Департамент образования и науки города Москвы
Государственное автономное образовательное учреждение
высшего образования города Москвы
«Московский городской педагогический университет»
Институт цифрового образования
Департамент информатики управления и технологий

Мареев Георгий Александрович БД-241м

Практическая работа 2-1. Часть 2. Изучение методов хранения данных на основе NoSQL. Вариант 13

Направление подготовки/специальность
38.04.05 - Бизнес-информатика
Бизнес-аналитика и большие данные
(очная форма обучения)

Руководитель дисциплины:
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кандидат технических наук

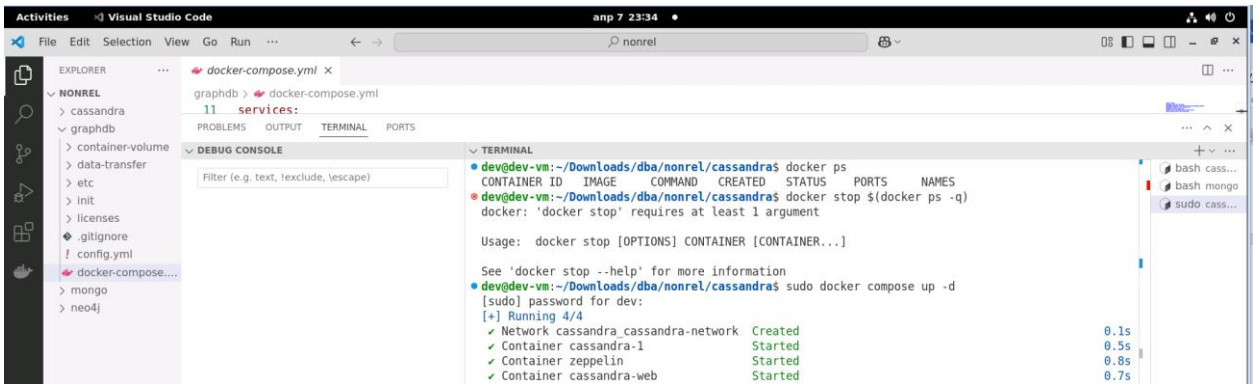
Москва
2025

Введение

Цель: получить практические навыки работы с базой данных Cassandra, изучив основные операции по управлению данными, включая создание и использование ключспейсов, таблиц, выполнение запросов CQL, а также работу с различными инструментами подключения и администрирования.

Основная часть

Запуск Cassandra
Проверка запущенных контейнеров:
docker ps
Запуск контейнеров:
sudo docker compose up -d



Подключение к контейнеру

sudo docker exec -ti cassandra-1 cqlsh -u cassandra -p Cassandra

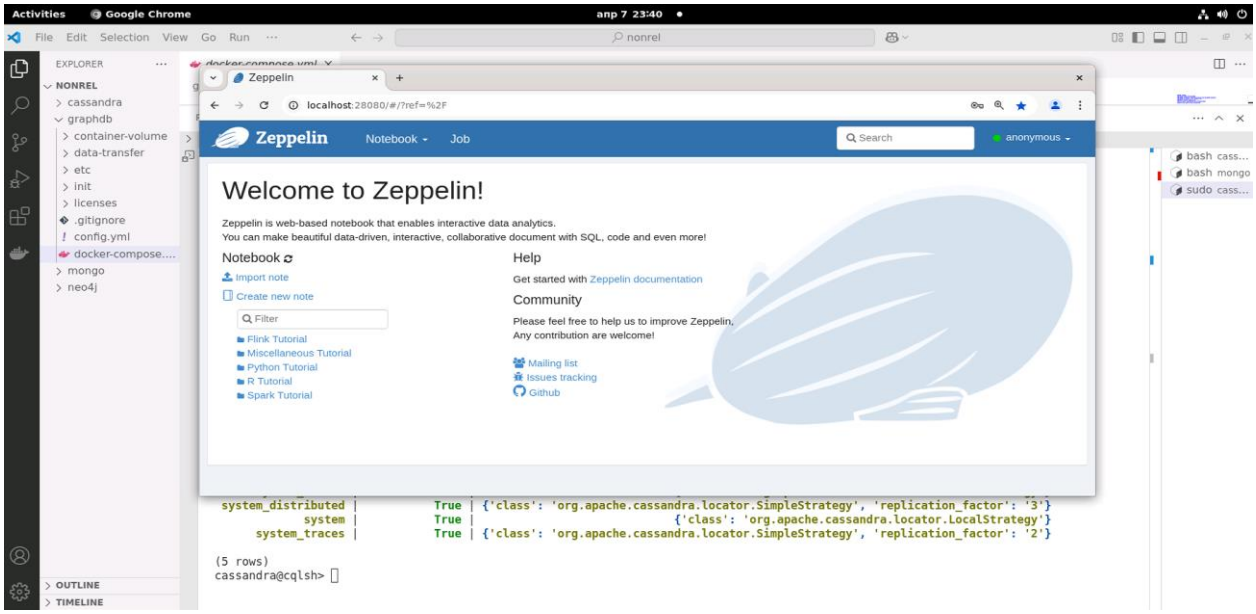
и получение всех существующих в настоящее время пространства ключей

SELECT * FROM system_schema.keyspaces;

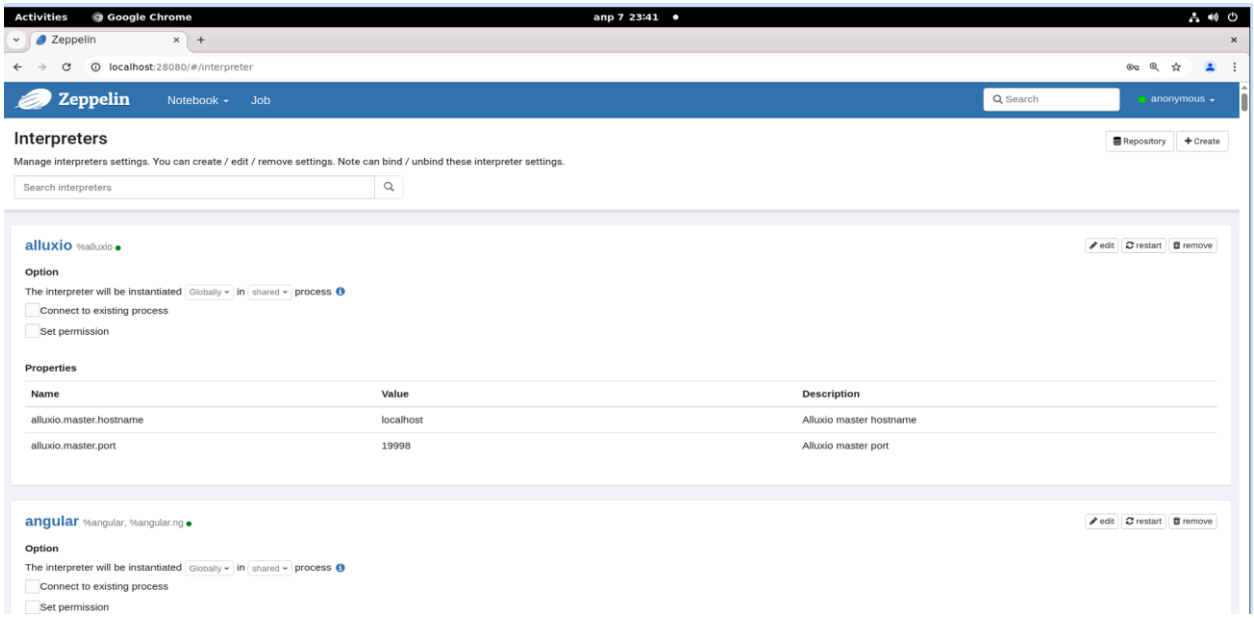
```
dev@dev-vm:~/Downloads/dba/nonrel/cassandra$ sudo docker exec -ti cassandra-1 cqlsh -u cassandra -p cassandra
Connected to CassandraCluster at 127.0.0.1:9042.
[cqlsh 5.0.1 | Cassandra 3.11.19 | CQL spec 3.4.4 | Native protocol v4]
Use HELP for help.
cassandra@cqlsh> SELECT * FROM system_schema.keyspaces;

 keyspace_name      | durable_writes | replication
--------------------+----------------+--------------------------------------------------------------------------------------
        system_auth |           True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
      system_schema |           True |                                {'class': 'org.apache.cassandra.locator.LocalStrategy'}
 system_distributed |           True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '3'}
             system |           True |                                {'class': 'org.apache.cassandra.locator.LocalStrategy'}
      system_traces |           True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '2'}

(5 rows)
cassandra@cqlsh>
```

