TruongVietVu_2274802011045

1. Mở tập tin restaurant_documents.txt và nhập dữ liệu theo cấu trúc trên

TruongVietVu_2274802011045
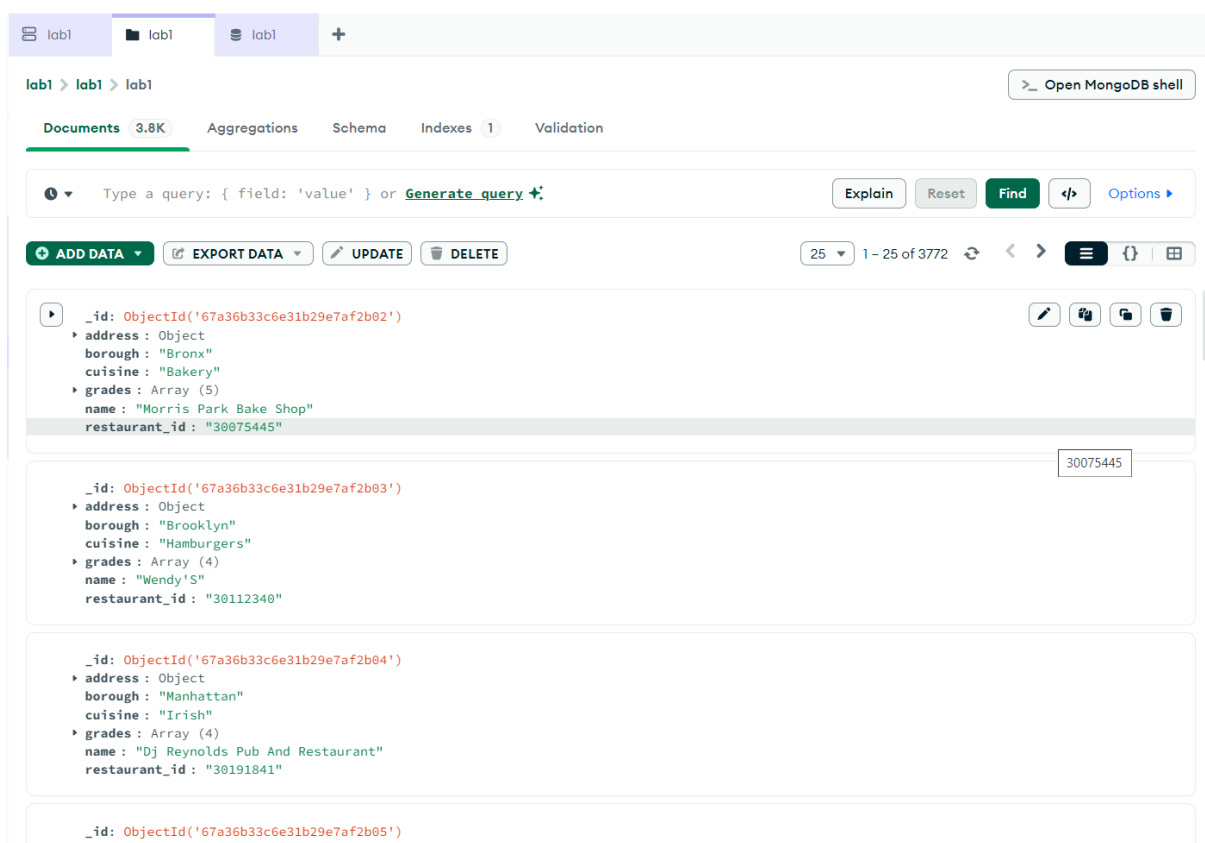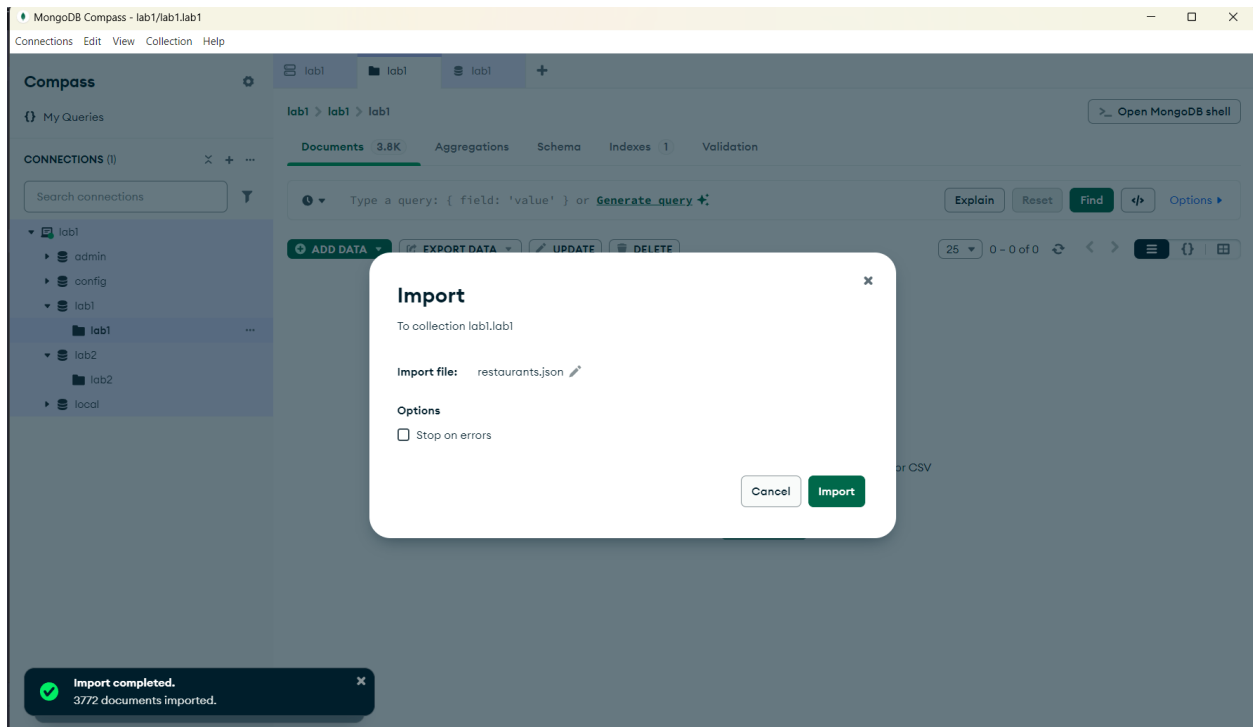
2. Hiển thị tất cả document có trong restaurant

```
> use lab1
< switched to db lab1
> db.lab1.find()
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b02'),
    address: {
      building: '1007',
      coord: [
        -73.856077,
        40.848447
      ],
      street: 'Morris Park Ave',
      zipcode: '10462'
    },
    borough: 'Bronx',
    cuisine: 'Bakery',
    grades: [
      {
        date: 2014-03-03T00:00:00.000Z,
        grade: 'A',
        score: 2
      },
      {
        date: 2013-09-11T00:00:00.000Z,
        grade: 'A',
        score: 6
      },
      {
        date: 2013-01-24T00:00:00.000Z,
```

