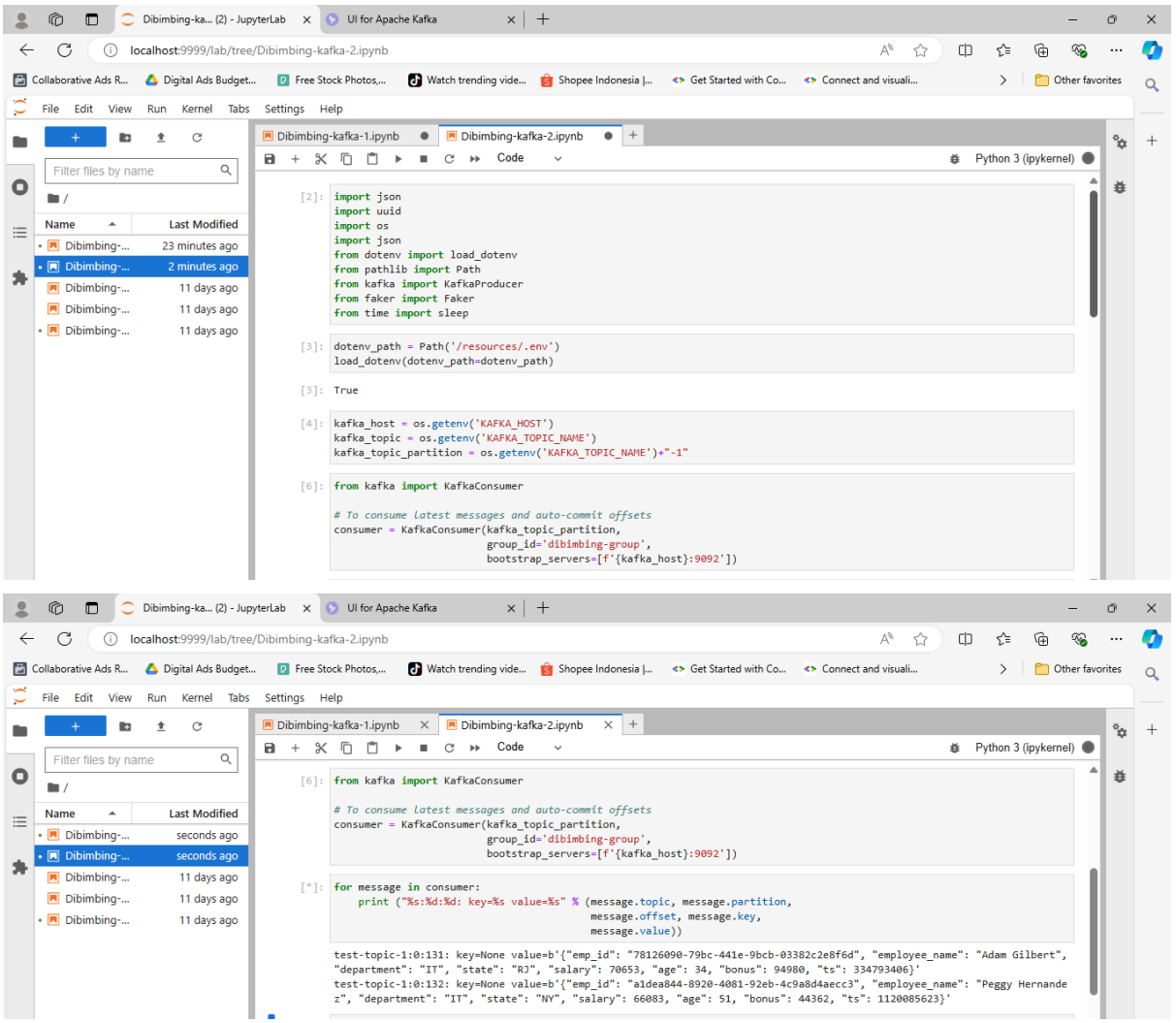


Hasil dapat dilihat pada messages: berarti kita sudah berhasil menulis event ke kafka

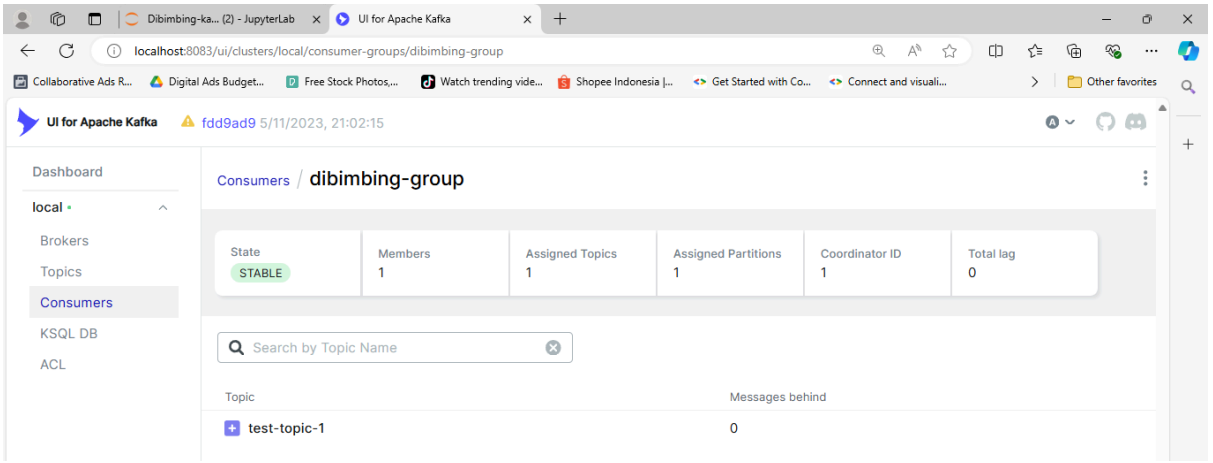


Contoh salah satu data faker yang berhasil ditulis

Jupyter Kafka 2 - untuk consumer

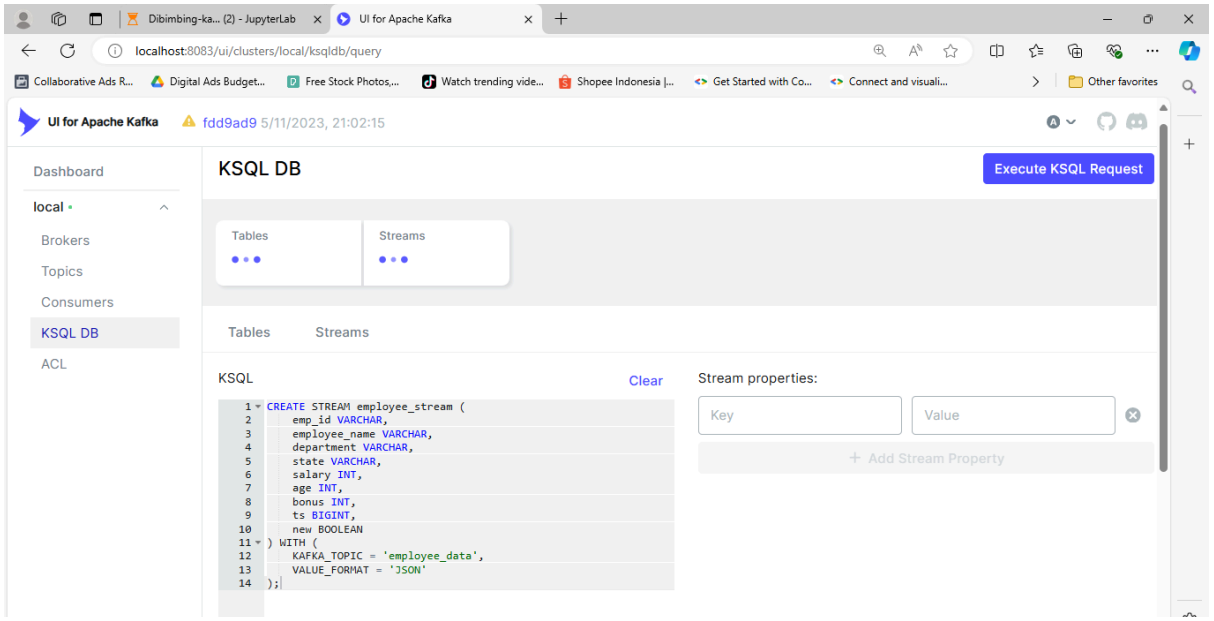


Membaca data dari producer

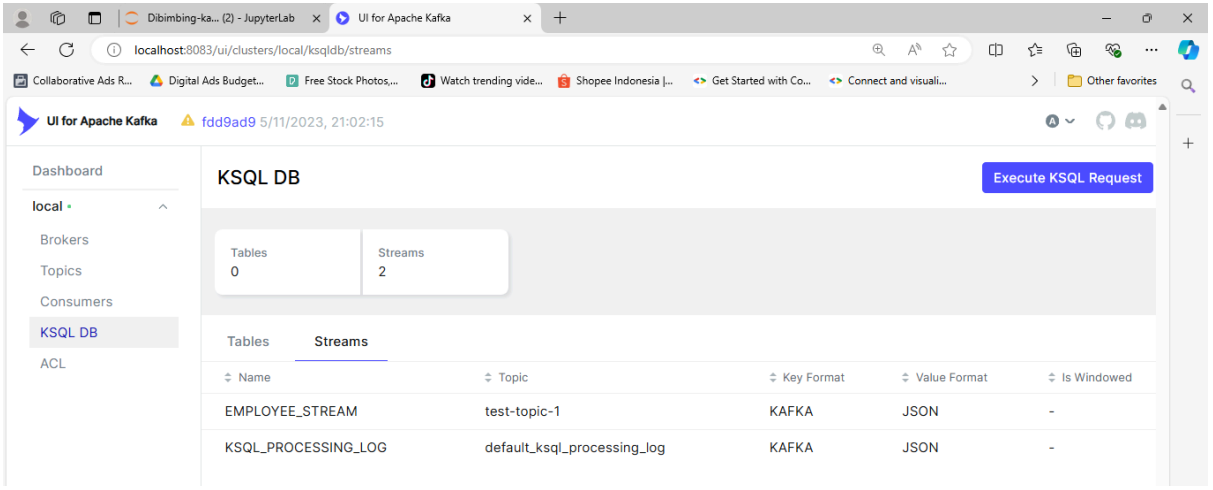


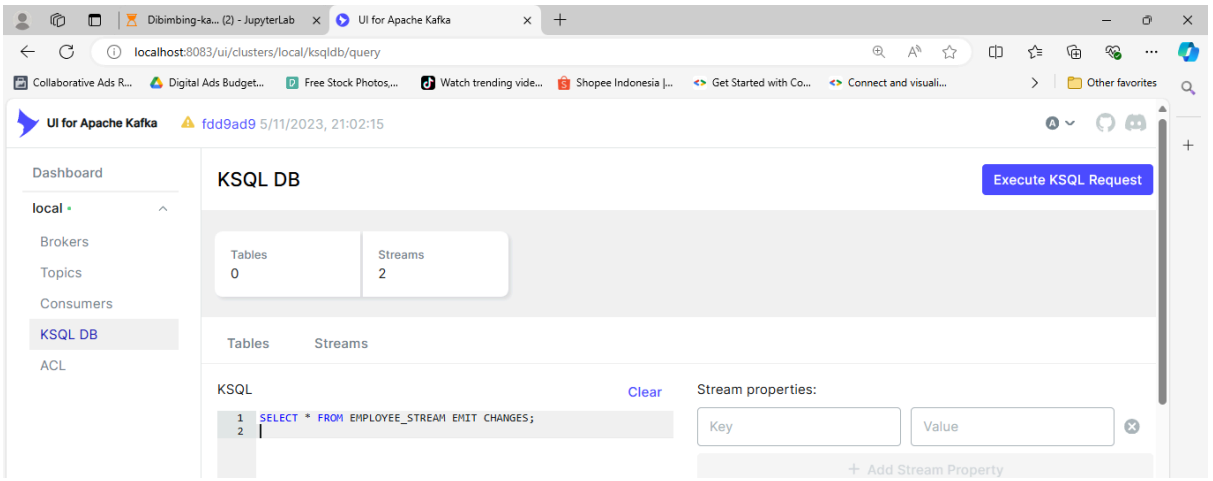
Ksqldb

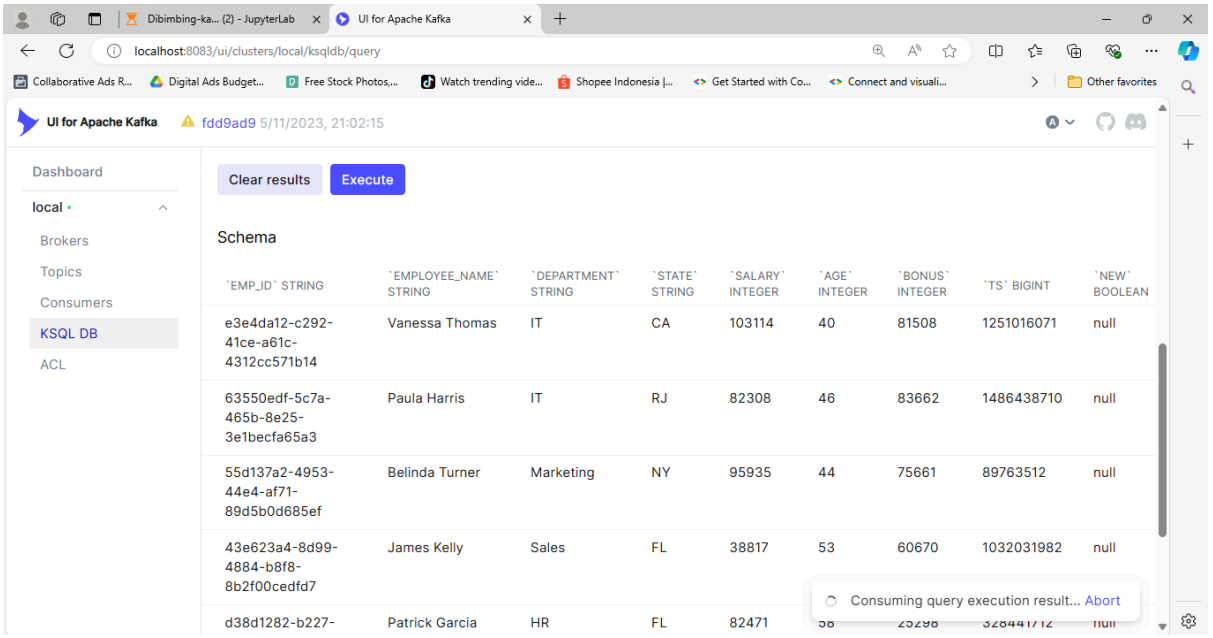
Melakukan agregrasi di kafka menggunakan sql

