

Отчет по ДЗ Визуализация данных

1. Разверните и настройте Apache Superset.
2. Подключите Superset к базе данных ClickHouse.
3. Постройте дашборд, включающий пять разных визуализаций на основе данных из ClickHouse.
4. Убедитесь, что все визуализации корректно отображаются и данные актуальны.

1. Apache Superset и ClickHouse развернул в докере:

```
[*] Running 15/16
✓ Network root_app-network Created
✓ Volume "root_kafka_data" Created
✓ Volume "root_clickhouse_data" Created
✓ Volume "root_superset_data" Created
✓ Volume "root_zookeeper_data" Created
✓ Container zookeeper Started
✓ Container postgres Started
✓ Container clickhouse Started
✓ Container kafka Started
✓ Container superset Started
root@NB-R911JCT:~# docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                                                                                               NAMES
04ca74e5b01   apache/superset:latest              "/bin/bash -c 'pip i..." 8 seconds ago  Up 7 seconds (health: starting)  0.0.0.0:8088->8088/tcp, [::]:8088->8088/tcp              superset
eeb7e909c56   bitnami/kafka:2.8.1                 "/opt/bitnami/script..." 8 seconds ago  Up 7 seconds                    0.0.0.0:9092->9092/tcp, [::]:9092->9092/tcp              kafka
4d7f70c770d8   yandex/clickhouse-server:latest     "/entrypoint.sh"         8 seconds ago  Up 8 seconds                    0.0.0.0:8123->8123/tcp, 0.0.0.0:9000->9000/tcp, [::]:9000->9000/tcp, 9009/tcp clickhouse
596c70d99390   postgres:latest                     "docker-entrypoint.s..." 8 seconds ago  Up 8 seconds                    5432/tcp                                                postgres
53ce91810ba3   bitnami/zookeeper:3.8               "/opt/bitnami/script..." 8 seconds ago  Up 8 seconds                    2888/tcp, 3888/tcp, 0.0.0.0:2181->2181/tcp, [::]:2181->2181/tcp, 8080/tcp zookeeper
root@NB-R911JCT:~# docker exec -it clickhouse bash
```

1.1. В Clickhouse создал новую схему:

```
CREATE database otus;
```

1.2. Тестовую элементарную табличку:

```
CREATE TABLE otus.example_table_ss_clickhouse (
  id UInt32,
  name String,
  value Float32,
  created_at DateTime
) ENGINE = MergeTree()
ORDER BY id;
```

1.3. Наполнил ее тестовыми данными:

```
381 INSERT INTO otus.example_table_ss_clickhouse (id, name, value, created_at) VALUES
382 (id 1, name 'A', value 10.5, created_at '2023-01-01 00:00:00'),
383 (id 2, name 'B', value 20.0, created_at '2023-01-02 00:00:00'),
384 (id 3, name 'C', value 30.5, created_at '2023-01-03 00:00:00'),
385 (id 4, name 'D', value 40.0, created_at '2023-01-04 00:00:00'),
386 (id 5, name 'E', value 50.5, created_at '2023-01-05 00:00:00'),
387 (id 1, name 'A', value 20.5, created_at '2023-01-06 00:00:00'),
388 (id 2, name 'B', value 30.0, created_at '2023-01-07 00:00:00'),
389 (id 3, name 'C', value 10.5, created_at '2023-01-08 00:00:00'),
390 (id 4, name 'D', value 45.0, created_at '2023-01-09 00:00:00'),
391 (id 5, name 'E', value 33.5, created_at '2023-01-10 00:00:00');
392
393 SELECT * FROM otus.example_table_ss_clickhouse;
```

id	name	value	created_at
1	A	10.5	2023-01-01 00:00:00
2	1 A	20.5	2023-01-06 00:00:00
3	2 B	20	2023-01-02 00:00:00
4	2 B	30	2023-01-07 00:00:00
5	3 C	30.5	2023-01-03 00:00:00
6	3 C	10.5	2023-01-08 00:00:00
7	4 D	40	2023-01-04 00:00:00
8	4 D	45	2023-01-09 00:00:00
9	5 E	50.5	2023-01-05 00:00:00
10	5 E	33.5	2023-01-10 00:00:00

2. В Apache Superset создал новый dataset:

Edit database

CLICKHOUSEDB

ClickHouse Connect (Superset)

BASIC

ADVANCED

HOST * ⓘ

PORT

clickhouse

8123

DATABASE NAME

otus

Copy the name of the database you are trying to connect to.

USERNAME

default

PASSWORD

..... ⓘ

DISPLAY NAME *

ClickHouse Connect (Superset)

Pick a nickname for how the database will display in Superset.