3. Hiển thị các key restaurant_id, name, borough, cuisine

```
> db.lab1.find({}, { "restaurant_id": 1, "name": 1, "borough": 1, "cuisine": 1 })
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b02'),
    borough: 'Bronx',
    cuisine: 'Bakery',
    name: 'Morris Park Bake Shop',
    restaurant_id: '30075445'
  }
  {
    _id: ObjectId('67a36b33c6e31b29e7af2b03'),
    borough: 'Brooklyn',
    cuisine: 'Hamburgers',
    name: "Wendy'S",
    restaurant_id: '30112340'
  }
  {
    _id: ObjectId('67a36b33c6e31b29e7af2b04'),
    borough: 'Manhattan',
    cuisine: 'Irish',
    name: 'Dj Reynolds Pub And Restaurant',
    restaurant_id: '30191841'
  }
  {
    _id: ObjectId('67a36b33c6e31b29e7af2b05'),
    borough: 'Brooklyn',
    cuisine: 'American ',
```

4. Hiển thị các key restaurant_id, name, borough, cuisine nhưng không hiển thị _id

```
> db.lab1.find({}, { "restaurant_id": 1, "name": 1, "borough": 1, "cuisine": 1, "_id": 0 })
< {
    borough: 'Bronx',
    cuisine: 'Bakery',
    name: 'Morris Park Bake Shop',
    restaurant_id: '30075445'
  }
  {
    borough: 'Brooklyn',
    cuisine: 'Hamburgers',
    name: "Wendy'S",
    restaurant_id: '30112340'
  }
  {
    borough: 'Manhattan',
    cuisine: 'Irish',
    name: 'Dj Reynolds Pub And Restaurant',
    restaurant_id: '30191841'
  }
  {
    borough: 'Brooklyn',
    cuisine: 'American ',
    name: 'Riviera Caterer',
    restaurant_id: '40356018'
  }
  {
    borough: 'Queens',
    cuisine: 'Jewish/Kosher',
```

5. Hiển thị tất cả restaurant có borough là Bronx

```
> db.lab1.find({'borough':'Bronx'})
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b02'),
    address: {
      building: '1007',
      coord: [
        -73.856077,
        40.848447
      ],
      street: 'Morris Park Ave',
      zipcode: '10462'
    },
    borough: 'Bronx',
    cuisine: 'Bakery',
    grades: [
      {
        date: 2014-03-03T00:00:00.000Z,
        grade: 'A',
        score: 2
      },
      {
        date: 2013-09-11T00:00:00.000Z,
        grade: 'A',
        score: 6
      },
      {
        date: 2013-01-24T00:00:00.000Z,
        grade: 'A',
        score: 10
```