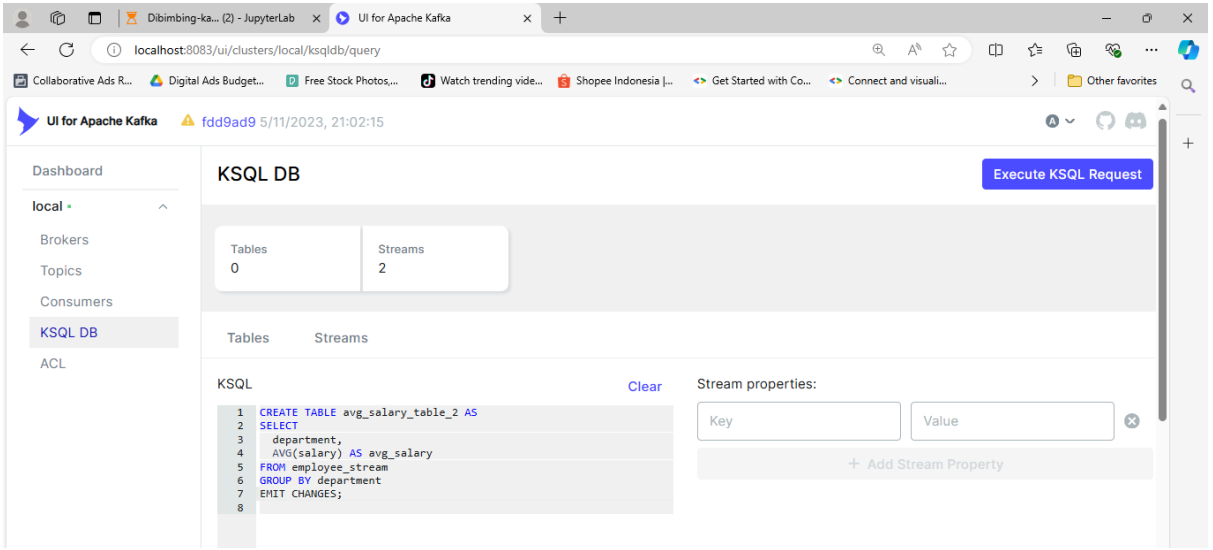


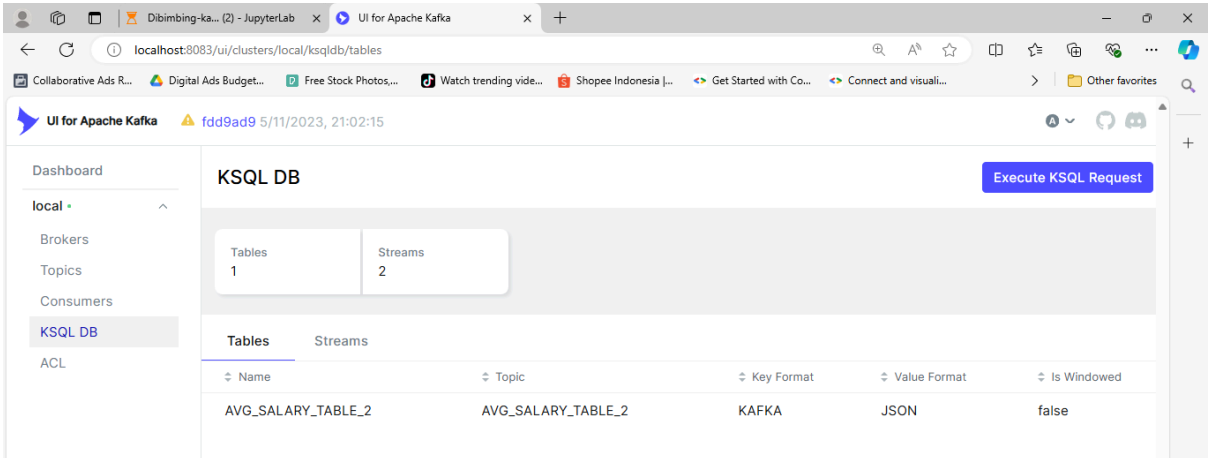

```
CREATE STREAM employee_stream (
    emp_id VARCHAR,
    employee_name VARCHAR,
    department VARCHAR,
    state VARCHAR,
    salary INT,
    age INT,
    bonus INT,
    ts BIGINT,
    new BOOLEAN
) WITH (
    KAFKA_TOPIC = 'test-topic-1',
    VALUE_FORMAT = 'JSON'
);
```

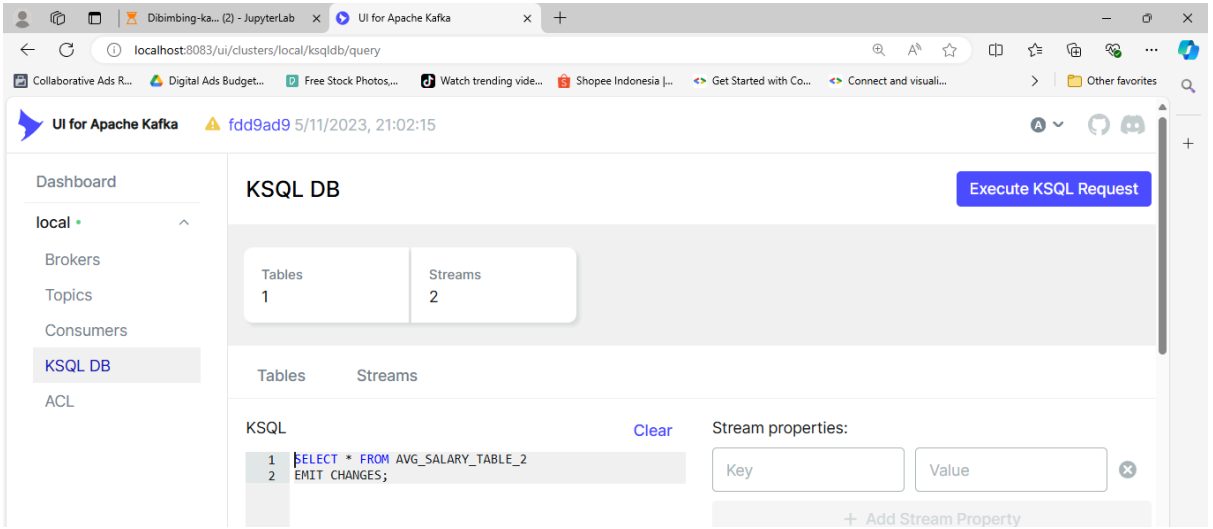

Dibimbing-ka... (2) - JupyterLab
UI for Apache Kafka
localhost:8083/ui/clusters/local/ksqldb/streams
UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
KSQL DB
Execute KSQL Request
Tables
0
Streams
2
Tables
Streams
Name
Topic
Key Format
Value Format
Is Windowed
EMPLOYEE_STREAM
test-topic-1
KAFKA
JSON
-
KSQL_PROCESSING_LOG
default_ksql_processing_log
KAFKA
JSON
-

