

17 ДЗ - Делаем НЕ больно с Apache Kafka

Собираем Dockerfile для clickhouse.

Dockerfile:

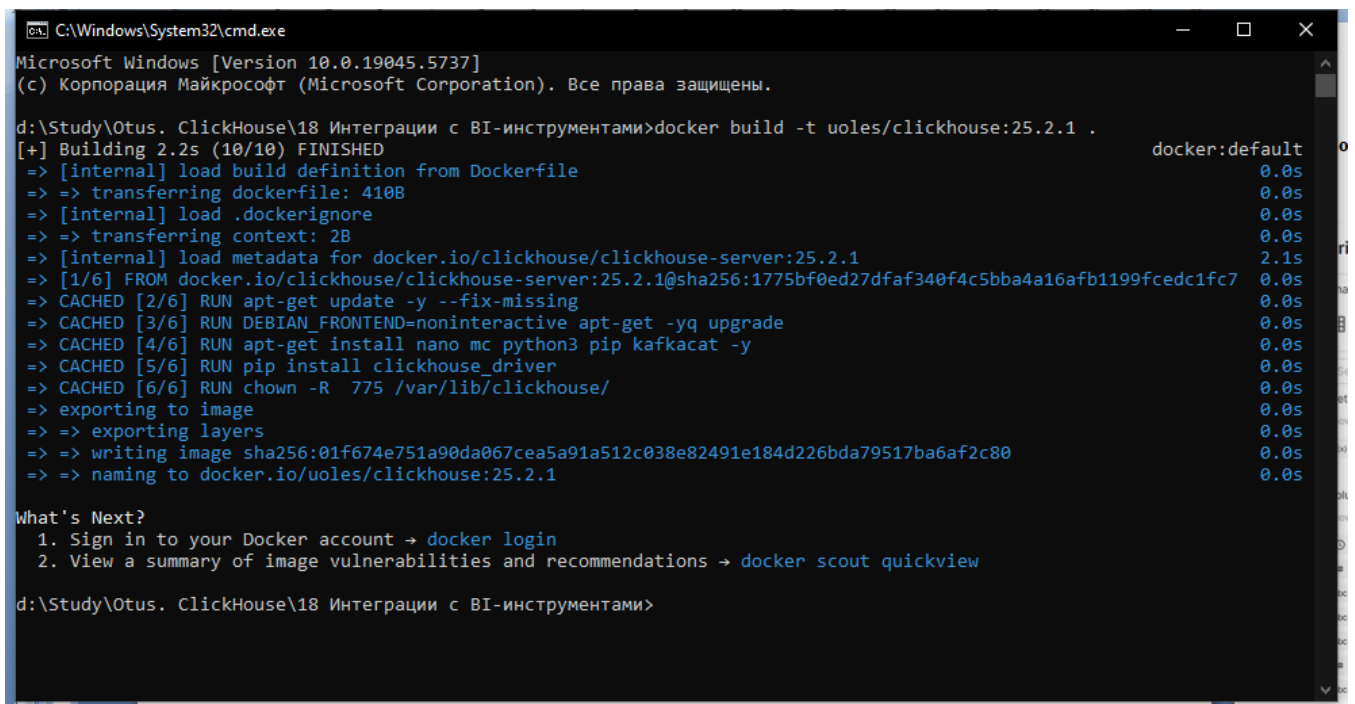
```
FROM clickhouse/clickhouse-server:25.2.1
MAINTAINER Maksim Kulikov max.uoles@rambler.ru

RUN apt-get update -y --fix-missing
RUN DEBIAN_FRONTEND=noninteractive apt-get -yq upgrade
RUN apt-get install nano mc python3 pip kafkacat -y
RUN pip install clickhouse_driver

EXPOSE 8123 9000
ENTRYPOINT ["/entrypoint.sh"]
```

Собираем образ командой:

`docker build -t uoles/clickhouse:25.2.1 .`



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.5737]
(c) Корпорация Майкрософт (Microsoft Corporation). Все права защищены.