Использование браузерного графического интерфейса

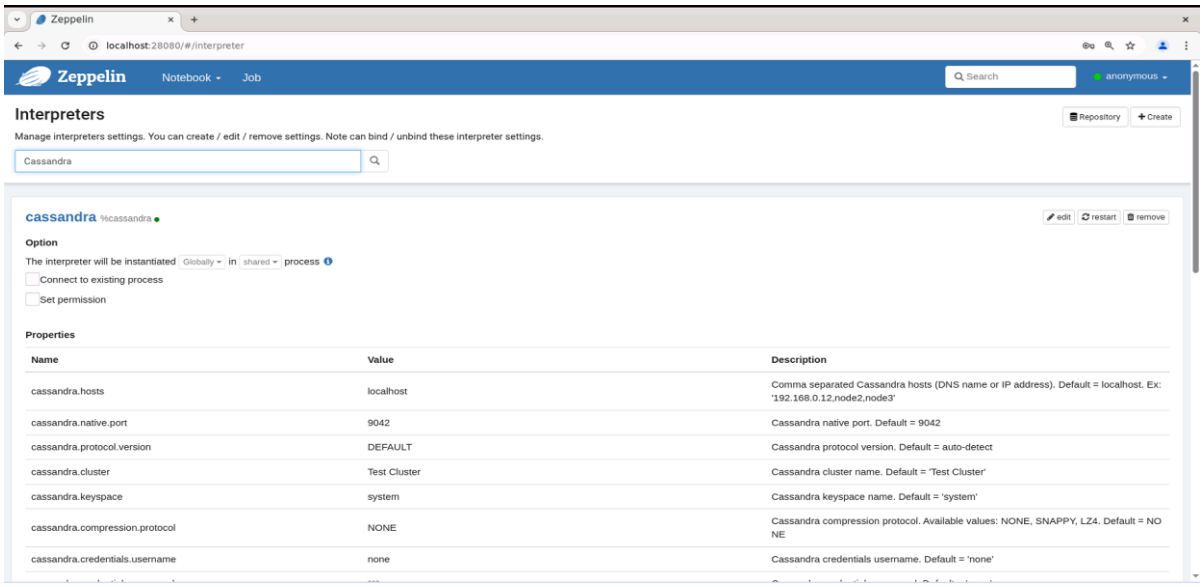
Apache Zeppelin



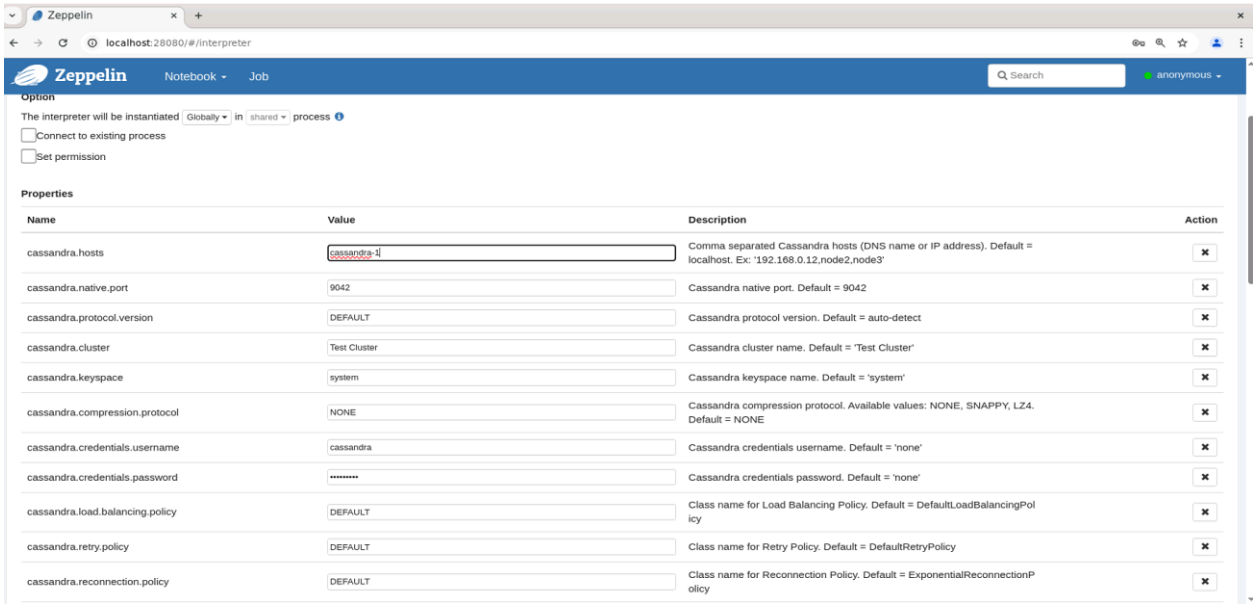
Interpreter



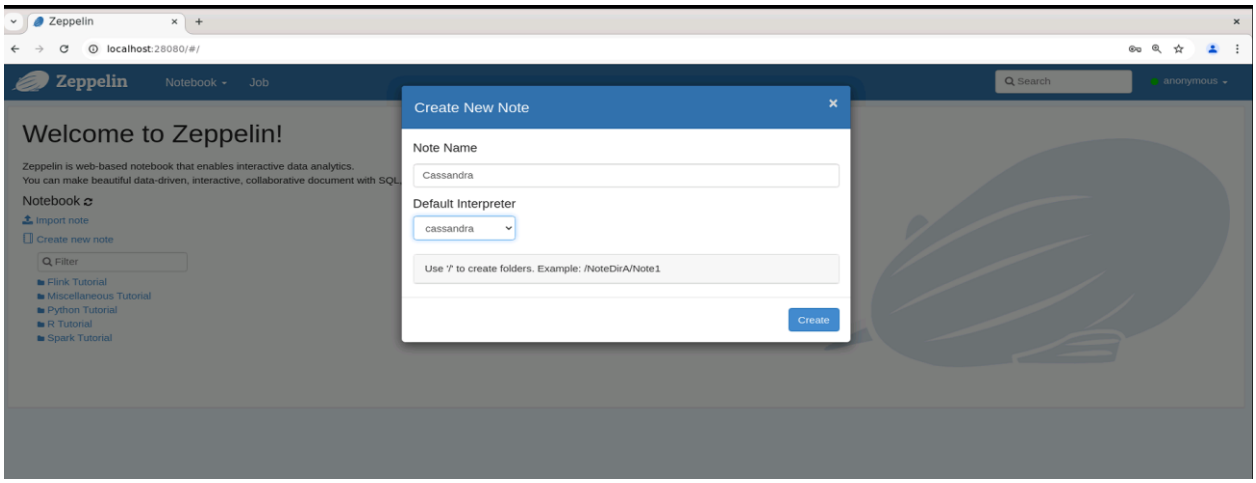
Cassandra Interpeter



Изменения

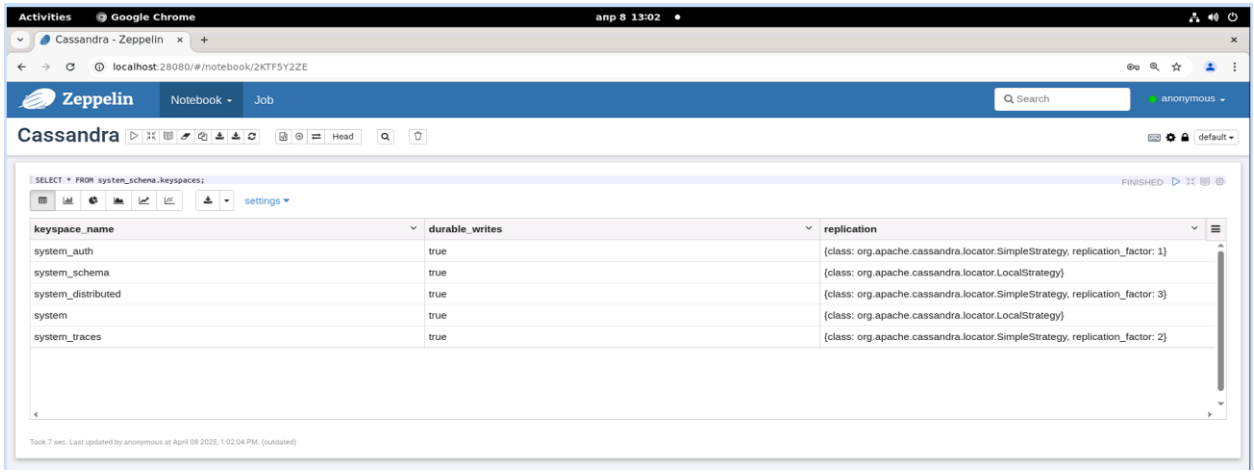


Создание нового блокнота



Существующие на данный момент пространства ключей

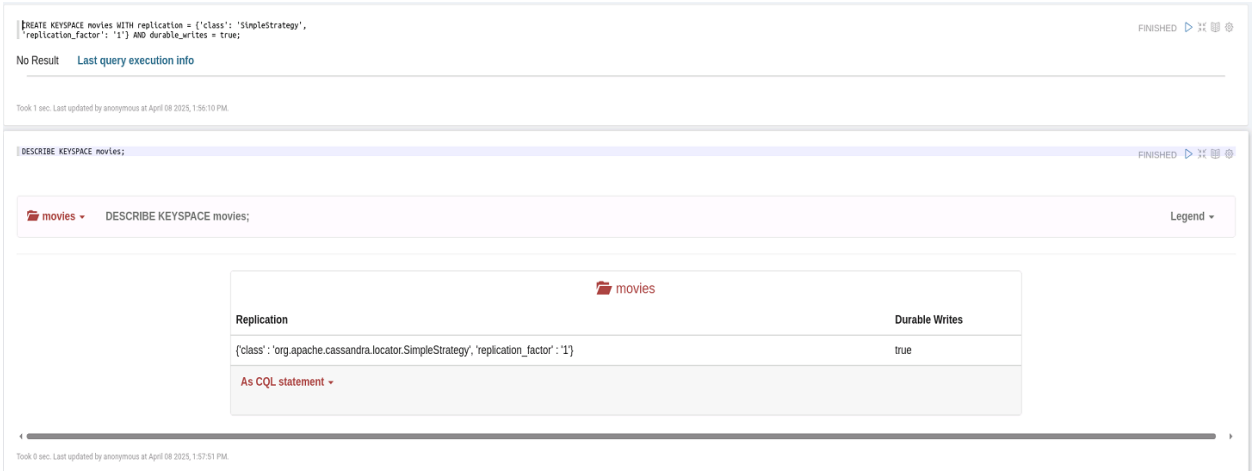
SELECT * FROM system_schema.keyspaces;



Создание Keyspace для примера Movie

CREATE KEYSPACE movies WITH replication = {'class': 'SimpleStrategy', 'replication_factor': '1'} AND durable_writes = true;

DESCRIBE KEYSPACE movies;



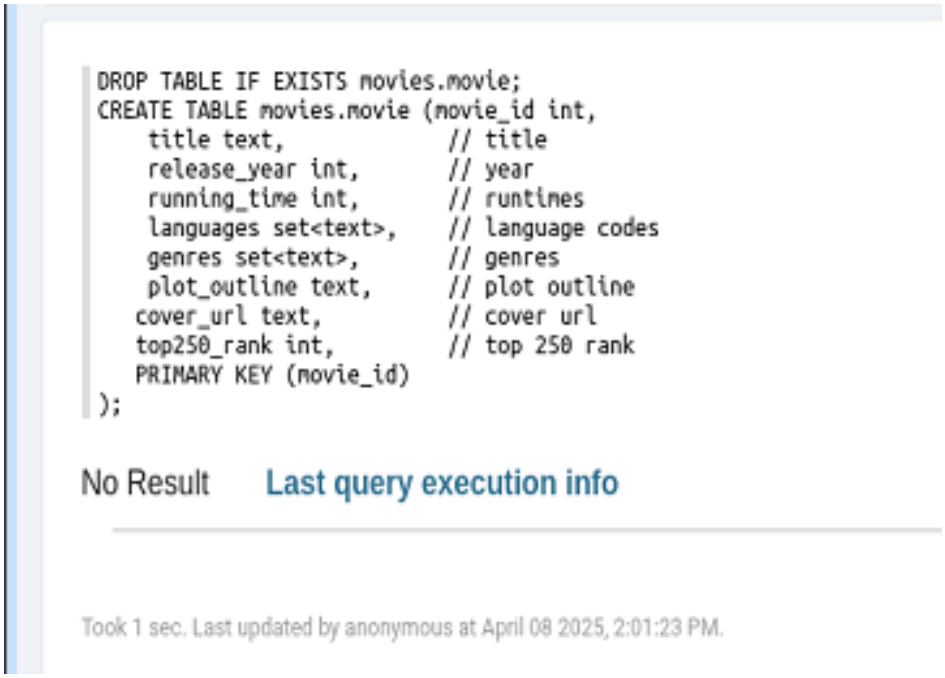
SELECT * FROM system_schema.keyspaces;

Создание таблицы Movie и Actor

Создание таблицы Movie

```
DROP TABLE IF EXISTS movies.movie;
CREATE TABLE movies.movie (movie_id int,
        title text,                     // title
        release_year int,           // year
        running_time int,           // runtimes
        languages set<text>,        // language codes
        genres set<text>,           // genres
        plot_outline text,          // plot outline
```

```
  cover_url text,                 // cover url
  top250_rank int,                // top 250 rank
  PRIMARY KEY (movie_id)
);
```



Actor:

```
DROP TABLE IF EXISTS movies.actor;
CREATE TABLE movies.actor (actor_id int,
  name text,                          // name
  headshot_url text,              // headshot
  mini_biography text,            // mini biography
  birth_date text,                // birth date
  trade_mark list<text>,   // trade mark
  PRIMARY KEY (actor_id)
);
```

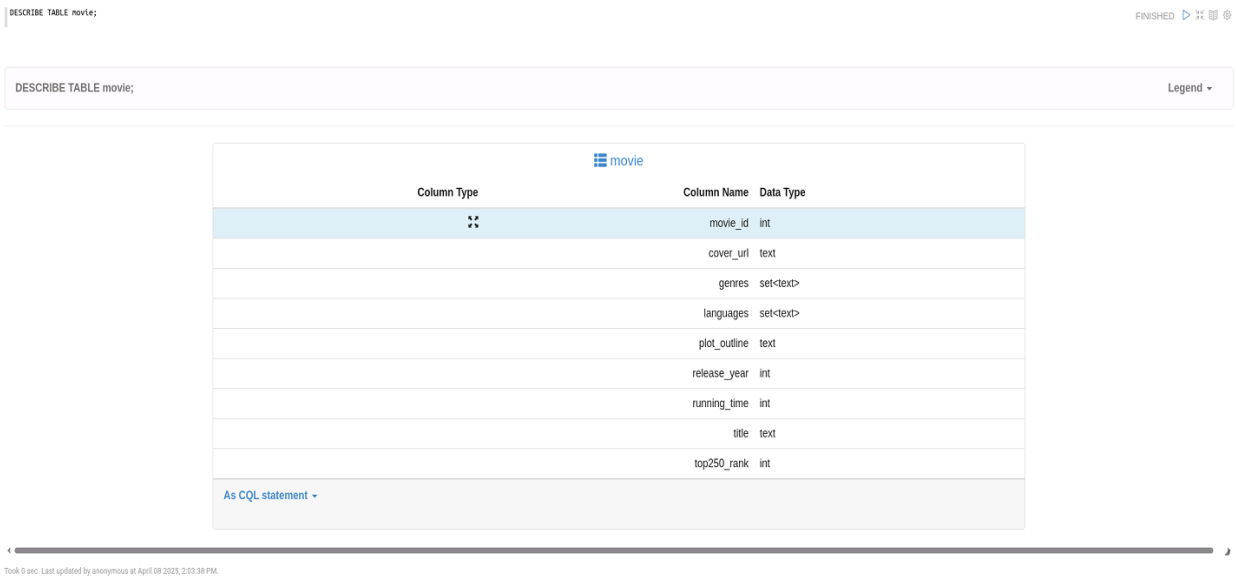
```
DROP TABLE IF EXISTS movies.actor;
CREATE TABLE movies.actor (actor_id int,
  name text,                    // name
  headshot_url text,        // headshot
  mini_biography text,      // mini biography
  birth_date text,          // birth date
  trade_mark list<text>,    // trade mark
  PRIMARY KEY (actor_id)
);
```

No Result Last query execution info

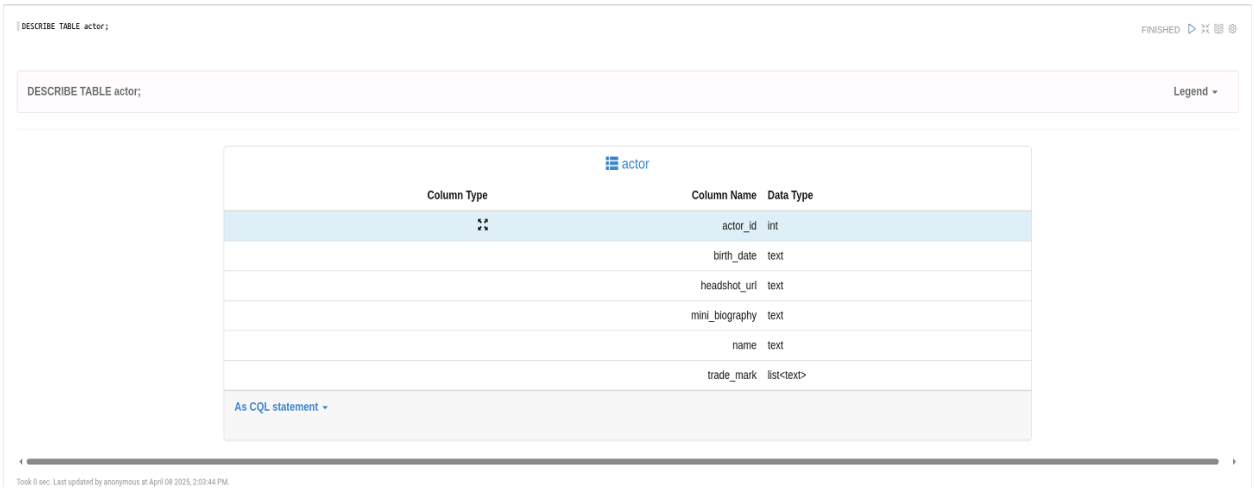
Took 2 sec. Last updated by anonymous at April 08 2025, 2:02:44 PM.