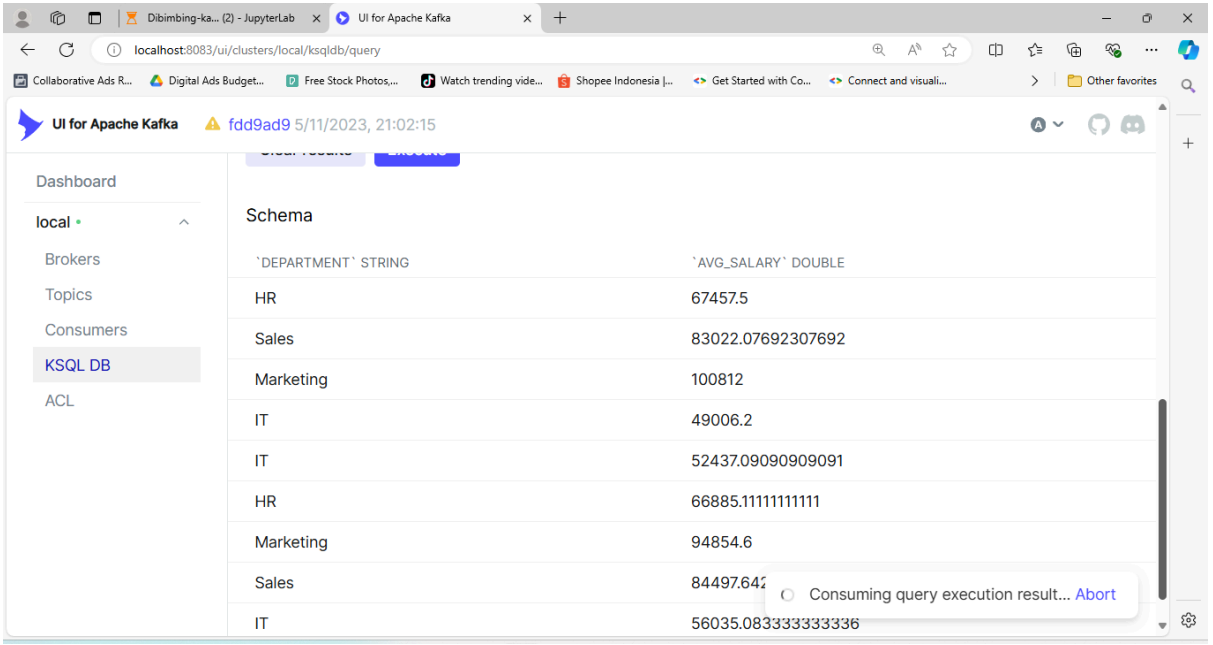

Dibimbing-ka... (2) - JupyterLab
UI for Apache Kafka
localhost:8083/ui/clusters/local/ksqldb/query
UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
KSQL DB
Execute KSQL Request
Tables
0
Streams
2
Tables
Streams
KSQL
Clear
1 SELECT * FROM EMPLOYEE_STREAM EMIT CHANGES;
2
Stream properties:
Key
Value
Add Stream Property


Dibimbing-ka... (2) - JupyterLab
UI for Apache Kafka
localhost:8083/ui/clusters/local/ksqldb/query
UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
Clear results
Execute
Schema
`EMP_ID` STRING
`EMPLOYEE_NAME` STRING
`DEPARTMENT` STRING
`STATE` STRING
`SALARY` INTEGER
`AGE` INTEGER
`BONUS` INTEGER
`TS` BIGINT
`NEW` BOOLEAN
e3e4da12-c292-41ce-a61c-4312cc571b14
Vanessa Thomas
IT
CA
103114
40
81508
1251016071
null
63550edf-5c7a-465b-8e25-3e1becfa65a3
Paula Harris
IT
RJ
82308
46
83662
1486438710
null
55d137a2-4953-44e4-af71-89d5b0d685ef
Belinda Turner
Marketing
NY
95935
44
75661
89763512
null
43e623a4-8d99-4884-b8f8-8b2f00cedfd7
James Kelly
Sales
FL
38817
53
60670
1032031982
null
d38d1282-b227-
Patrick Garcia
HR
FL
82471
Consuming query execution result... Abort


Dibimbing-ka... (2) - JupyterLab
UI for Apache Kafka
localhost:8083/ui/clusters/local/ksqldb/query
UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
KSQL DB
Execute KSQL Request
Tables
0
Streams
2
Tables
Streams
KSQL
Clear
Stream properties:
Key
Value
Add Stream Property
CREATE TABLE avg_salary_table_2 AS
SELECT
department,
AVG(salary) AS avg_salary
FROM employee_stream
GROUP BY department
EMIT CHANGES;


Dibimbing-ka... (2) - JupyterLab
UI for Apache Kafka
localhost:8083/ui/clusters/local/ksqldb/tables
UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
KSQL DB
Execute KSQL Request
Tables
1
Streams
2
Tables
Streams
Name
Topic
Key Format
Value Format
Is Windowed
AVG_SALARY_TABLE_2
AVG_SALARY_TABLE_2
KAFKA
JSON
false

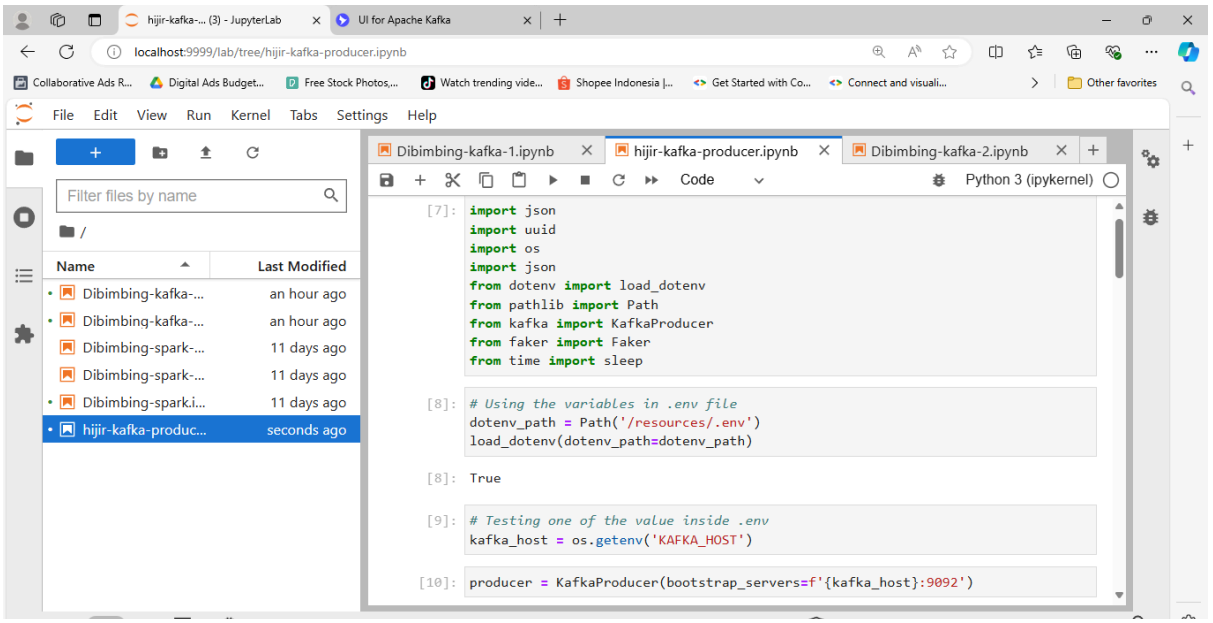

Dibimbing-ka... (2) - JupyterLab
UI for Apache Kafka
localhost:8083/ui/clusters/local/ksqldb/query
UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
KSQL DB
Execute KSQL Request
Tables
1
Streams
2
Tables
Streams
KSQL
Clear
Stream properties:
Key
Value
Add Stream Property
SELECT * FROM AVG_SALARY_TABLE_2
EMIT CHANGES;



