

## Отчет

## Лабораторная работа 2.1. Изучение методов хранения данных на основе NoSQL

## ИНДИВИДУАЛЬНОЕ ЗАДАНИЕ

## вариант 17

## Задание 1 (MongoDB)

Найти все фильмы, у которых в массиве genres ровно 2 элемента (\$size).

Через терминал:

```
filmdb> db.movies.find({ genres: { $size: 2 } })
[...
[
  {
    _id: ObjectId('68bfc7d86690dd5e150425d6'),
    id: '0118912',
    title: 'Pulp Fiction',
    year: 1994,
    runtime: 154,
    languages: [ 'en', 'es', 'fr' ],
    rating: 8.9,
    votes: 2084331,
    genres: [ 'Crime', 'Drama' ],
    plotOutline: '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.',
    coverUrl: 'https://m.media-amazon.com/images/M/MV5BNONhMDIzZTU0NTB1Zi00MTI1LWVjMjE2YzViMjE3YzI1MjIjXkEyXkFqcGdeQXVyNzkwMjQ5N2M0_V1_SV150_CR1,0,101,150_.jpg',
    actors: [
      { actorID: '0000619', name: 'Tim Roth' },
      { actorID: '0001625', name: 'Amanda Plummer' },
      { actorID: '0022503', name: 'Laura Lovelace' },
      { actorID: '0000237', name: 'John Travolta' },
      { actorID: '0000160', name: 'Samuel L. Jackson' },
      { actorID: '0042851', name: 'Phil LaMarr' },
      { actorID: '0001844', name: 'Frank Whaley' },
      { actorID: '0024882', name: 'Burr Steers' },
      { actorID: '0000246', name: 'Bruce Willis' },
      { actorID: '0000609', name: 'Ving Rhames' },
      { actorID: '0000235', name: 'Uma Thurman' },
      { actorID: '0000233', name: 'Quentin Tarantino' }
    ],
    directors: [ { directorID: '0000233', name: 'Quentin Tarantino' } ],
    producers: [
      { producerID: '0004744', name: 'Lawrence Bender' },
      { producerID: '0000362', name: 'Danny DeVito' },
      { producerID: '0321623', name: 'Richard W. Gladstein' },
      { producerID: '0787834', name: 'Michael Shamberg' },
      { producerID: '0792849', name: 'Stacey Sher' },
      { producerID: '0918424', name: 'Bob Weinstein' },
      { producerID: '0000544', name: 'Harvey Weinstein' }
    ]
  },
  {
    _id: ObjectId('68bfc9d16690dd5e150425d6'),
    id: '0133093',
    title: 'The Matrix',
    year: 1999,
    runtime: 136,
    languages: [ 'en' ],
    rating: 8.7,
    votes: 3496539,
    genres: [ 'Action', 'Sci-Fi' ],
    plotOutline: 'Thomas A. Anderson is a man living two lives...',
    coverUrl: 'https://m.media-amazon.com/images/M/MV5BNzQzOTk3OTAtNDQ0Zi00OTZlLWVjMjE2YzViMjE3YzI1MjIjXkEyXkFqcGdeQXVyNjU0OTQ0OTY0_V1_SX101_CR0,0,101,150_.jpg',
    actors: [
      { actorID: '0000204', name: 'Keanu Reeves' },
      { actorID: '0000401', name: 'Laurence Fishburne' }
    ],
    directors: [
      { directorID: '0005154', name: 'Lana Wachowski' },
      { directorID: '0005152', name: 'Lilly Wachowski' }
    ],
    producers: [ { producerID: '0075732', name: 'Bruce Berman' } ]
  }
]
```

```

        _id: ObjectId('68bff63f154255260cfa3382'),
        id: '0068646',
        title: 'The Godfather',
        genres: [ 'Crime', 'Drama' ],
        year: 1972,
        rating: 9.2,
        rank: 2
    },
    {
        _id: ObjectId('68bff63f154255260cfa3383'),
        id: '0071562',
        title: 'The Godfather: Part II',
        genres: [ 'Crime', 'Drama' ],
        year: 1974,
        rating: 9,
        rank: 3
    },
    {
        _id: ObjectId('68bff63f154255260cfa338c'),
        id: '0109830',
        title: 'Forrest Gump',
        genres: [ 'Drama', 'Romance' ],
        year: 1994,
        rating: 8.7,
        rank: 13
    },
    {
        _id: ObjectId('68bff63f154255260cfa3392'),
        id: '0047478',
        title: 'Seven Samurai',
        genres: [ 'Adventure', 'Drama' ],
        year: 1954,
        rating: 8.6,
        rank: 20
    },
    {
        _id: ObjectId('68bff63f154255260cfa3394'),
        id: '0317248',
        title: 'City of God',
        genres: [ 'Crime', 'Drama' ],
        year: 2002,
        rating: 8.6,
        rank: 22
    },
    {
        _id: ObjectId('68bff63f154255260cfa339a'),
        id: '0120815',
        title: 'Saving Private Ryan',
        genres: [ 'Drama', 'War' ],
        year: 1998,
        rating: 8.5,
        rank: 28
    },
    {
        _id: ObjectId('68bff63f154255260cfa33a9'),
        id: '0103064',
        title: 'Terminator 2: Judgment Day',
        genres: [ 'Action', 'Sci-Fi' ],
        year: 1991,
        rating: 8.5,
        rank: 43
    },
    {
        id: '0317248',
        title: 'City of God',
        genres: [ 'Crime', 'Drama' ],
        year: 2002,
        rating: 8.6,
        rank: 22
    },
    {
        _id: ObjectId('68bff63f154255260cfa339a'),
        id: '0120815',
        title: 'Saving Private Ryan',
        genres: [ 'Drama', 'War' ],
        year: 1998,
        rating: 8.5,
        rank: 28
    },
    {
        _id: ObjectId('68bff63f154255260cfa33a9'),
        id: '0103064',
        title: 'Terminator 2: Judgment Day',
        genres: [ 'Action', 'Sci-Fi' ],
        year: 1991,
        rating: 8.5,
        rank: 43
    },
    {
        _id: ObjectId('68bff63f154255260cfa33aa'),
        id: '2582802',
        title: 'Whiplash',
        genres: [ 'Drama', 'Music' ],
        year: 2014,
        rating: 8.5,
        rank: 44
    },
    {
        _id: ObjectId('68bff63f154255260cfa33ac'),
        id: '0047396',
        title: 'Rear Window',
        genres: [ 'Mystery', 'Thriller' ],
        year: 1954,
        rating: 8.5,
        rank: 46
    },
    {
        _id: ObjectId('68bff63f154255260cfa33ad'),
        id: '0082971',
        title: 'Raiders of the Lost Ark',
        genres: [ 'Action', 'Adventure' ],
        year: 1981,
        rating: 8.5,
        rank: 47
    },
    {
        _id: ObjectId('68bff63f154255260cfa33b0'),
        id: '0070788',
        title: 'Apocalypse Now',
        genres: [ 'Drama', 'War' ],
        year: 1979,
        rating: 8.4,
        rank: 50
    }
}
filmdb>

```

На питоне:

```

from pymongo import MongoClient

client = MongoClient("mongodb://root:abc123!@localhost:27017/")
db = client.filmdb
movies_collection = db.movies

query = { "genres": { "$size": 2 } }
results = movies_collection.find(query)

for movie in results:
    title = movie.get("title", "No Title")
    genres = movie.get("genres", [])
    print(f"{title} – Жанры: {genres}")

```

```

Pulp Fiction – Жанры: ['Crime', 'Drama']
The Matrix – Жанры: ['Action', 'Sci-Fi']
The Godfather – Жанры: ['Crime', 'Drama']
The Godfather: Part II – Жанры: ['Crime', 'Drama']
Forrest Gump – Жанры: ['Drama', 'Romance']
Seven Samurai – Жанры: ['Adventure', 'Drama']
City of God – Жанры: ['Crime', 'Drama']
Saving Private Ryan – Жанры: ['Drama', 'War']
Terminator 2: Judgment Day – Жанры: ['Action', 'Sci-Fi']
Whiplash – Жанры: ['Drama', 'Music']
Rear Window – Жанры: ['Mystery', 'Thriller']
Raiders of the Lost Ark – Жанры: ['Action', 'Adventure']
Apocalypse Now – Жанры: ['Drama', 'War']

```

## *Задание 2 (Neo4j)*

Найти всех актеров, которые снимались в фильме, выпущенном в год их рождения.

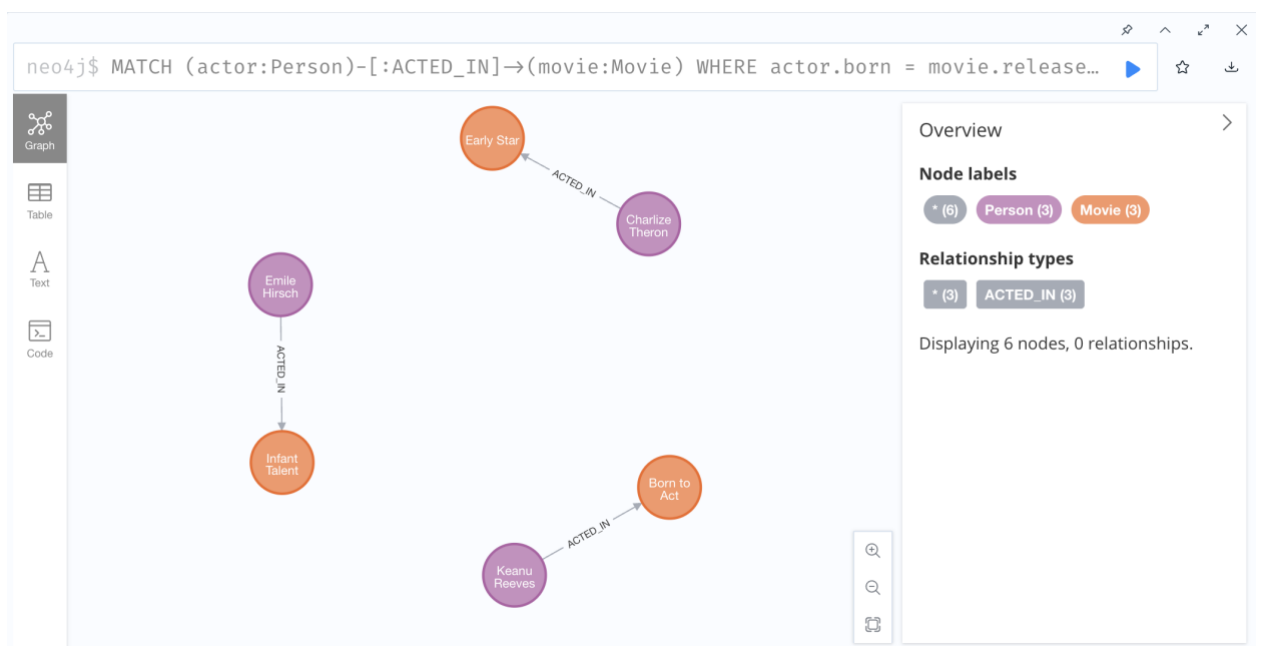
```

1 MATCH (actor:Person)-[:ACTED_IN]→(movie:Movie)
2 WHERE actor.born = movie.released
3 RETURN actor.name AS Actor, movie.title AS Movie, actor.born AS BirthYear,
  movie.released AS ReleaseYear
4

```

	Actor	Movie	BirthYear	ReleaseYear
1	"Keanu Reeves"	"Born to Act"	1964	1964
2	"Charlize Theron"	"Early Star"	1975	1975
3	"Emile Hirsch"	"Infant Talent"	1985	1985

Started streaming 3 records after 201 ms and completed after 413 ms.



### Задание 3 (Redis)

Сохранить в хэш request:хуз данные о ip, user\_agent, timestamp. Получить только ip и user\_agent с помощью HMGET.

На питоне:

```

import redis
from datetime import datetime

# подключение к Redis
r = redis.Redis(host="localhost", port=6379, db=0)

# сохраняем данные в хэш
r.hset("request:xyz", mapping={
    "ip": "192.168.0.1",
    "user_agent": "Mozilla/5.0",
    "timestamp": datetime.now().isoformat()
})

# получаем только ip и user_agent
ip, user_agent = r.hmget("request:xyz", "ip", "user_agent")

print("IP:", ip.decode())
print("User-Agent:", user_agent.decode())

```

```

IP: 192.168.0.1
User-Agent: Mozilla/5.0

```

Проверим через терминал: сначала выведем все содержимое хэша, а потом только ip и user\_agent с помощью HMGET.

```

[redis-1:6379> HGETALL request:xyz
1) "ip"
2) "192.168.0.1"
3) "user_agent"
4) "Mozilla/5.0"
5) "timestamp"
6) "2025-09-09T15:23:39.551179"
[redis-1:6379> HMGET request:xyz ip user_agent
1) "192.168.0.1"
2) "Mozilla/5.0"
redis-1:6379> █

```

Только при помощи терминала:

```
redis-1:6379> DEL request:xyz
(integer) 1
redis-1:6379> HSET request:xyz ip "192.168.1.100" user_agent "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) Chrome/127.0.0.1 Safari/537.36" timestamp "1725891234"
(integer) 3
redis-1:6379> HGETALL request:xyz
1) "timestamp"
2) "1725891234"
3) "user_agent"
4) "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) Chrome/127.0.0.1 Safari/537.36"
5) "ip"
6) "192.168.1.100"
redis-1:6379> HMGET request:xyz ip user_agent
1) "192.168.1.100"
2) "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) Chrome/127.0.0.1 Safari/537.36"
redis-1:6379> █
```

Я удалила старый ключ, заново записала в Redis хэш с ip, user\_agent и timestamp, проверила все данные и выбрала отдельно только ip и user\_agent.