d:\Study\Otus. ClickHouse\18 Интеграции с BI-инструментами>docker build -t uoles/clickhouse:25.2.1 .
[+] Building 2.2s (10/10) FINISHED
=> [internal] load build definition from Dockerfile                                docker:default 0.0s
=> => transferring dockerfile: 410B                                              0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                  0.0s
=> [internal] load metadata for docker.io/clickhouse/clickhouse-server:25.2.1    2.1s
=> [1/6] FROM docker.io/clickhouse/clickhouse-server:25.2.1@sha256:1775bf0ed27dfaf340f4c5bba4a16afb1199fcdc1fc7 0.0s
=> CACHED [2/6] RUN apt-get update -y --fix-missing                             0.0s
=> CACHED [3/6] RUN DEBIAN_FRONTEND=noninteractive apt-get -yq upgrade            0.0s
=> CACHED [4/6] RUN apt-get install nano mc python3 pip kafkacat -y              0.0s
=> CACHED [5/6] RUN pip install clickhouse_driver                               0.0s
=> CACHED [6/6] RUN chown -R 775 /var/lib/clickhouse/                            0.0s
=> exporting to image                                                            0.0s
=> => exporting layers                                                            0.0s
=> => writing image sha256:01f674e751a90da067cea5a91a512c038e82491e184d226bda79517ba6af2c80 0.0s
=> => naming to docker.io/uoles/clickhouse:25.2.1                             0.0s

What's Next?
 1. Sign in to your Docker account → docker login
 2. View a summary of image vulnerabilities and recommendations → docker scout quickview

d:\Study\Otus. ClickHouse\18 Интеграции с BI-инструментами>
```

Собираем docker-compose для запуска ClickHouse, Kafka, Kafka-ui, Zookeeper

За основу брал статью <https://habr.com/ru/articles/753398/>

Docker-compose.yml:

version: "3.6"

name: kafka

services:

clickhouse-server:

container_name: uoles-clickhouse-udf-25

image: uoles/clickhouse:25.2.1

environment:

CLICKHOUSE_DB: my_database

CLICKHOUSE_USER: username

CLICKHOUSE_DEFAULT_ACCESS_MANAGEMENT: 1

CLICKHOUSE_PASSWORD: password

ports:

- "18123:8123"

- "19000:9000"

volumes:

- ./clickhouse/config.xml:/etc/clickhouse-server/config.xml

- ./clickhouse/zookeeper-servers.xml:/etc/clickhouse-server/conf.d/zookeeper-servers.xml

ulimits:

nofile:

soft: 262144

hard: 262144

depends_on:

- kafka

links:

- kafka

zookeeper:

image: confluentinc/cp-zookeeper:6.2.4

healthcheck:

test: ["CMD", "nc", "-vz", "localhost", "2181"]

interval: 10s

timeout: 3s

retries: 3

environment:

ZOOKEEPER_CLIENT_PORT: 2181

ZOOKEEPER_TICK_TIME: 2000

ports:

- 22181:2181

kafka:

image: confluentinc/cp-kafka:6.2.4

depends_on:

zookeeper:

condition: service_healthy

ports:

- 29092:29092

healthcheck:

test: ["CMD", "nc", "-vz", "localhost", "9092"]

interval: 10s

timeout: 3s

retries: 3

environment:

KAFKA_BROKER_ID: 1

KAFKA_ZOOKEEPER_CONNECT: zookeeper:2181

KAFKA_LISTENERS: OUTSIDE://:29092,INTERNAL://:9092

KAFKA_ADVERTISED_LISTENERS: OUTSIDE://localhost:29092,INTERNAL://kafka:9092

KAFKA_LISTENER_SECURITY_PROTOCOL_MAP: INTERNAL:PLAINTEXT,OUTSIDE:PLAINTEXT

KAFKA_INTER_BROKER_LISTENER_NAME: INTERNAL

KAFKA_OFFSETS_TOPIC_REPLICATION_FACTOR: 1

kafka-ui:

image: provectuslabs/kafka-ui

container_name: kafka-ui

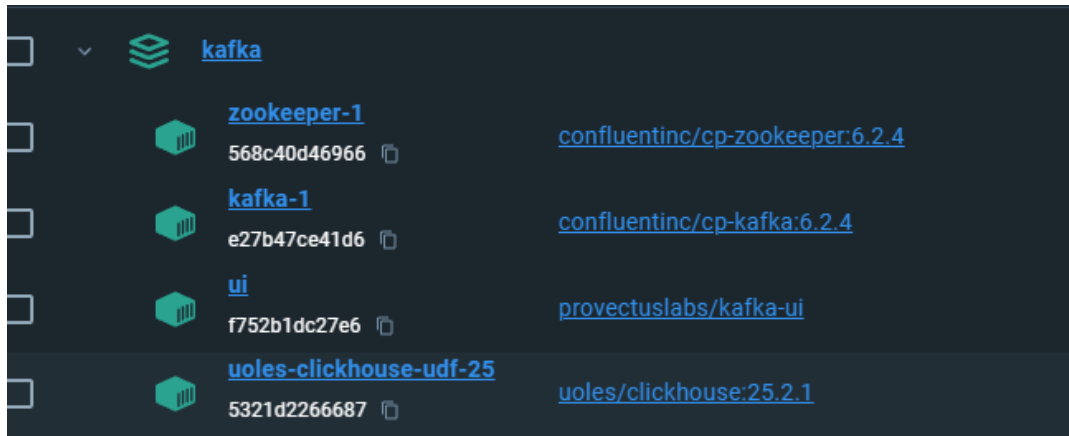
ports:

- "8089:8080"

restart: always