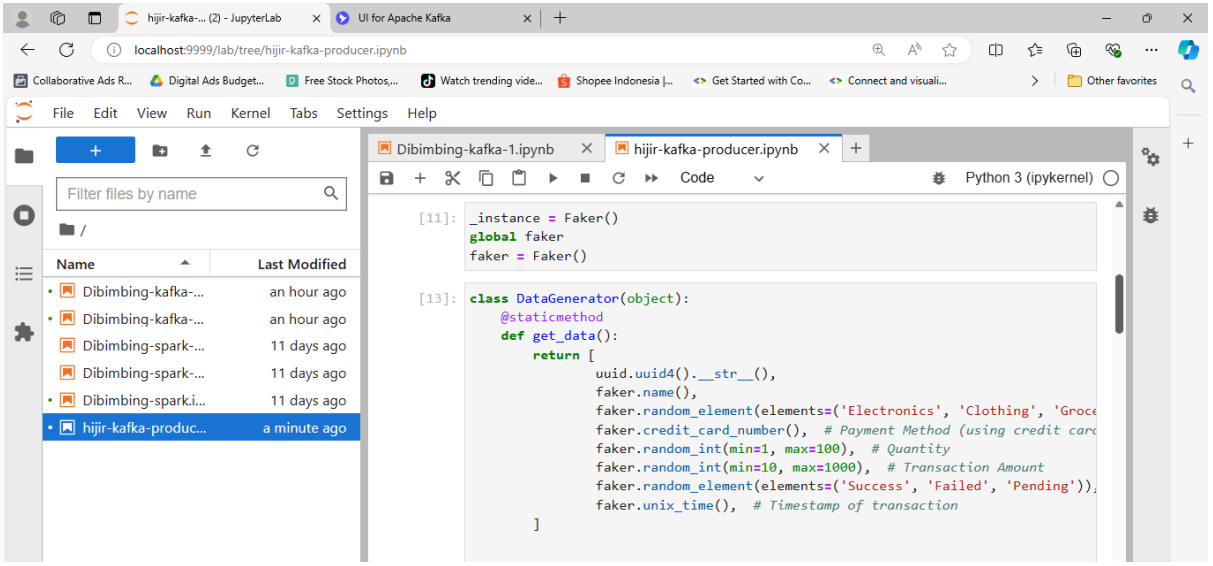
Rata-rata gaji diupdate setiap ada data baru yang masuk

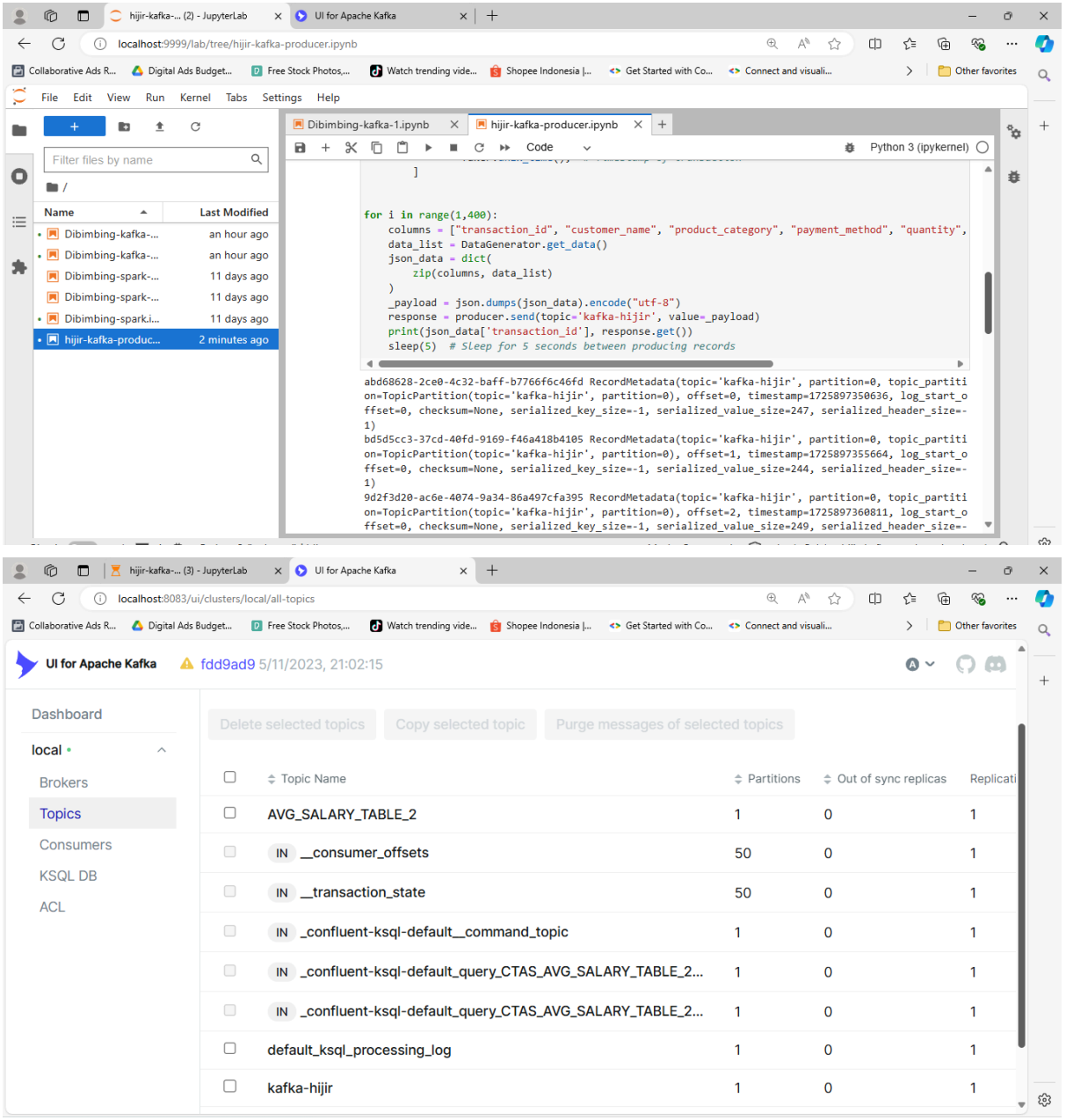
Homework - Kafka - Hijir

Without setup new docker - just in case the new docker kafka setup fails



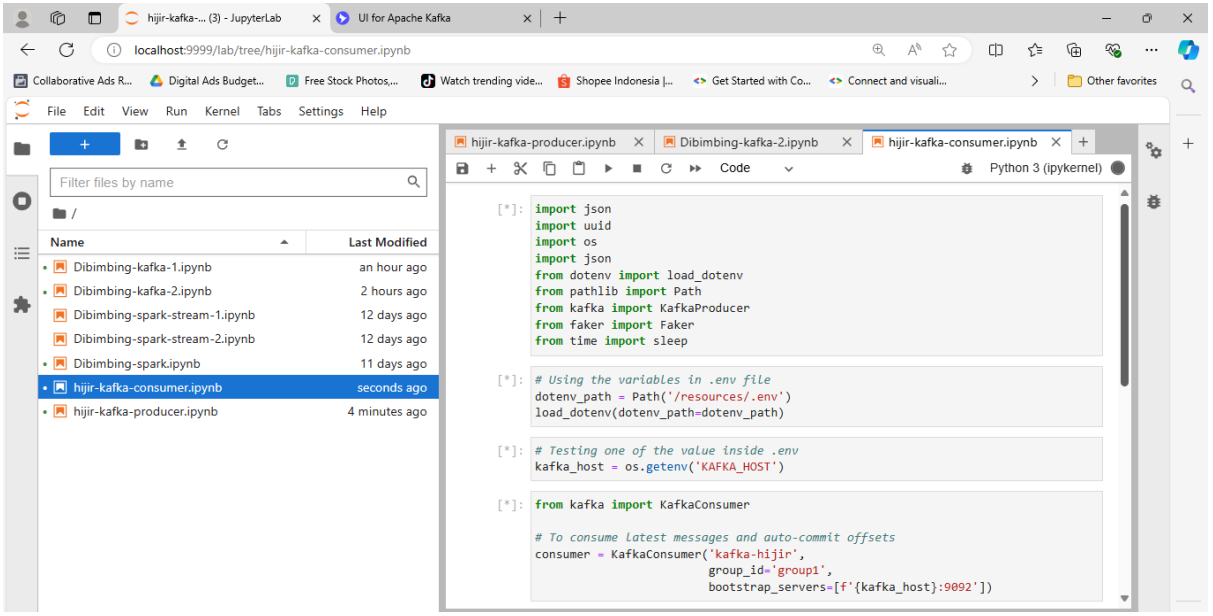
Jupyter ‘hijir-kafka-producer”