6. Hiển thị 5 restaurant đầu tiên có borough là Bronx

```
> db.lab1.find({'borough':'Bronx'}).limit(5)
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b02'),
    address: {
      building: '1007',
      coord: [
        -73.856077,
        40.848447
      ],
      street: 'Morris Park Ave',
      zipcode: '10462'
    },
    borough: 'Bronx',
    cuisine: 'Bakery',
    grades: [
      {
        date: 2014-03-03T00:00:00.000Z,
        grade: 'A',
        score: 2
      },
      {
        date: 2013-09-11T00:00:00.000Z,
        grade: 'A',
        score: 6
      },
      {
        date: 2013-01-24T00:00:00.000Z,
        grade: 'A',
```

7. Hiển thị 5 restaurant tiếp theo sau khi đã bỏ qua 5 restaurant đầu có borough là Bronx

```
> db.lab1.find({'borough':'Bronx'}).skip(5).limit(5)
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b3f'),
    address: {
      building: '658',
      coord: [
        -73.81363999999999,
        40.82941100000001
      ],
      street: 'Clarence Ave',
      zipcode: '10465'
    },
    borough: 'Bronx',
    cuisine: 'American ',
    grades: [
      {
        date: 2014-06-21T00:00:00.000Z,
        grade: 'A',
        score: 5
      },
      {
        date: 2012-07-11T00:00:00.000Z,
        grade: 'A',
        score: 10
      }
    ],
    name: 'Manhem Club',
    restaurant_id: '40364363'
```

8. Cho biết những restaurant có điểm số > 90

```
> db.lab1.find({ "grades.score": { $gt: 90 } })
< {
    _id: ObjectId('67a36b33c6e31b29e7af2c60'),
    address: {
      building: '65',
      coord: [
        -73.9782725,
        40.7624022
      ],
      street: 'West   54 Street',
      zipcode: '10019'
    },
    borough: 'Manhattan',
    cuisine: 'American ',
    grades: [
      {
        date: 2014-08-22T00:00:00.000Z,
        grade: 'A',
        score: 11
      },
      {
        date: 2014-03-28T00:00:00.000Z,
        grade: 'C',
        score: 131
      },
      {
        date: 2013-09-25T00:00:00.000Z,
        grade: 'A',
        score: 11
```

9. Cho biết những restaurant có điểm số > 80 và < 100

```
> db.lab1.find({"grades": { $elemMatch: { "score": { $gt: 80, $lt: 100 } } }})

< {
    _id: ObjectId('67a36b33c6e31b29e7af2d01'),
    address: {
      building: '345',
      coord: [
        -73.9864626,
        40.7266739
      ],
      street: 'East 6 Street',
      zipcode: '10003'
    },
    borough: 'Manhattan',
    cuisine: 'Indian',
    grades: [
      {
        date: 2014-09-15T00:00:00.000Z,
        grade: 'A',
        score: 5
      },
      {
        date: 2014-01-14T00:00:00.000Z,
        grade: 'A',
        score: 8
      },
      {
        date: 2013-05-30T00:00:00.000Z,
        grade: 'A',
```

10. Cho biết restaurant có có tung độ (latitude) < -95.754.168

```
> db.lab1.find({ "address.coord.0": { $lt: -95.754168 } })
< {
    _id: ObjectId('67a36b33c6e31b29e7af314a'),
    address: {
      building: '3707',
      coord: [
        -101.8945214,
        33.5197474
      ],
      street: '82 Street',
      zipcode: '11372'
    },
    borough: 'Queens',
    cuisine: 'American ',
    grades: [
      {
        date: 2014-06-04T00:00:00.000Z,
        grade: 'A',
        score: 12
      },
      {
        date: 2013-11-07T00:00:00.000Z,
        grade: 'B',
        score: 19
      },
      {
        date: 2013-05-17T00:00:00.000Z,
        grade: 'A',
        score: 11
```

11. Cho biết restaurant có borough là Brooklyn và có cuisine là American

```
> db.lab1.find({"borough": "Brooklyn", "cuisine": "American "})
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b05'),
    address: {
      building: '2780',
      coord: [
        -73.98241999999999,
        40.579505
      ],
      street: 'Stillwell Avenue',
      zipcode: '11224'
    },
    borough: 'Brooklyn',
    cuisine: 'American ',
    grades: [
      {
        date: 2014-06-10T00:00:00.000Z,
        grade: 'A',
        score: 5
      },
      {
        date: 2013-06-05T00:00:00.000Z,
        grade: 'A',
        score: 7
      },
      {
        date: 2012-04-13T00:00:00.000Z,
        grade: 'A',
        score: 12
```