```
depends_on:
  kafka:
    condition: service_healthy
environment:
  KAFKA_CLUSTERS_0_NAME: local
  KAFKA_CLUSTERS_0_BOOTSTRAPSERVERS: kafka:9092
```

Поднимаем приложения командой docker-compose up -d:



Создаем таблицы и мат.вью.

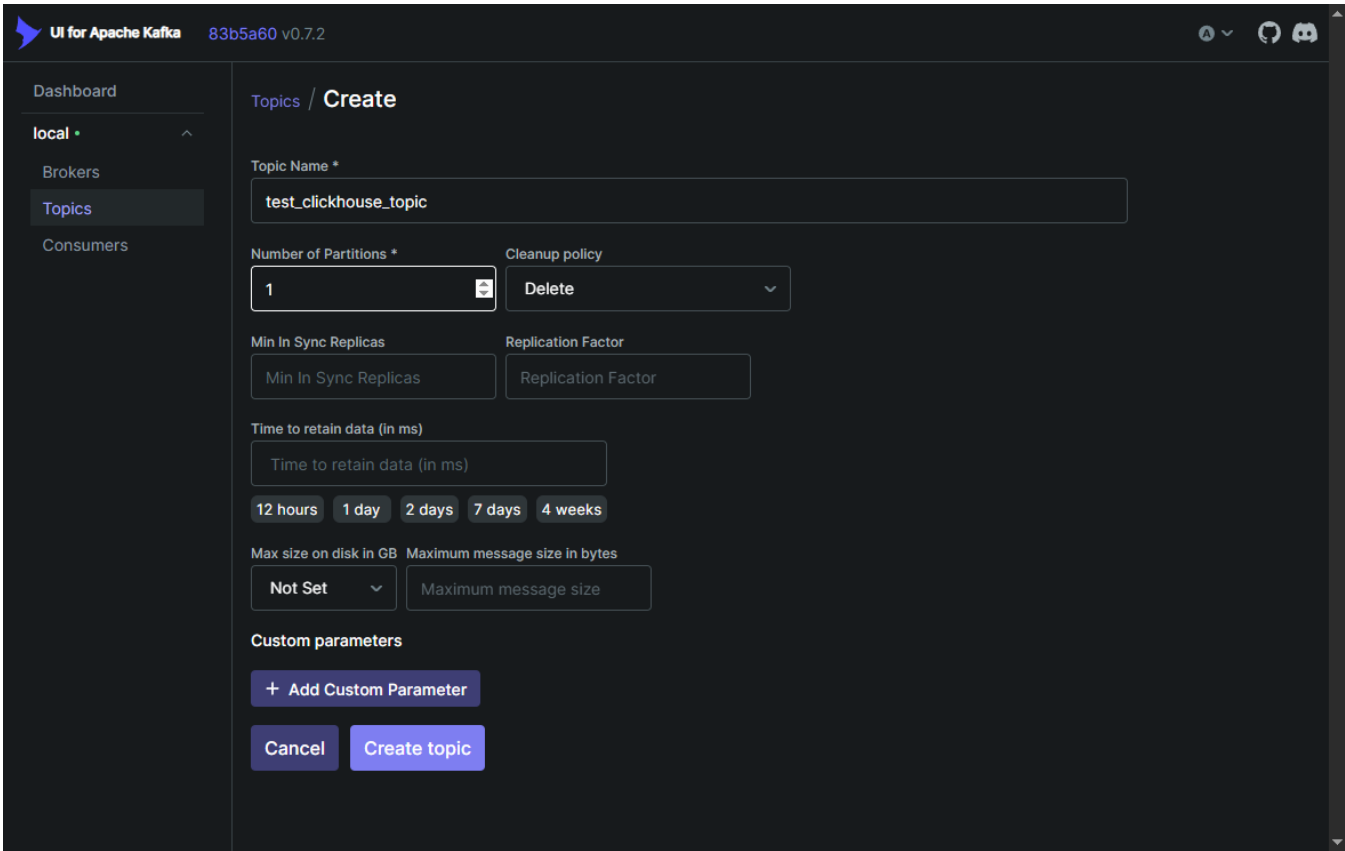
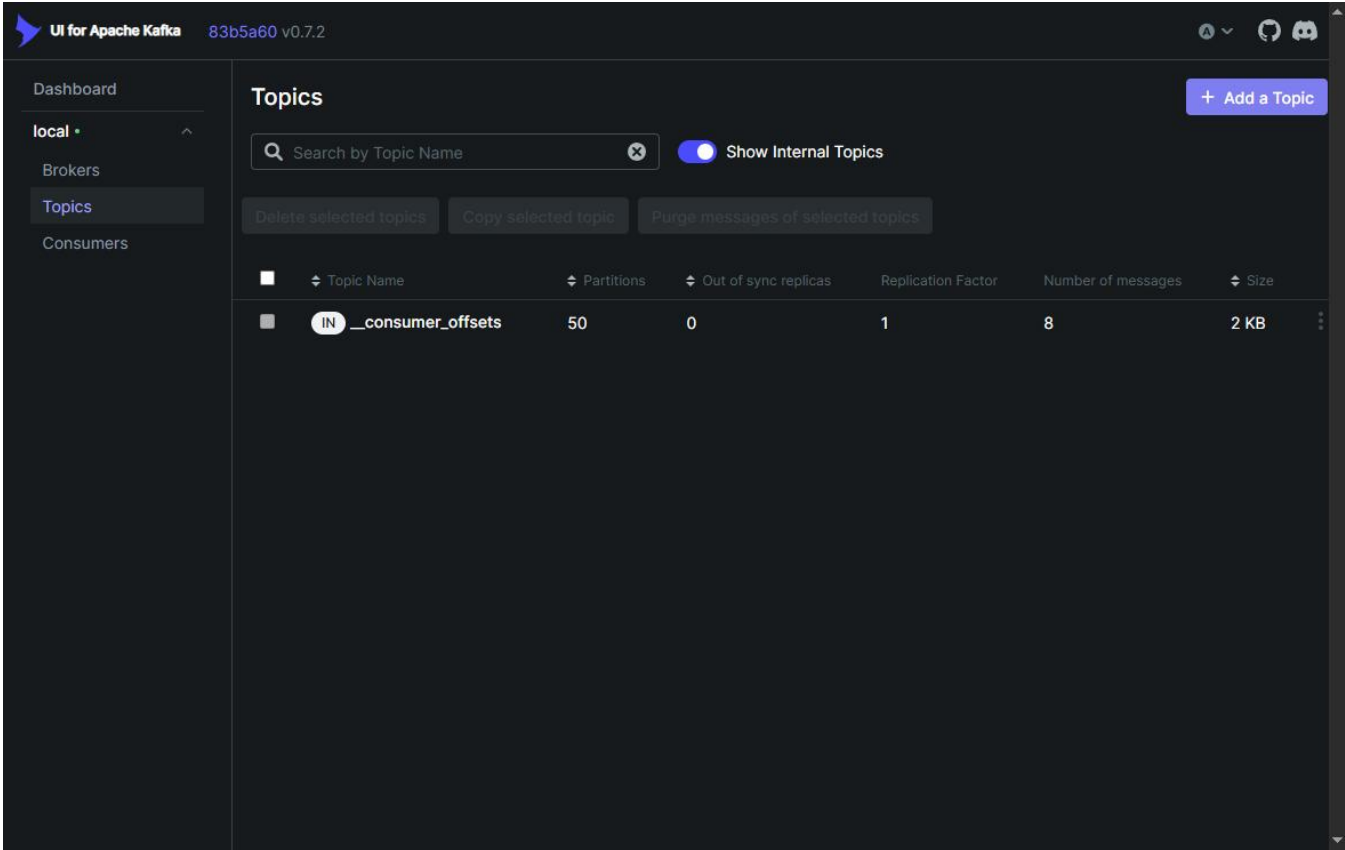
```
CREATE TABLE kafka_test(
  message String
)
ENGINE = MergeTree
ORDER BY message;