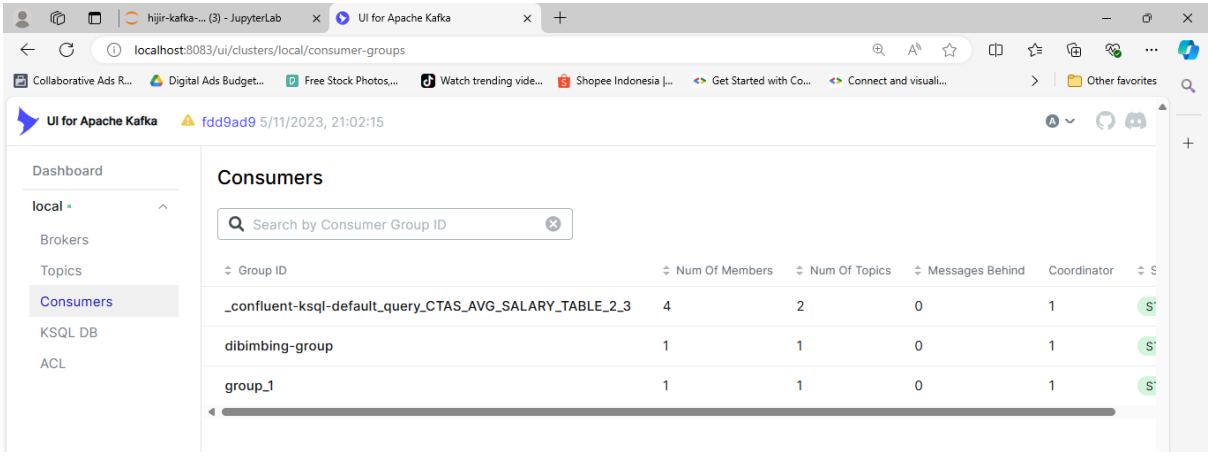


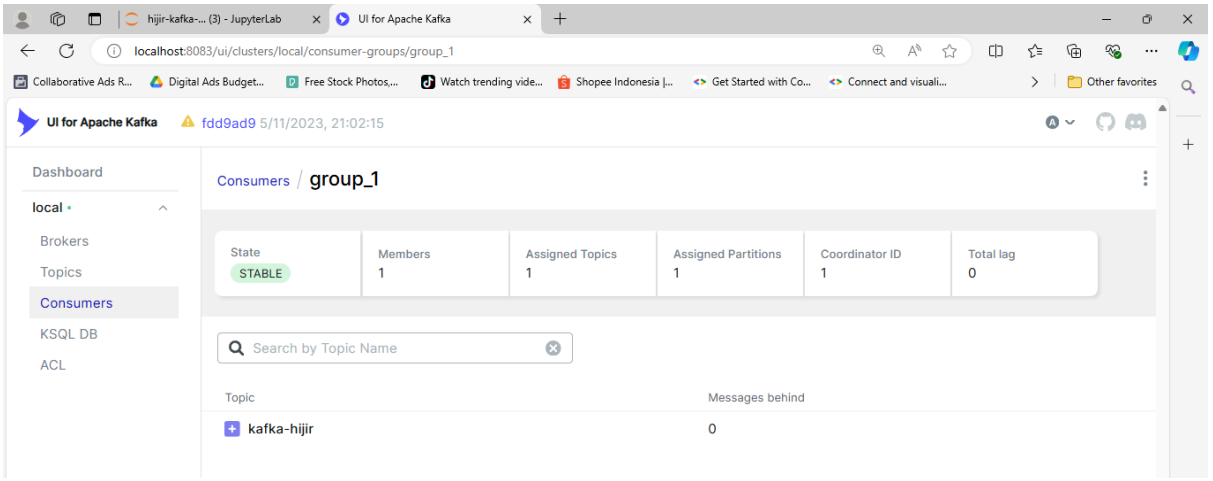


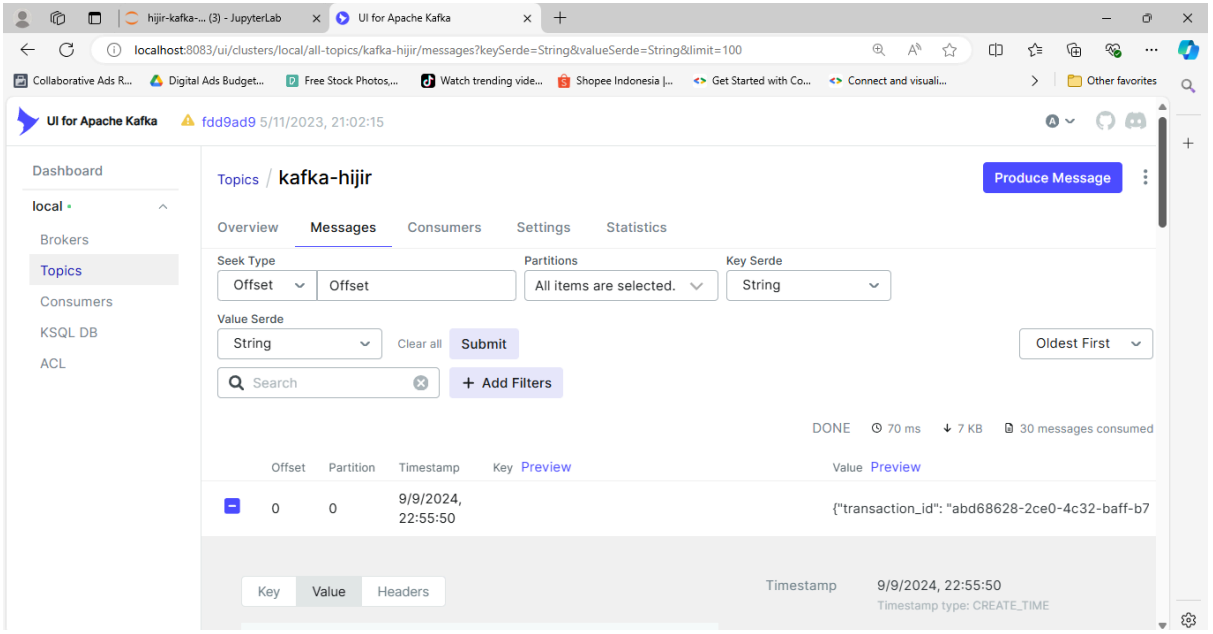
Event sudah terkirim ke kafka (**kafka-hijir**)

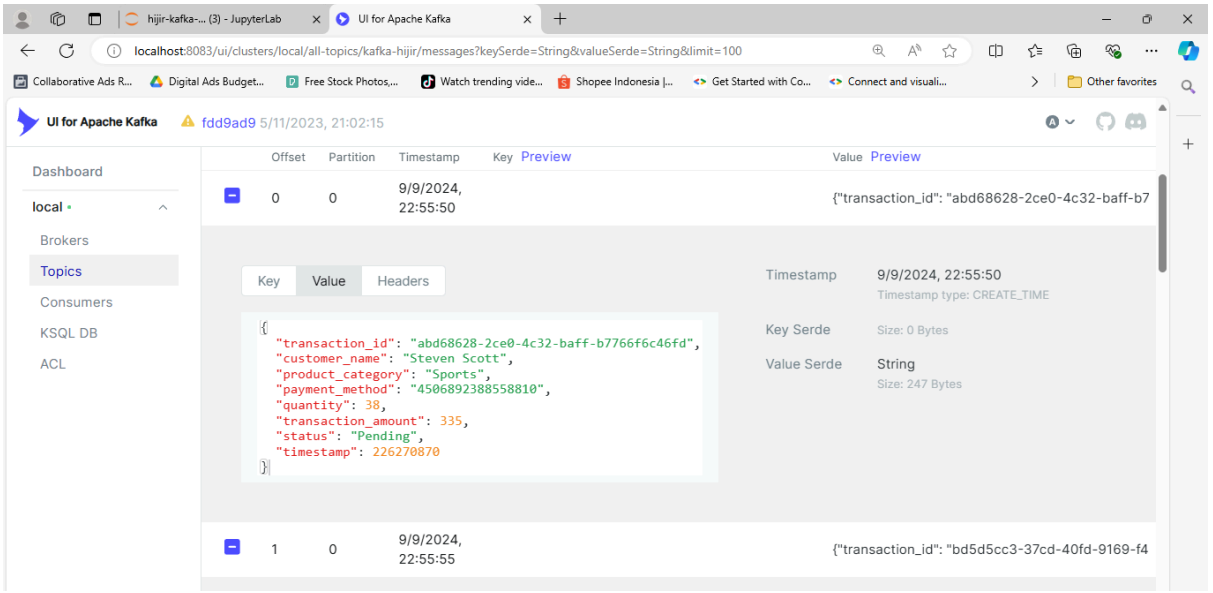
Jupyter “hijir-kafka-consumer”