Просмотре метаданных:

DESCRIBE TABLE movie;



DESCRIBE TABLE actor;



Вставка данных в Movie и Actor

Фильмы “The Matrix”, “Pulp Fiction”, “Speed”

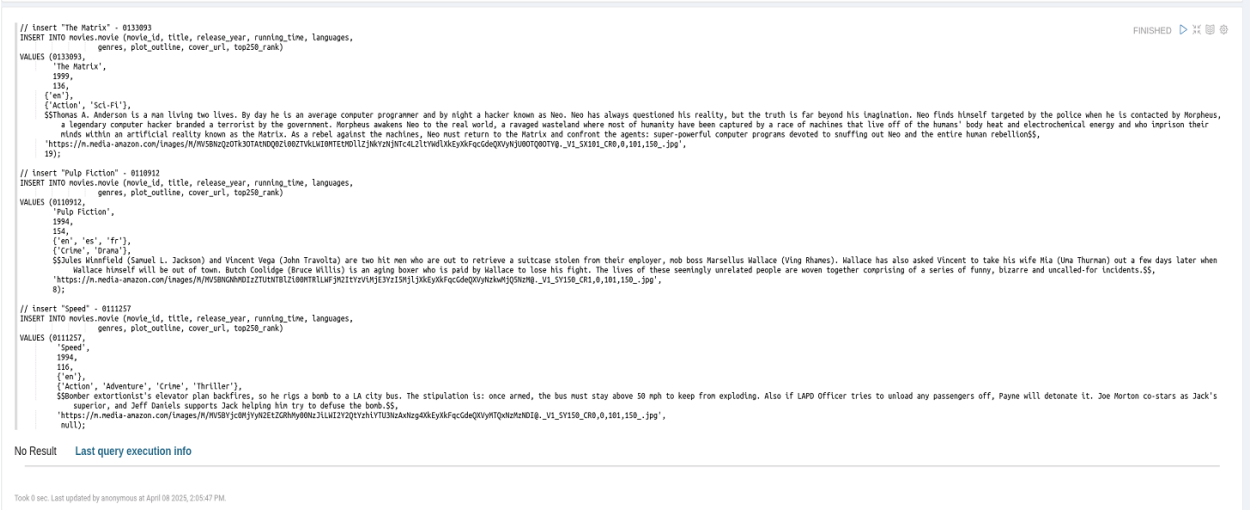
```
// insert "The Matrix" - 0133093

INSERT INTO movies.movie (movie_id, title, release_year, running_time,
languages,

        genres, plot_outline, cover_url, top250_rank)

VALUES (0133093,

    'The Matrix',

        1999,

        136,

    {'en'},

    {'Action', 'Sci-Fi'},

    $$Thomas A. Anderson is a man living two lives. By day he is an average
computer programmer and by night a hacker known as Neo. Neo has always
questioned his reality, but the truth is far beyond his imagination. Neo finds
himself targeted by the police when he is contacted by Morpheus, a legendary
computer hacker branded a terrorist by the government. Morpheus awakens Neo to
the real world, a ravaged wasteland where most of humanity have been captured by
a race of machines that live off of the humans' body heat and electrochemical
energy and who imprison their minds within an artificial reality known as the
Matrix. As a rebel against the machines, Neo must return to the Matrix and
confront the agents: super-powerful computer programs devoted to snuffing out
Neo and the entire human rebellion$$,

    'https://m.media-
amazon.com/images/M/MV5BNzQzOTk3OTAtNDQ0Zi00ZTVkLWI0MTEtMDll
ZjNkYzNjNTc4L2ltYWdlXkEyXkFqcGdeQXVyNjU0OTQ0OTY@._V1_SX101
_CR0,0,101,150_.jpg',

    19);


// insert "Pulp Fiction" - 0110912

INSERT INTO movies.movie (movie_id, title, release_year, running_time,
languages,

        genres, plot_outline, cover_url, top250_rank)
```

```
VALUES (0110912,
        'Pulp Fiction',
        1994,
        154,
        {'en', 'es', 'fr'},
        {'Crime', 'Drama'},
        $$Jules Winnfield (Samuel L. Jackson) and Vincent Vega (John Travolta) are two hit men who are out to retrieve a suitcase stolen from their employer, mob boss Marsellus Wallace (Ving Rhames). Wallace has also asked Vincent to take his wife Mia (Uma Thurman) out a few days later when Wallace himself will be out of town. Butch Coolidge (Bruce Willis) is an aging boxer who is paid by Wallace to lose his fight. The lives of these seemingly unrelated people are woven together comprising of a series of funny, bizarre and uncalled-for incidents.$$,
        'https://m.media-amazon.com/images/M/MV5BNGNhMDIzZTUtNTBlZi00MTRlLWFjM2ItYzViMjE3YzI5MjljXkEyXkFqcGdeQXVyNzkwMjQ5NzM@._V1_SY150_CR1,0,101,150_.jpg',
        8);


// insert "Speed" - 0111257
INSERT INTO movies.movie (movie_id, title, release_year, running_time, languages,
                          genres, plot_outline, cover_url, top250_rank)
VALUES (0111257,
        'Speed',
        1994,
        116,
        {'en'},
        {'Action', 'Adventure', 'Crime', 'Thriller'},
        $$Bomber extortionist's elevator plan backfires, so he rigs a bomb to a LA city bus. The stipulation is: once armed, the bus must stay above 50 mph to keep from exploding. Also if LAPD Officer tries to unload any passengers off,
```

Payne will detonate it. Joe Morton co-stars as Jack's superior, and Jeff Daniels supports Jack helping him try to defuse the bomb.$$,

'https://m.media-amazon.com/images/M/MV5BYjc0MjYyN2EtZGRhMy00NzJiLWI2Y2QtYzhiYTU3NzAxNzg4XkEyXkFqcGdeQXVyMTQxNzMzNDI@._V1_SY150_CR0,0,101,150_.jpg',

null);



Добавление актеров, играющих в этих фильмах ("Bruce Willis", "John Travolta", "Sandra Bullock", "Samuel L. Jackson", "Uma Thurman" & "Quentin Tarantino"):

// insert "Bruce Willis" - 0000246

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date, trade_mark)

VALUES (0000246,

'Bruce Willis',

'https://m.media-amazon.com/images/M/MV5BMjA0MjMzMTE5OF5BMl5BanBnXkFtZTcwMzQ2ODE3Mw@@._V1_UY98_CR8,0,67,98_AL_.jpg',

'1955-03-19',

['Frequently plays a man who suffered a tragedy, had lost something or had a crisis of confidence or conscience.',

'Frequently plays likeable wisecracking heroes with a moral centre',

'Headlines action-adventures, often playing a policeman, hitman or someone in the military',

'Often plays men who get caught up in situations far beyond their control',

'Sardonic one-liners',

'Shaven head',

'Distinctive, gravelly voice',

'Smirky grin.',

'Known for playing cynical anti-heroes with unhappy personal lives']);

// insert "John Travolta" - 0000237

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date, trade_mark)

VALUES (0000237,

'John Travolta',

'https://m.media-amazon.com/images/M/MV5BMTUwNjQ0ODkxN15BMl5BanBnXkFtZTcwMDc5NjQwNw@@._V1_UY98_CR3,0,67,98_AL_.jpg',

'1954-02-18',

['Cleft chin and razor-sharp cheekbones',

'Often works some sort of dance into his roles',

'New Jersey accent',

'Black hair and blue eyes']);

// insert "Sandra Bullock" - 0000113

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date, trade_mark)

VALUES (0000113,

'Sandra Bullock',

'https://m.media-amazon.com/images/M/MV5BMTI5NDY5NjU3NF5BMl5BanBnXkFtZTcwMzQ0MTMyMw@@._V1_UX67_CR0,0,67,98_AL_.jpg',

'1964-07-26',

null);

// insert "Samuel L. Jackson" - 0000168

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date, trade_mark)

VALUES (0000168,

'Samuel L. Jackson',

'https://m.media-amazon.com/images/M/MV5BMTQ1NTQwMTYxNl5BMl5BanBnXkFtZTYwMjA1MzY1._V1_UX67_CR0,0,67,98_AL_.jpg',

'1948-12-21',

['Deep authoritative voice',

'Rebellious characters who are disliked or considered strange by others in the story',

'Often plays police officers or government officials. Both prone to intimidation or violence',

'Often plays very wise and intelligent characters with great capacities for violence',

'Frequently plays tough characters who swear a lot',

'Frequent swearing',

'Often sports a moustache or goatee in his films',

'Shaven head',

'Kangol hats',

'Often plays hotheaded characters with a fiery temper',

'Often shouts the word "motherf*****" at some point in a film',

'Frequently cast by Quentin Tarantino']);

```
// insert "Uma Thurman" - 0000235

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date,
trade_mark)

VALUES (0000235,

        'Uma Thurman',

        'https://m.media-
amazon.com/images/M/MV5BMjMxNzk1MTQyMl5BMl5BanBnXkFtZTgwMDI
zMDEyMTE@._V1_UX67_CR0,0,67,98_AL_.jpg',

        '1970-04-29',

        ['Long blond hair and blue eyes', 'Statuesque, model-like figure']);


// insert "Keanu Reeves" - 0000206

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date,
trade_mark)

VALUES (0000206,

        'Keanu Reeves',

        'https://m.media-
amazon.com/images/M/MV5BNjUxNDcwMTg4Ml5BMl5BanBnXkFtZTcwMjU4
NDYyOA@@._V1_UY98_CR4,0,67,98_AL_.jpg',

        '1964-09-02',

        ['Intense contemplative gaze',

         'Deep husky voice',

         'Known for playing stoic reserved characters']);


// insert "Quentin Tarantino" - 0000233

INSERT INTO movies.actor (actor_id, name, headshot_url, birth_date,
trade_mark)

VALUES (0000233,

    'Quentin Tarantino',
```

'https://m.media-amazon.com/images/M/MV5BMTgyMjI3ODA3Nl5BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_UX67_CR0,0,67,98_AL_.jpg',

'1963-03-27',

['Lead characters usually drive General Motors vehicles, particularly Chevrolet and Cadillac, such as Jules 1974 Nova and Vincents 1960s Malibu.',

'Briefcases and suitcases play an important role in Pulp Fiction (1994), Reservoir Dogs (1992), Jackie Brown (1997), True Romance (1993) and Kill Bill: Vol. 2 (2004).',

'Makes references to cult movies and television',

'Frequently works with Harvey Keitel, Tim Roth, Michael Madsen, Uma Thurman, Michael Bowen, Samuel L. Jackson, Michael Parks and Christoph Waltz.',