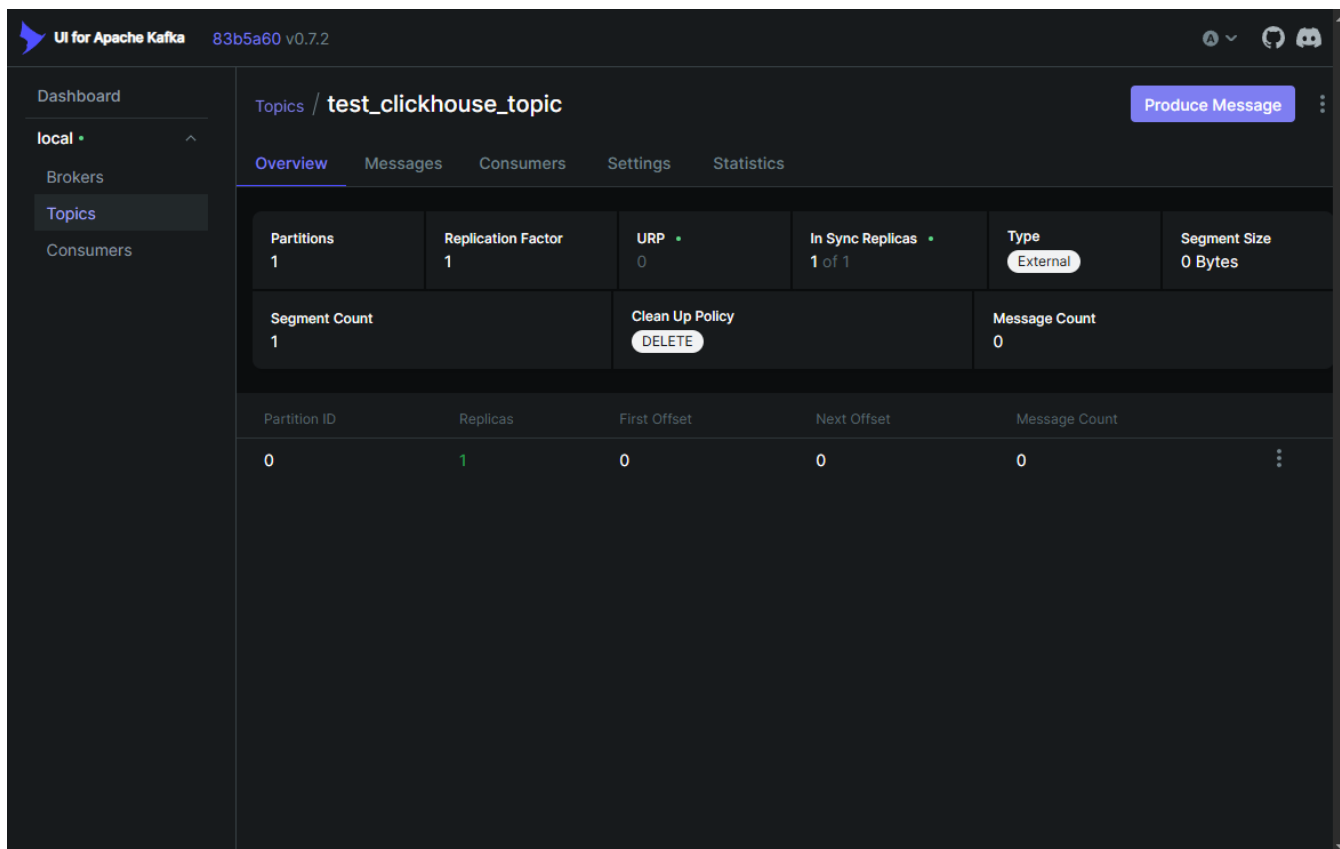
CREATE TABLE kafka_test_queue(
  message String
)
ENGINE = Kafka
SETTINGS
kafka_broker_list = 'kafka:9092',
kafka_topic_list = 'test_clickhouse_topic',
kafka_group_name = 'test_group',
kafka_format = 'CSV',
kafka_num_consumers = 1,
kafka_skip_broken_messages = 10,
kafka_thread_per_consumer = 0;