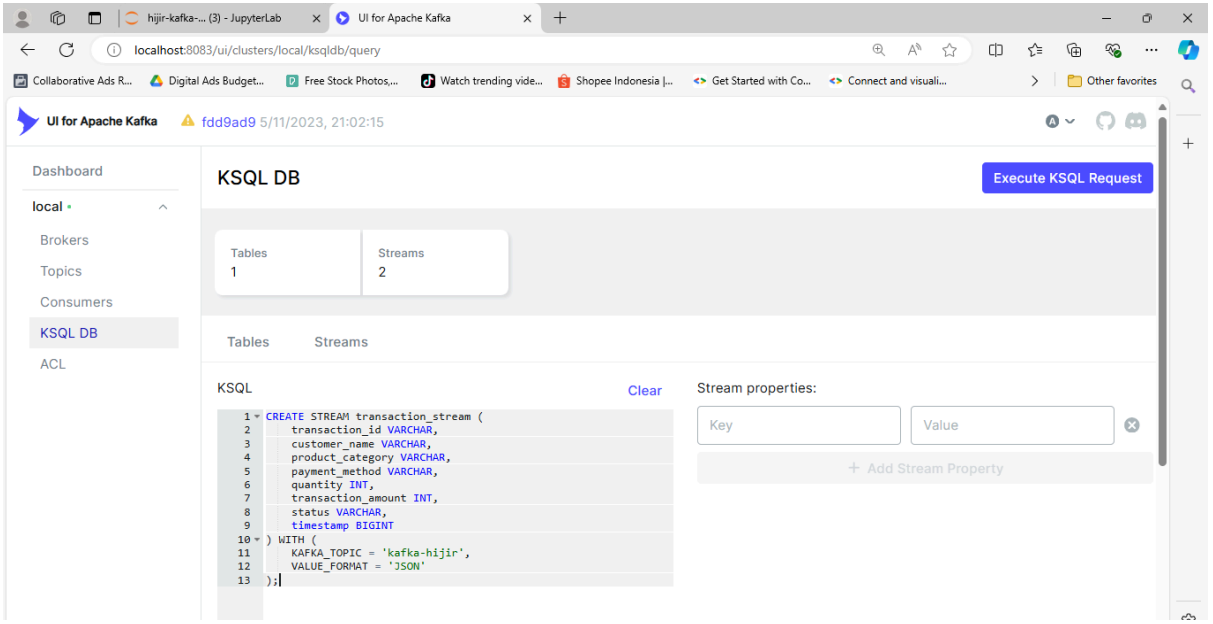


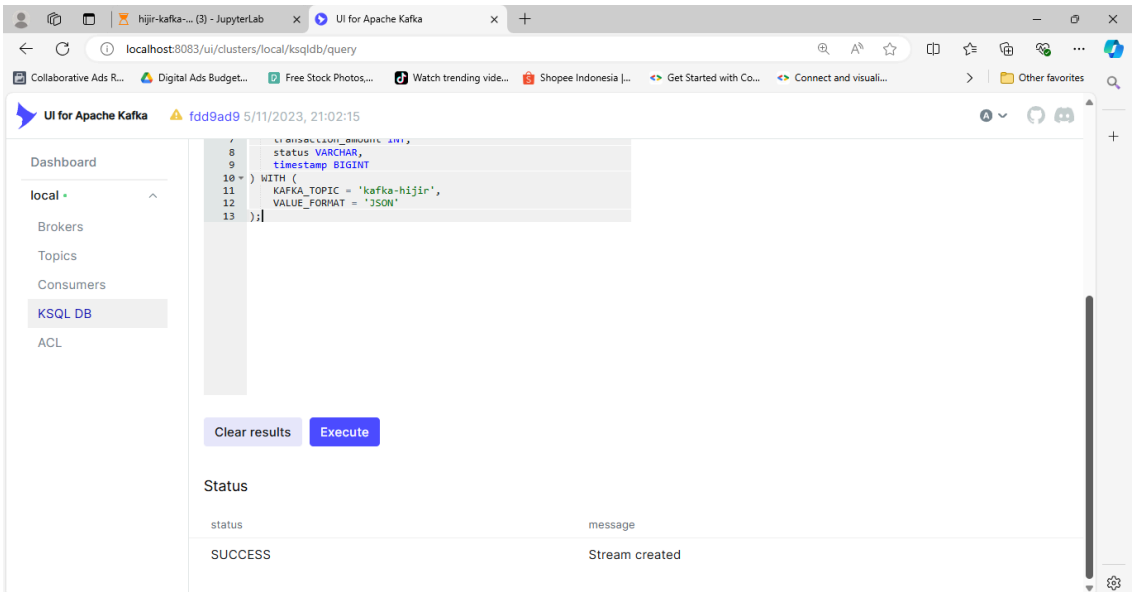
Ksqldb

Melakukan agregrasi di kafka menggunakan sql

```
CREATE STREAM transaction_stream (
    transaction_id VARCHAR,
    customer_name VARCHAR,
    product_category VARCHAR,
    payment_method VARCHAR,
    quantity INT,
    transaction_amount INT,
    status VARCHAR,
    timestamp BIGINT
) WITH (
```

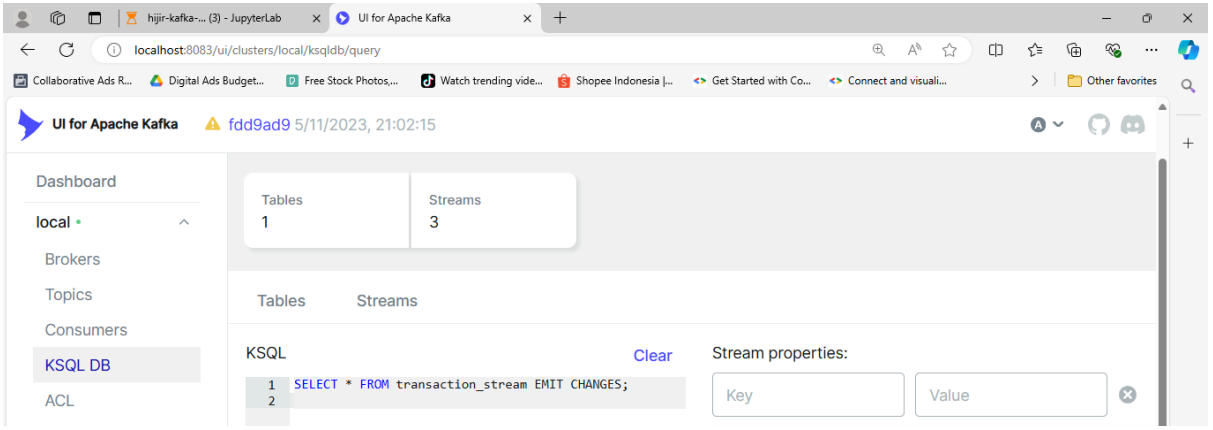
```
    KAFKA_TOPIC = 'kafka-hijir',
    VALUE_FORMAT = 'JSON'
);
```