12. Cho biết restaurant có borough là Manhattan và có grade là A

```
> db.lab1.find({ "borough": "Manhattan", "grades.grade": "A" })
< {
    _id: ObjectId('67a36b33c6e31b29e7af2b04'),
    address: {
      building: '351',
      coord: [
        -73.98513559999999,
        40.7676919
      ],
      street: 'West   57 Street',
      zipcode: '10019'
    },
    borough: 'Manhattan',
    cuisine: 'Irish',
    grades: [
      {
        date: 2014-09-06T00:00:00.000Z,
        grade: 'A',
        score: 2
      },
      {
        date: 2013-07-22T00:00:00.000Z,
        grade: 'A',
        score: 11
      },
      {
        date: 2012-07-31T00:00:00.000Z,
        grade: 'A',
        score: 12
```

13. Cho biết có bao nhiêu restaurant theo borough

```
> db.lab1.aggregate([
    { $group: { _id: "$borough", total_restaurants: { $sum: 1 } } }
  ])
< {
    _id: 'Queens',
    total_restaurants: 738
  }
  {
    _id: 'Brooklyn',
    total_restaurants: 684
  }
  {
    _id: 'Staten Island',
    total_restaurants: 158
  }
  {
    _id: 'Manhattan',
    total_restaurants: 1883
  }
  {
    _id: 'Bronx',
    total_restaurants: 309
  }
```

14. Cho biết tổng số score của các restaurant theo borough

```
> db.lab1.aggregate([
      { $unwind: "$grades" },
      { $group: { _id: "$borough", total_score: { $sum: "$grades.score" } } } }
  ])

< {
    _id: 'Manhattan',
    total_score: 102925
  }
  {
    _id: 'Brooklyn',
    total_score: 37648
  }
  {
    _id: 'Bronx',
    total_score: 16966
  }
  {
    _id: 'Queens',
    total_score: 42340
  }
  {
    _id: 'Staten Island',
    total_score: 7443
  }
```

15. Cho biết tổng số score của các restaurant theo borough và chỉ lấy những score > 50

```
> db.lab1.aggregate([
      { $unwind: "$grades" },
      { $match: { "grades.score": { $gt: 50 } } },
      { $group: { _id: "$borough", total_score: { $sum: "$grades.score" } } }
  ])
< {
    _id: 'Bronx',
    total_score: 402
  }
  {
    _id: 'Staten Island',
    total_score: 110
  }
  {
    _id: 'Manhattan',
    total_score: 2226
  }
  {
    _id: 'Brooklyn',
    total_score: 881
  }
  {
    _id: 'Queens',
    total_score: 670
  }
```

16. Cho biết tổng số score cho từng restaurant

```
> db.lab1.aggregate([
      { $unwind: "$grades" },
      { $group: { _id: "$name", total_score: { $sum: "$grades.score" } } } }
  ])
< {
    _id: 'The Gate',
    total_score: 55
  }
  {
    _id: 'Vice Versa',
    total_score: 48
  }
  {
    _id: 'Whaler Bar, Cafe Buon Giorno',
    total_score: 79
  }
  {
    _id: 'Anyway Cafe Bar',
    total_score: 122
  }
  {
    _id: 'Original Pizza',
    total_score: 47
  }
  {
    _id: 'The Best Italian Pizza',
    total_score: 124
  }
  {
```

17. Cho biết số đánh giá (grade) của các restaurant theo từng borough

```
> db.lab1.aggregate([
      { $unwind: "$grades" },
      { $group: { _id: "$borough", total_grades: { $sum: 1 } } }
  ])
< {
    _id: 'Brooklyn',
    total_grades: 3276
  }
  {
    _id: 'Bronx',
    total_grades: 1501
  }
  {
    _id: 'Queens',
    total_grades: 3649
  }
  {
    _id: 'Staten Island',
    total_grades: 668
  }
  {
    _id: 'Manhattan',
    total_grades: 9048
  }
```

18. Cho biết số đánh giá (grade) của từng restaurant.

```
> db.lab1.aggregate([
      { $unwind: "$grades" },
      { $group: { _id: "$name", total_grades: { $sum: 1 } } } ]
  ])
< {
    _id: 'Highlands Cafe Restaurant',
    total_grades: 6
  }
  {
    _id: 'Metro Grill',
    total_grades: 4
  }
  {
    _id: "Dizzy'S Restaurant",
    total_grades: 6
  }
  {
    _id: 'Rockefeller U/Abby Bldg',
    total_grades: 5
  }
  {
    _id: "Teresa'S Resturant",
    total_grades: 7
  }
  {
    _id: 'G',
    total_grades: 4
  }
  {
```