CREATE MATERIALIZED VIEW kafka_test_queue_mv TO kafka_test(
  message String
) AS SELECT message FROM kafka_test_queue;
```

Настраиваем топик.

kafka-ui страничка - <http://localhost:8089/> Приложения для мониторинга кафки. Заходим и вручную создаем топик - test_clickhouse_topic.





Посылаем сообщения в кафку.

Заходим в контейнер clickhouse

```
docker exec -it uoles-clickhouse-udf-25 bash
```

отправляем сообщения командой

```
echo "test message 12" | kafkacat -P -b kafka:9092 -t test_clickhouse_topic -Z
```

слушаем командой

```
kafkacat -C -b kafka:9092 -t test_clickhouse_topic -Z -K:
```

```
root@5321d2266687: /
Microsoft Windows [Version 10.0.19045.5737]
(c) Корпорация Майкрософт (Microsoft Corporation). Все права защищены.

d:\Study\Otus. ClickHouse\17 Интеграция с Kafka и подводные камни>docker exec -it uoles-clickhouse-udf-25 bash
root@5321d2266687:/# echo "test message 123" | kafkacat -P -b kafka:9092 -t test_clickhouse_topic -Z
root@5321d2266687:/# echo "test message 1234" | kafkacat -P -b kafka:9092 -t test_clickhouse_topic -Z
root@5321d2266687:/#

% waiting for group rebalance
% Group test_group rebalanced (memberid rdkafka-38a4550a-8b77-41fe-97cd-5c5a0232bdd2): assigned:

^X
d:\Study\Otus. ClickHouse\17 Интеграция с Kafka и подводные камни>docker exec -it uoles-clickhouse-udf-25 bash
root@5321d2266687:/# echo "test message 12" | kafkacat -P -b kafka:9092 -t test_clickhouse_topic -Z
root@5321d2266687:/# kafkacat -C -b kafka:9092 -t test_clickhouse_topic -Z -K:
NULL:test message
NULL:test message 12
% Reached end of topic test_clickhouse_topic [0] at offset 2
NULL:test message 123
% Reached end of topic test_clickhouse_topic [0] at offset 3
NULL:test message 1234
% Reached end of topic test_clickhouse_topic [0] at offset 4
```

UI for Apache Kafka83b5a60 v0.7.2

Dashboard

local

Brokers

Topics

Consumers

Topics / test_clickhouse_topic

OverviewMessagesConsumersSettingsStatistics

Partitions1

Replication Factor1

URP0

In Sync Replicas1 of 1

TypeExternal

Segment Count1

Clean Up PolicyDELETE

Message Count4

Partition ID

Replicas

First Offset

Next Offset

Message Count

0

1

0

4

4

27

28

29

30

31

32

select *

from kafka_test_queue_mv

kafka_test_queue_mv 1

select * from kafka_test_queue_mv | Введите SQL выражение чтобы отг

Таблица

Текст

A-Z message

1test message

2test message 12

3test message 123

4test message 1234