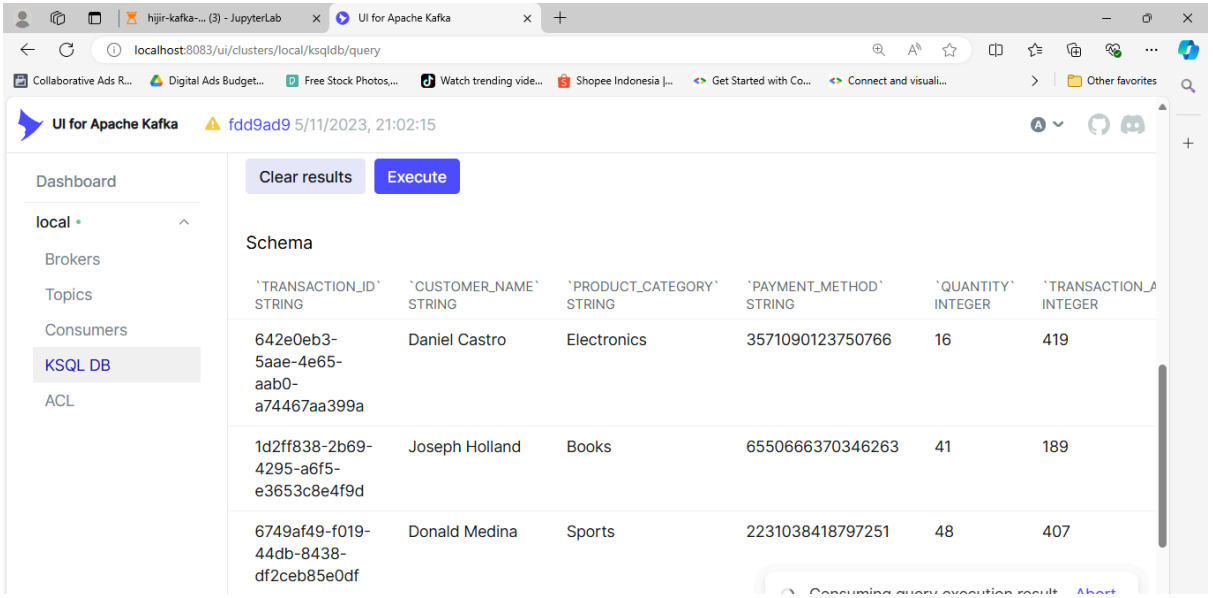




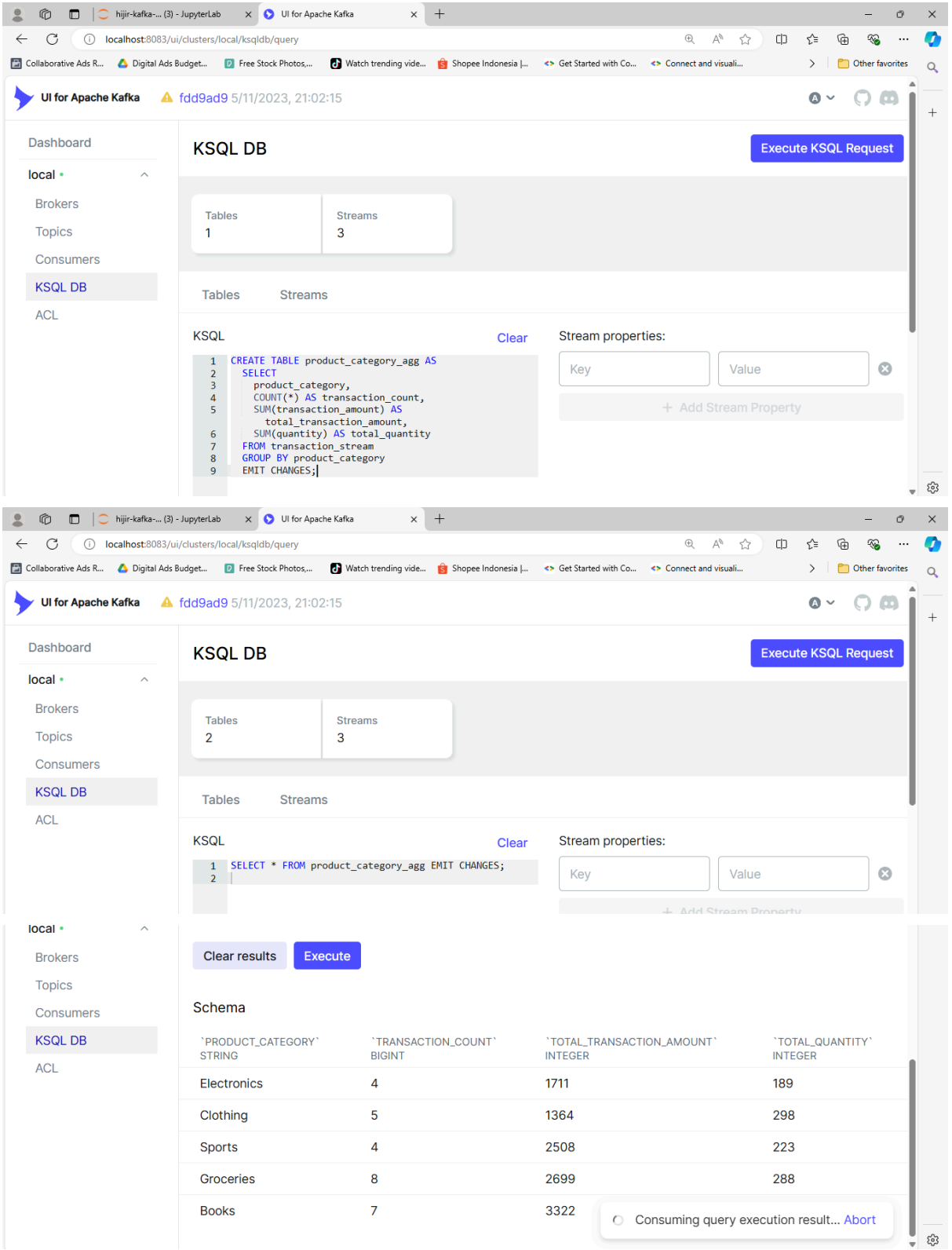
Berhasil membuat stream

```
SELECT * FROM transaction_stream EMIT CHANGES;
```


UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
Tables
1
Streams
3
Tables
Streams
KSQL
Clear
1 SELECT * FROM transaction_stream EMIT CHANGES;
2
Stream properties:
Key
Value


UI for Apache Kafka
fdd9ad9 5/11/2023, 21:02:15
Dashboard
local
Brokers
Topics
Consumers
KSQL DB
ACL
Clear results
Execute
Schema
`TRANSACTION_ID` STRING
`CUSTOMER_NAME` STRING
`PRODUCT_CATEGORY` STRING
`PAYMENT_METHOD` STRING
`QUANTITY` INTEGER
`TRANSACTION_A INTEGER
642e0eb3-5aae-4e65-aab0-a74467aa399a
Daniel Castro
Electronics
3571090123750766
16
419
1d2ff838-2b69-4295-a6f5-e3653c8e4f9d
Joseph Holland
Books
6550666370346263
41
189
6749af49-f019-44db-8438-df2ceb85e0df
Donald Medina
Sports
2231038418797251
48
407

Agregasi



Berikut ini adalah hasil agregasi dari tabel product_category