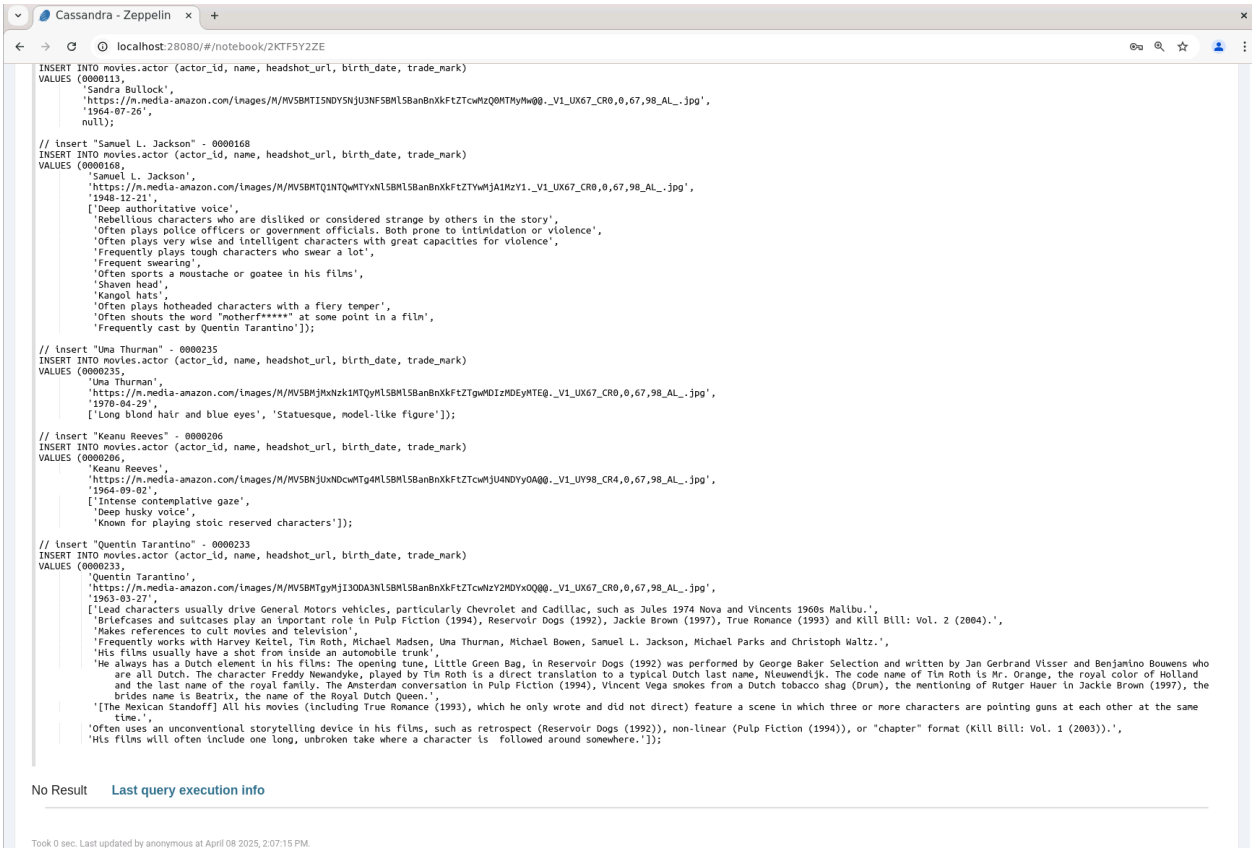
'His films usually have a shot from inside an automobile trunk',

'He always has a Dutch element in his films: The opening tune, Little Green Bag, in Reservoir Dogs (1992) was performed by George Baker Selection and written by Jan Gerbrand Visser and Benjamino Bouwens who are all Dutch. The character Freddy Newandyke, played by Tim Roth is a direct translation to a typical Dutch last name, Nieuwendijk. The code name of Tim Roth is Mr. Orange, the royal color of Holland and the last name of the royal family. The Amsterdam conversation in Pulp Fiction (1994), Vincent Vega smokes from a Dutch tobacco shag (Drum), the mentioning of Rutger Hauer in Jackie Brown (1997), the brides name is Beatrix, the name of the Royal Dutch Queen.',

'[The Mexican Standoff] All his movies (including True Romance (1993), which he only wrote and did not direct) feature a scene in which three or more characters are pointing guns at each other at the same time.',

'Often uses an unconventional storytelling device in his films, such as retrospect (Reservoir Dogs (1992)), non-linear (Pulp Fiction (1994)), or "chapter" format (Kill Bill: Vol. 1 (2003)).',

'His films will often include one long, unbroken take where a character is followed around somewhere.']);

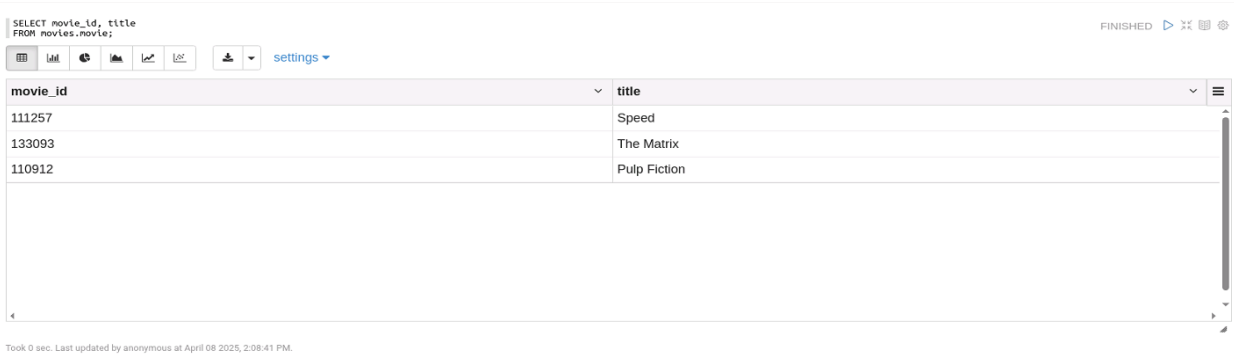


Отображение данных:

Movie

SELECT movie_id, title

FROM movies.movie;



Actors

SELECT *

FROM movies.actor;

Обновление данных

Bruce Willis

UPDATE movies.actor

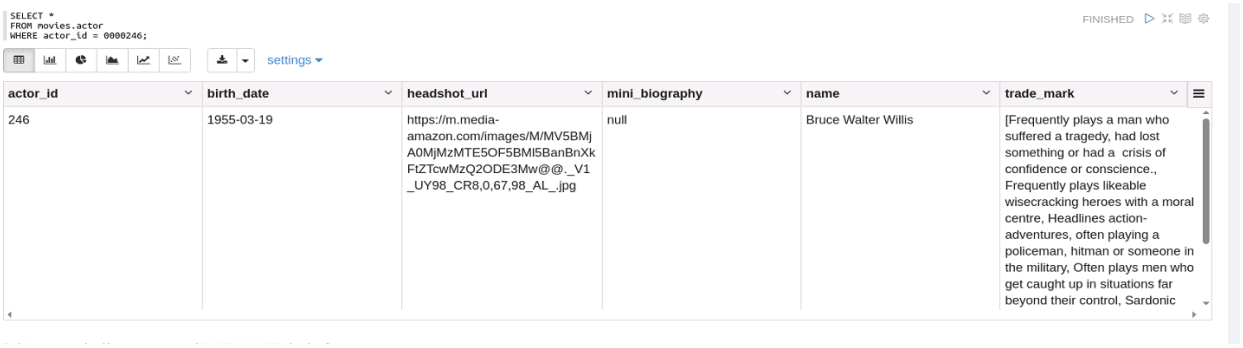
SET name = 'Bruce Walter Willis'

WHERE actor_id = 0000246;

Проверка результата:
SELECT *

FROM movies.actor

WHERE actor_id = 0000246;



Использование “Dynamic” таблиц (wide row)

Создание таблицы «Фильмы по актерам» и «Актёры по фильмам»

DROP TABLE IF EXISTS movies.movies_by_actor;

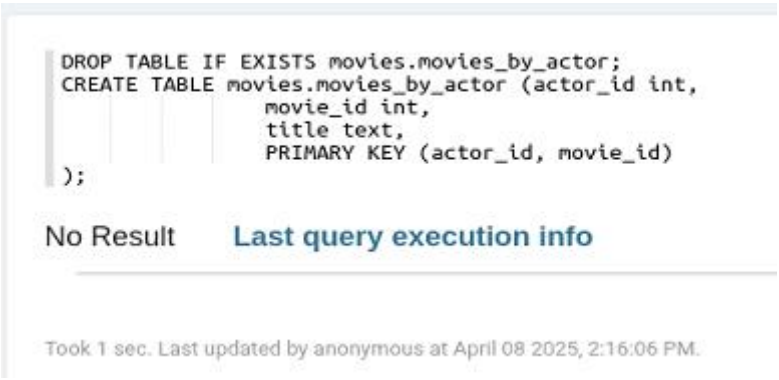
CREATE TABLE movies.movies_by_actor (actor_id int,

movie_id int,

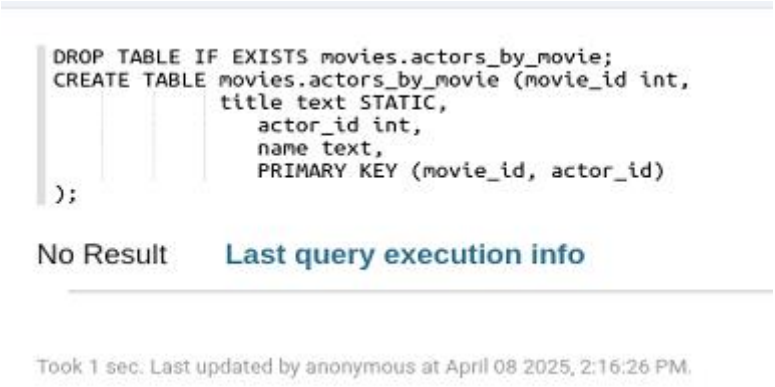
title text,

PRIMARY KEY (actor_id, movie_id)