ADDITIONAL PARAMETERS

e.g. param1=value1¶m2=value2

Add additional custom parameters

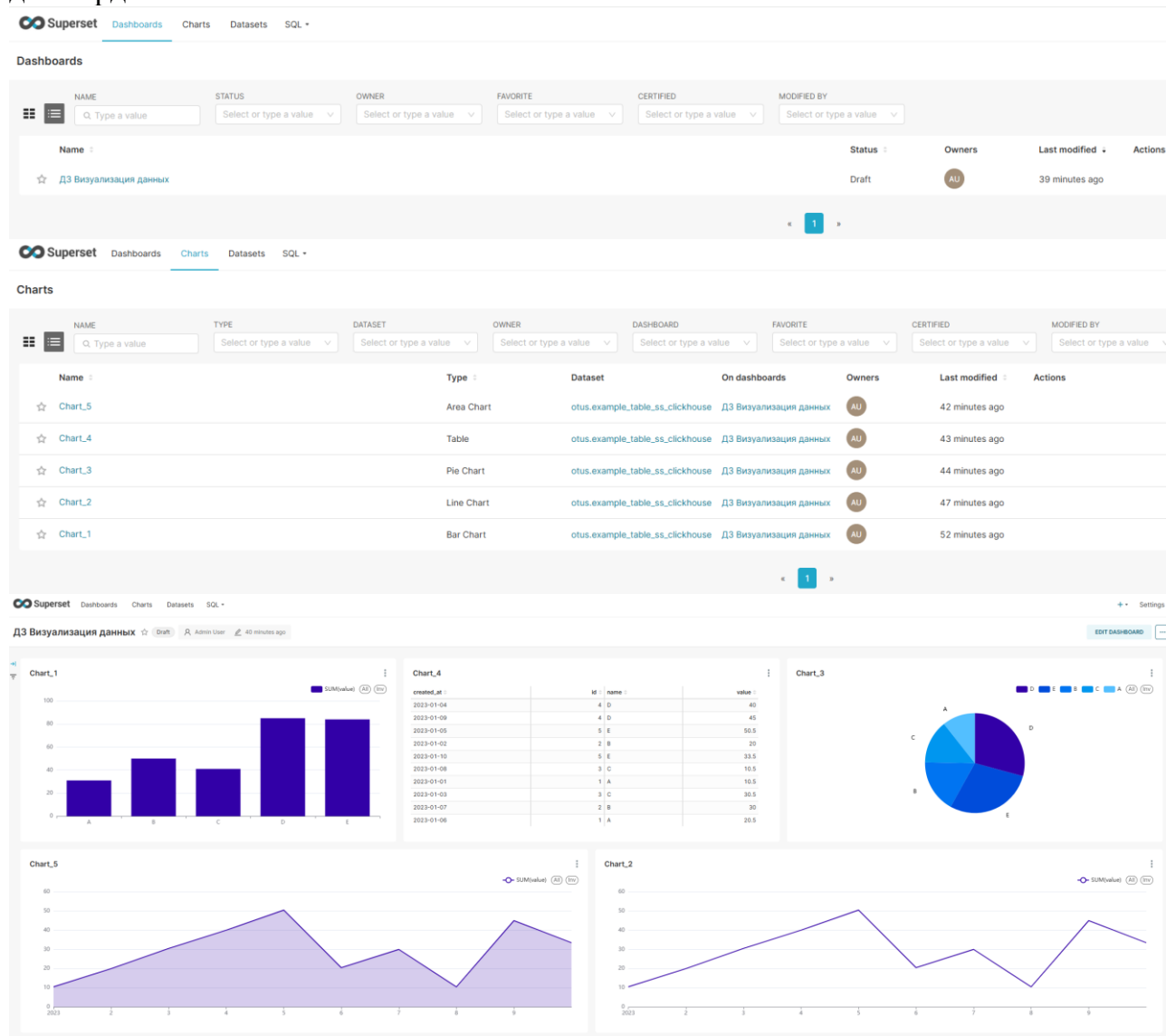
☐

SSL ⓘ

CLOSE

FINISH

3. Создал пять разных chart-тов на тестовой таблице и сохранил их в одном дашборде:



4. Проверка данных.

4.1. Транкейтнул таблицу, данные пропали из дашборда:

The screenshot displays the Apache Superset web interface. At the top, a SQL editor shows the execution of two queries: `TRUNCATE TABLE otus.example_table_ss_clickhouse;` and `SELECT * FROM otus.example_table_ss_clickhouse;`. The second query is marked with a green checkmark, indicating successful execution. Below the editor, the 'Output' tab shows the table schema for `otus.example_table_ss_clickhouse` with columns: `id`, `name`, `value`, and `created_at`.

The main dashboard area, titled 'Д3 Визуализация данных', contains five charts labeled `Chart_1` through `Chart_5`. Each chart area displays a placeholder bar chart and the message 'No results were returned for this query', indicating that the data has been truncated and is no longer available for visualization.

4.2. Сделал вставку, данные появились, агрегации сработали:

