

## Лабораторная работа №6

### Создание базы данных в MongoDB

#### 1. Создание коллекций

```
db.createCollection("users")

db.createCollection("gym")

db.createCollection("workers")

db.createCollection("tickets")

db.createCollection("sales")
```

#### 2. Создание индекса

```
db.gym.createIndex(
  {
    "city": 1,
    "street": 1
  }
)
```

#### 3. Заполнение данными

```
db.users.insertMany([
  {
    "ticket_id": null,
    "phone": 78211231234,
    "name": "виргилий",
    "last_payment": null
  },
  {
    "ticket_id": null,
    "phone": 78212394524,
    "name": "горацио",
    "last_payment": null
  },
  {
    "ticket_id": null,
    "phone": 79212312521,
    "name": "арсений",
    "last_payment": null
  },
  {
```

```

        "ticket_id": null,
        "phone": 78211231234,
        "name": "олег",
        "last_payment": null
    },
    {
        "ticket_id": null,
        "phone": 78212394524,
        "name": "фридрих",
        "last_payment": null
    },
    {
        "ticket_id": null,
        "phone": 79212312521,
        "name": "арсений",
        "last_payment": null
    },
    {
        "ticket_id": null,
        "phone": 78245562582,
        "name": "пигмалион",
        "last_payment": null
    },
    {
        "ticket_id": null,
        "phone": 78215756752,
        "name": "георгий",
        "last_payment": null
    },
    {
        "_id": { "$oid": "663ac9c7d53562158486fb36" },
        "ticket_id": null,
        "phone": 79214573452,
        "name": "август",
        "last_payment": null
    },
    {
        "_id": { "$oid": "663ac9d1d53562158486fb38" },
        "ticket_id": null,
        "phone": 78223464569,
        "name": "клеопатра",
        "last_payment": null
    }
}
])

db.comments.insertMany([
    {
        "gym_id": 1,
        "user_id": 1,
        "date": "01-02-2023",
        "text": "Отличный зал"
    },
    {

```

```

        "gym_id": 2,
        "user_id": 3,
        "date": "02-01-2024",
        "text": "Все понравилось!"
    },
    {
        "gym_id": 3,
        "user_id": 5,
        "date": "03-12-2023",
        "text": "Самый лучший тренажерный зал!"
    },
    {
        "gym_id": 4,
        "user_id": 10,
        "date": "15-10-2022",
        "text": "Лучше бы даже не ходил туда"
    }
]
)

```

```

db.gym.insertMany([
    {
        "gym_id": 1,
        "city": "санкт-петербург",
        "street": "комсомолов",
        "house": 1,
        "subway_near": "лесная"
    },
    {
        "gym_id": 2,
        "city": "санкт-петербург",
        "street": "кима",
        "house": 6,
        "subway_near": "василеостровская"
    },
    {
        "gym_id": 3,
        "city": "москва",
        "street": "ленинская",
        "house": 3,
        "subway_near": "зеленая"
    },
    {
        "gym_id": 4,
        "city": "москва",
        "street": "смоленская",
        "house": 10,
        "subway_near": "девяткино"
    },
    {
        "gym_id": 5,
        "city": "москва",
        "street": "ростовская",
        "house": 21,

```

```

        "subway_near": "кубчино"
    },
    {
        "gym_id": 6,
        "city": "томск",
        "street": "моховая",
        "house": 4,
        "subway_near": "первое"
    },
    {
        "gym_id": 7,
        "city": "томск",
        "street": "кузнецкий мост",
        "house": 90,
        "subway_near": "второе"
    },
    {
        "gym_id": 8,
        "city": "новгород",
        "street": "неглинная",
        "house": 11,
        "subway_near": "старое"
    },
    {
        "gym_id": 9,
        "city": "новгород",
        "street": "трубная",
        "house": 7,
        "subway_near": "новое"
    },
    {
        "gym_id": 10,
        "city": "новгород",
        "street": "олимпийская",
        "house": 9,
        "subway_near": "владимир"
    }
]
]

```

#### 4. Создание представления

Представление связывает коллекции gym и workers по полю gym\_id и оставляет поля salary, city, name

```

db.createView(
    "gymView",
    "gym",
    [
        {
            $lookup: {
                from: "workers",
                localField: "gym_id",
                foreignField: "gym_id",
                as: "joined_workers"
            }
        }
    ]
)

```

```

    },
    {
      $project: {
        _id: 0,
        "joined_workers.salary": 1,
        "joined_workers.name": 1,
        "city": 1
      }
    },
    {
      $unwind: "$joined_workers"
    }
  ]
)

```

## 5. Пример данных

Представления:

```

lab-6> db.gymView.find()
[
  {
    city: 'санкт-петербург',
    joined_workers: { salary: 10000, name: 'ницше' }
  },
  {
    city: 'санкт-петербург',
    joined_workers: { salary: 20000.5, name: 'франческо' }
  },
  {
    city: 'москва',
    joined_workers: { salary: 20000.5, name: 'луиджи' }
  },
  {
    city: 'москва',
    joined_workers: { salary: 20000.5, name: 'касиус' }
  },
  {
    city: 'москва',
    joined_workers: { salary: 20000.5, name: 'мухамед' }
  },
  { city: 'москва', joined_workers: { salary: 20000.5, name: 'изя' } },
  { city: 'москва', joined_workers: { salary: 20000.5, name: 'тони' } },
  {
    city: 'томск',
    joined_workers: { salary: 20000.5, name: 'гаргона' }
  },
  {
    city: 'томск',
    joined_workers: { salary: 20000.5, name: 'патрик' }
  },
  { city: 'томск', joined_workers: { salary: 20000.5, name: 'арсен' } }
]

```

Коллекции gym:

```
lab-6> db.gym.find()
[
  {
    _id: ObjectId('663ac628d53562158486fafa'),
    gym_id: 1,
    city: 'санкт-петербург',
    street: 'комсомолов',
    house: 1,
    subway_near: 'лесная'
  },
  {
    _id: ObjectId('663ac641d53562158486fafc'),
    gym_id: 2,
    city: 'санкт-петербург',
    street: 'кима',
    house: 6,
    subway_near: 'василеостровская'
  },
  {
    _id: ObjectId('663ac690d53562158486fafe'),
    gym_id: 3,
    city: 'москва',
    street: 'ленинская',
    house: 3,
    subway_near: 'зеленая'
  },
  {
    _id: ObjectId('663ac703d53562158486fb00'),
    gym_id: 4,
    city: 'москва',
    street: 'смоленская',
    house: 10,
    subway_near: 'девяtkино'
  },
]
```