);



```
DROP TABLE IF EXISTS movies.actors_by_movie;
CREATE TABLE movies.actors_by_movie (movie_id int,
        title text STATIC,
                        actor_id int,
                        name text,
                        PRIMARY KEY (movie_id, actor_id)
);
```

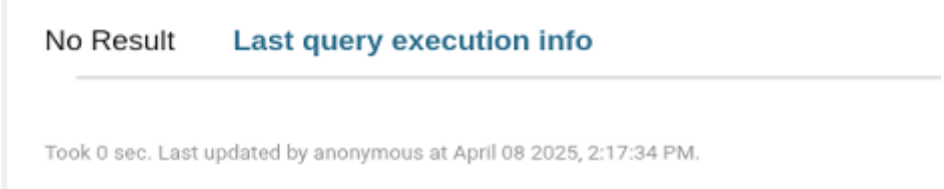


Вставка данных в две таблицы

```
// Фильмы для актера "Bruce Willis"

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0110912, 'Pulp Fiction');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 1606378, 'A Good Day to Die Hard');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0217869, 'Unbreakable');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0377917, 'The Fifth Element');
```

```
INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0112864, 'Die Hard: With a Vengeance');

// Фильмы для актера "Keanu Reeves"

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000206, 0133093, 'The Matrix');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000206, 0234215, 'The Matrix Reloaded');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000206, 0111257, 'Speed');


// Фильмы для актера "Sandra Bullock"

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000113, 0111257, 'Speed');
```

```
// Фильмы для актера "Bruce Willis"

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0110912, 'Pulp Fiction');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 1606378, 'A Good Day to Die Hard');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0217869, 'Unbreakable');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0377917, 'The Fifth Element');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000246, 0112864, 'Die Hard: With a Vengeance');

// Фильмы для актера "Keanu Reeves"

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000206, 0133093, 'The Matrix');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000206, 0234215, 'The Matrix Reloaded');

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000206, 0111257, 'Speed');


// Фильмы для актера "Sandra Bullock"

INSERT INTO movies.movies_by_actor (actor_id, movie_id, title)
VALUES (0000113, 0111257, 'Speed');
```



// Актеры для фильма "The Matrix"

INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0133093, 'The Matrix', 0000206, 'Keanu Reeves');

INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0133093, 'The Matrix', 0000401, 'Laurence Fishburne');

INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0133093, 'The Matrix', 0005251, 'Carrie-Anne Moss');

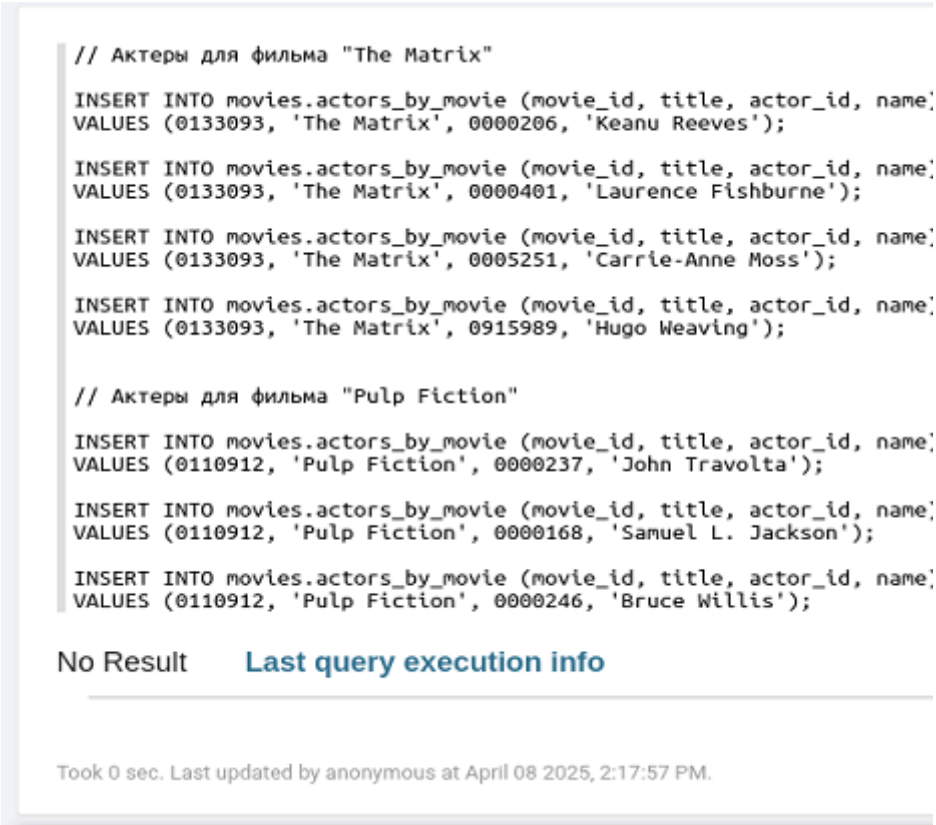
INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0133093, 'The Matrix', 0915989, 'Hugo Weaving');

// Актеры для фильма "Pulp Fiction"

INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0110912, 'Pulp Fiction', 0000237, 'John Travolta');

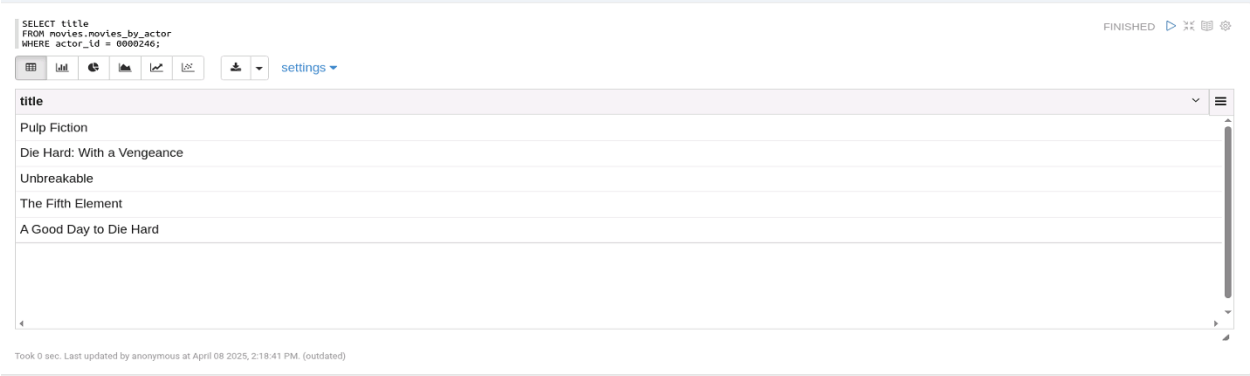
INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0110912, 'Pulp Fiction', 0000168, 'Samuel L. Jackson');

INSERT INTO movies.actors_by_movie (movie_id, title, actor_id, name)
VALUES (0110912, 'Pulp Fiction', 0000246, 'Bruce Willis');



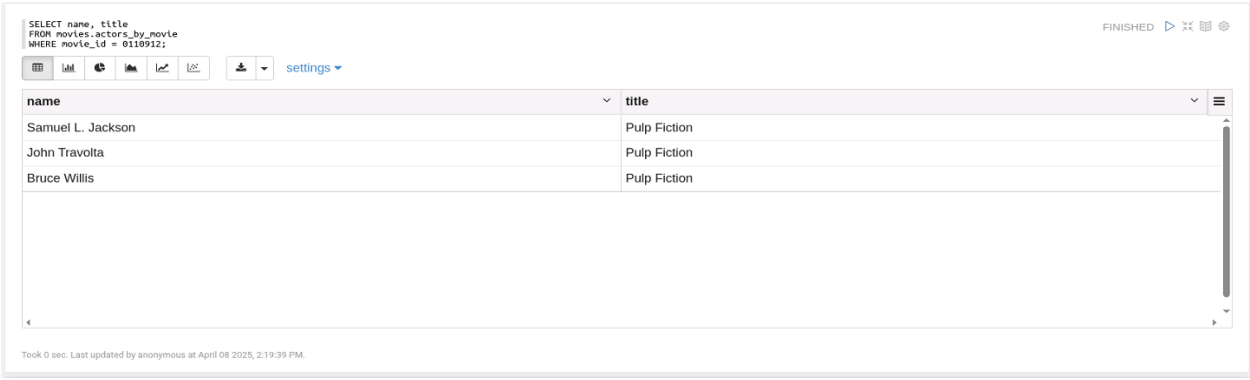
Все фильмы, в которых играл "Bruce Willis"

```
SELECT title
FROM movies.movies_by_actor
WHERE actor_id = 0000246;
```



Актеры, сыгравшие в фильме «Криминальное чтиво»

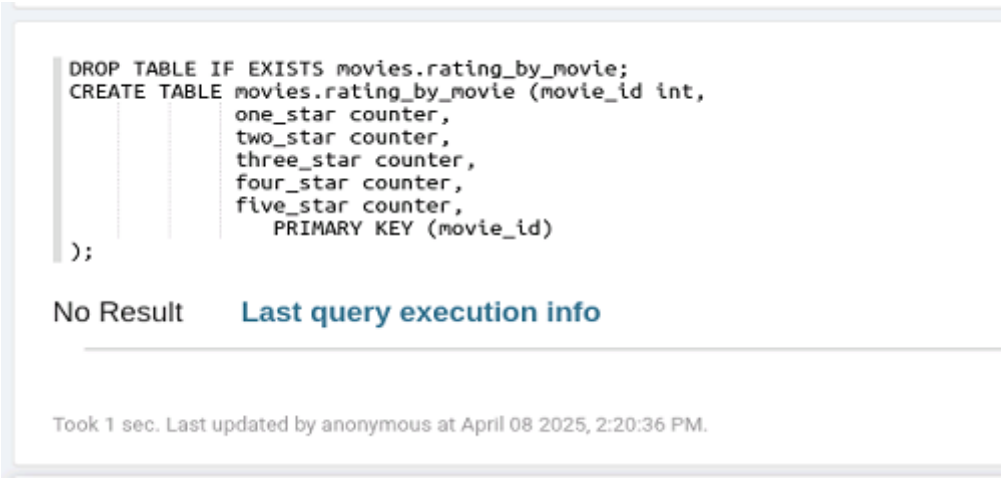
```
SELECT name, title
FROM movies.actors_by_movie
WHERE movie_id = 0110912;
```



Использование столбцов-счетчиков

Создание новой таблицы

```
DROP TABLE IF EXISTS movies.rating_by_movie;
CREATE TABLE movies.rating_by_movie (movie_id int,
        one_star counter,
        two_star counter,
        three_star counter,
        four_star counter,
        five_star counter,
                PRIMARY KEY (movie_id)
);
```



Добавление рейтинга

```
UPDATE movies.rating_by_movie
SET five_star = five_star + 1
WHERE movie_id = 0110912;

UPDATE movies.rating_by_movie
SET four_star = four_star + 1
WHERE movie_id = 0110912;

UPDATE movies.rating_by_movie
```

SET five_star = five_star + 1

WHERE movie_id = 0110912;

UPDATE movies.rating_by_movie

SET five_star = five_star + 1

WHERE movie_id = 0110912;

UPDATE movies.rating_by_movie

SET two_star = two_star + 1

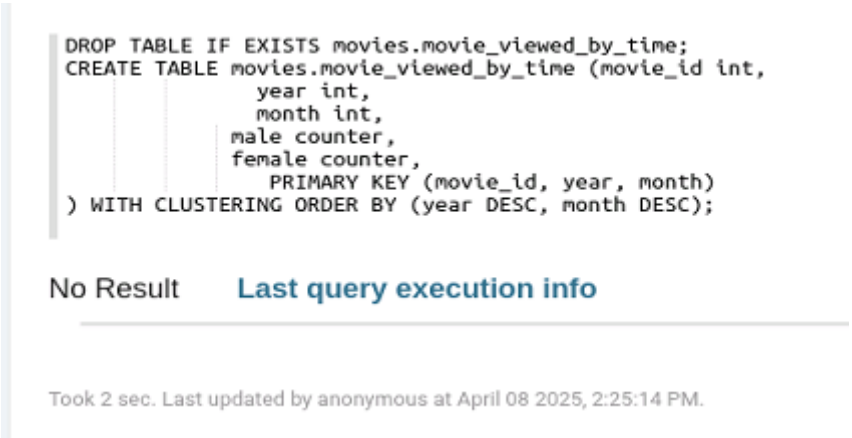
WHERE movie_id = 0110912;

Проверка текущего рейтинга фильма «Криминальное чтиво»

SELECT * FROM movies.rating_by_movie WHERE movie_id = 0110912;

Таблица для подсчёта количества просмотров каждого фильма, разделенных на зрителей-мужчин и женщин, и по месяцам

```
DROP TABLE IF EXISTS movies.movie_viewed_by_time;
CREATE TABLE movies.movie_viewed_by_time (movie_id int,
                year int,
                month int,
            male counter,
            female counter,
                PRIMARY KEY (movie_id, year, month)
) WITH CLUSTERING ORDER BY (year DESC, month DESC);
```



Добавление нескольких примеров значений

```
// Pulp Fiction Views 2019/03
UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 03;

UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 03;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 03;

// Pulp Fiction Views 2019/04
UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
```

```
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

// Pulp Fiction Views 2019/05
UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;

UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;
```

```
// Pulp Fiction Views 2019/03
UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 03;

UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 03;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 03;

// Pulp Fiction Views 2019/04
UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 04;

// Pulp Fiction Views 2019/05
UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;

UPDATE movies.movie_viewed_by_time
SET male = male + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;

UPDATE movies.movie_viewed_by_time
SET female = female + 1
WHERE movie_id = 0110912 AND year = 2019 and month = 05;
```

No Result Last query execution info

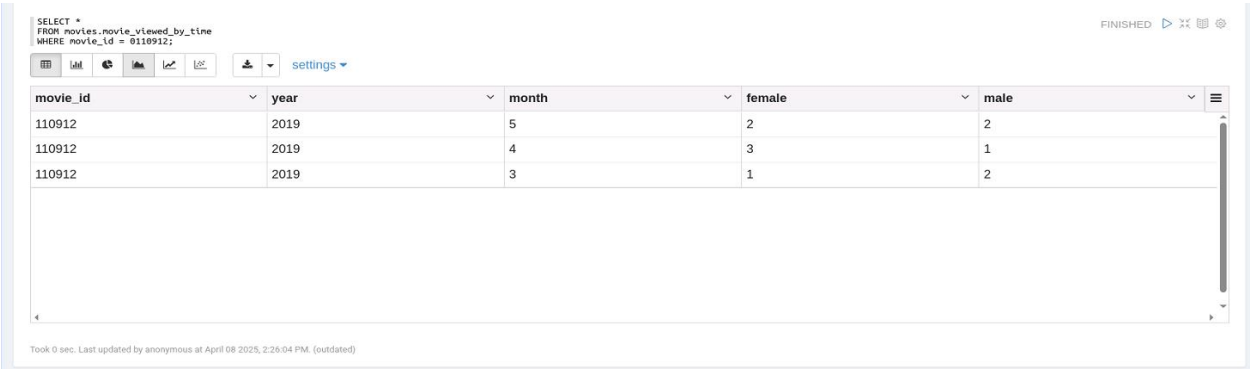
Took 0 sec. Last updated by anonymous at April 08 2025, 2:25:38 PM.

Просмотры фильма "Криминальное чтиво" за все время

SELECT *

FROM movies.movie_viewed_by_time

WHERE movie_id = 0110912;

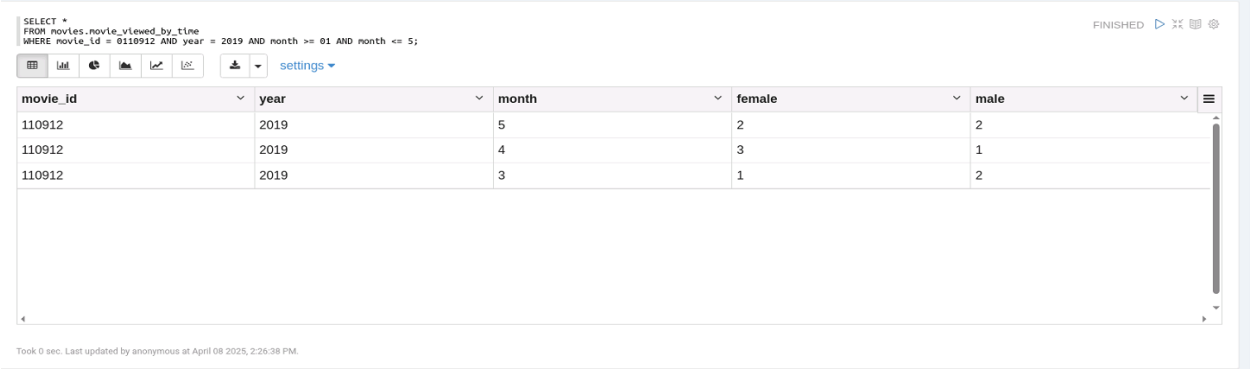


Просмотры фильма "Криминальное чтиво" за один месяц

```
SELECT *
FROM movies.movie_viewed_by_time
WHERE movie_id = 0110912 AND year = 2019 AND month = 05;
```

Просмотры фильма "Криминальное чтиво" за месяц с января по май

```
SELECT *
FROM movies.movie_viewed_by_time
WHERE movie_id = 0110912 AND year = 2019 AND month >= 01 AND month <= 5;
```

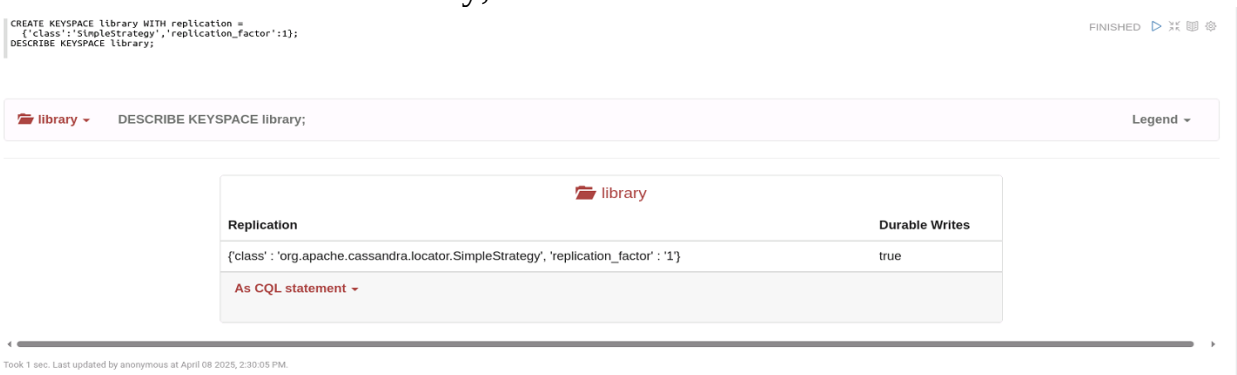


Индивидуальное задание. Вариант 13

Задание:

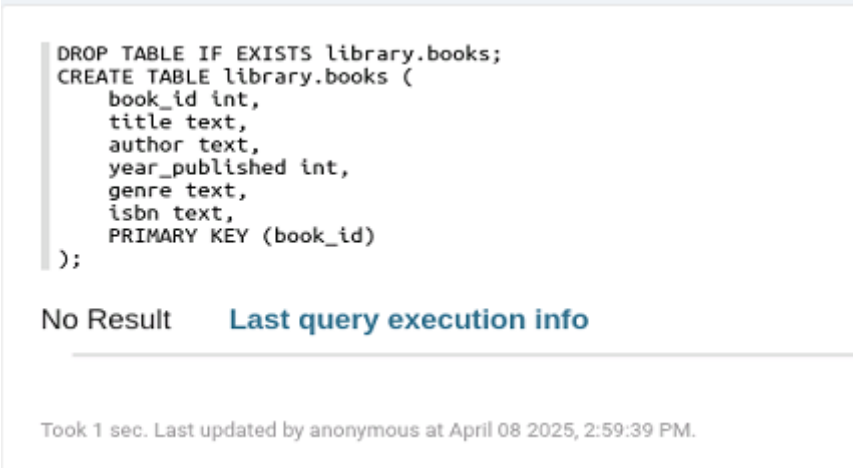
1. Создайте ключспейс library с репликацией SimpleStrategy и коэффициентом репликации 1.

```
CREATE KEYSPACE library WITH replication =
  {'class':'SimpleStrategy','replication_factor':1};
DESCRIBE KEYSPACE library;
```



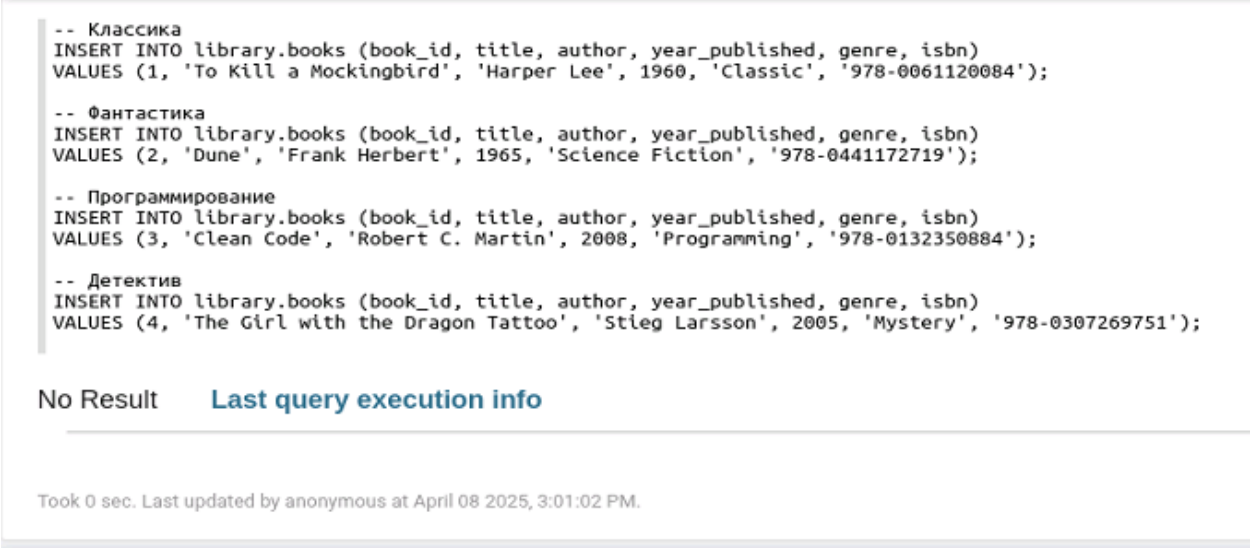
2. Создайте таблицу books в ключспейсе library с полями book_id (int), title (text), author (text), year_published (int), genre (text), isbn (text) и первичным ключом book_id.

```
DROP TABLE IF EXISTS library.books;
CREATE TABLE library.books (
    book_id int,
    title text,
    author text,
    year_published int,
    genre text,
    isbn text,
    PRIMARY KEY (book_id)
);
```



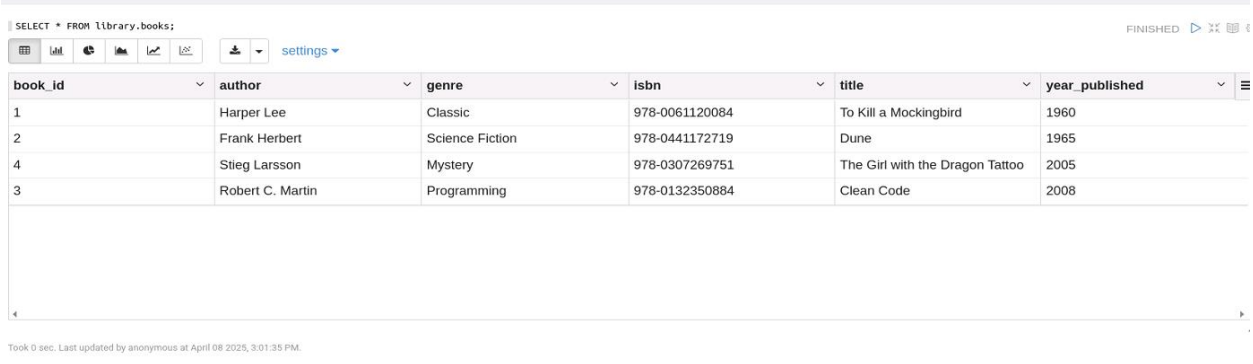
3. Вставьте четыре книги в таблицу books.

```
-- Классика
INSERT INTO library.books (book_id, title, author, year_published, genre, isbn)
VALUES (1, 'To Kill a Mockingbird', 'Harper Lee', 1960, 'Classic', '978-0061120084');

-- Фантастика
INSERT INTO library.books (book_id, title, author, year_published, genre, isbn)
VALUES (2, 'Dune', 'Frank Herbert', 1965, 'Science Fiction', '978-0441172719');

-- Программирование
INSERT INTO library.books (book_id, title, author, year_published, genre, isbn)
VALUES (3, 'Clean Code', 'Robert C. Martin', 2008, 'Programming', '978-0132350884');

-- Детектив
INSERT INTO library.books (book_id, title, author, year_published, genre, isbn)
VALUES (4, 'The Girl with the Dragon Tattoo', 'Stieg Larsson', 2005, 'Mystery', '978-0307269751');
```



4. Выберите все книги из таблицы books.

```
SELECT * FROM library.books;
```

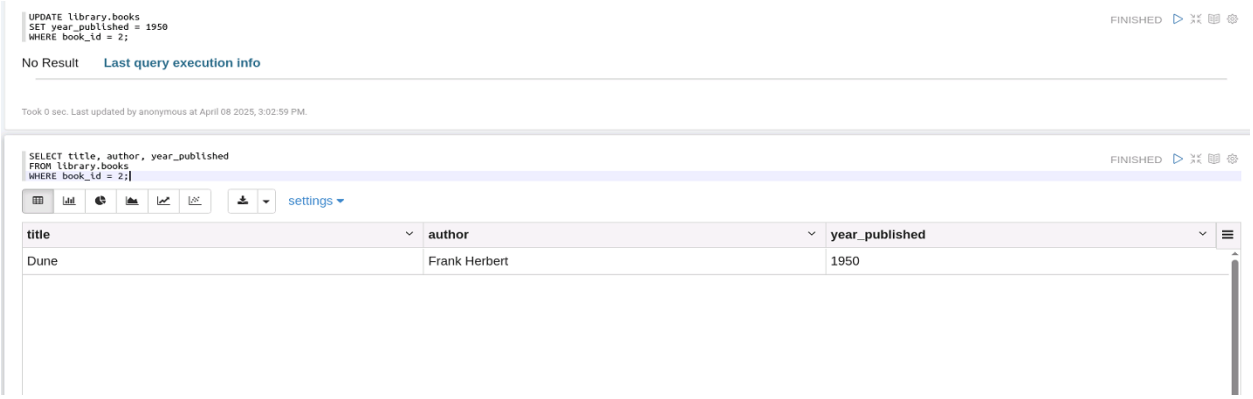


5. Обновите поле year_published книги с book_id = 2 на 1950.

```
UPDATE library.books
SET year_published = 1950
WHERE book_id = 2;
```

Проверка:

```
SELECT title, author, year_published
FROM library.books
WHERE book_id = 2;
```



Заключение

В результате выполнения данной работы, были получены практические и теоретические навыки по работе с Cassandra: создание и настройка keyspace, проектирование таблиц с различными типами данных, выполнение основных операций CRUD (INSERT, SELECT, UPDATE, DELETE) с использованием языка CQL, а также анализ производительности запросов.