MongoDB Case Study 1

Database and Collection Creation

Create Database   ✖

Database Name

> store

Collection Name

> storedata|

☐ **Time-Series**
   Time-series collections efficiently store sequences of measurements over a period
   of time. Learn More ⧉

❯ **Additional preferences** (e.g. Custom collation, Clustered collections)

                                             Cancel   **Create Database**
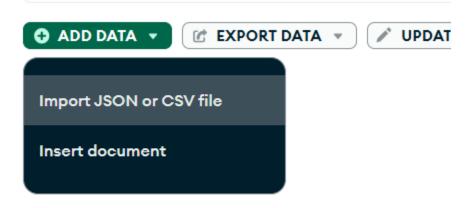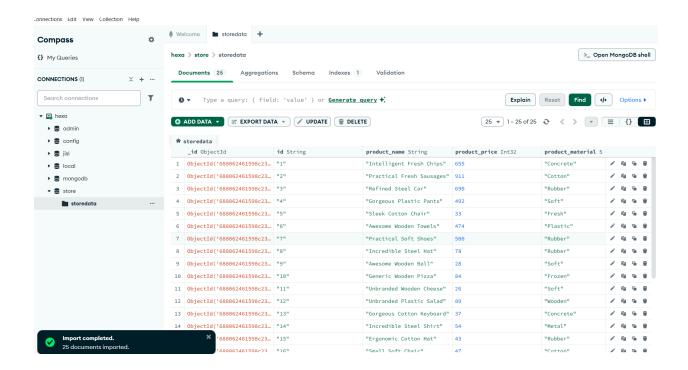
Output

```
> show dbs
< admin      40.00 KiB
  config    108.00 KiB
  jisl       72.00 KiB
  local      72.00 KiB
  mongodb    72.00 KiB
  store      40.00 KiB
```

```
> show collections
< storedata
```

Adding Collection Data

Compass

{} My Queries

CONNECTIONS (1)   ✕ + ⋯

hexa > store > storedata

>_ Open MongoDB shell

| | Documents 25 | Aggregations | Schema | Indexes 1 | Validation |

Type a query: { field: 'value' } or **Generate query** ✦   Explain   Reset   Find   </>   Options ▶

ADD DATA ▾   EXPORT DATA ▾   ✎ UPDATE   🗑 DELETE   25 ▾ 1 – 25 of 25

🏠 storedata

	_id ObjectId	id String	product_name String	product_price Int32	product_material S
1	ObjectId('688062461598c23…	"1"	"Intelligent Fresh Chips"	655	"Concrete"
2	ObjectId('688062461598c23…	"2"	"Practical Fresh Sausages"	911	"Cotton"
3	ObjectId('688062461598c23…	"3"	"Refined Steel Car"	690	"Rubber"
4	ObjectId('688062461598c23…	"4"	"Gorgeous Plastic Pants"	492	"Soft"
5	ObjectId('688062461598c23…	"5"	"Sleek Cotton Chair"	33	"Fresh"
6	ObjectId('688062461598c23…	"6"	"Awesome Wooden Towels"	474	"Plastic"
7	ObjectId('688062461598c23…	"7"	"Practical Soft Shoes"	500	"Rubber"
8	ObjectId('688062461598c23…	"8"	"Incredible Steel Hat"	78	"Rubber"
9	ObjectId('688062461598c23…	"9"	"Awesome Wooden Ball"	28	"Soft"
10	ObjectId('688062461598c23…	"10"	"Generic Wooden Pizza"	84	"Frozen"
11	ObjectId('688062461598c23…	"11"	"Unbranded Wooden Cheese"	26	"Soft"
12	ObjectId('688062461598c23…	"12"	"Unbranded Plastic Salad"	89	"Wooden"
13	ObjectId('688062461598c23…	"13"	"Gorgeous Cotton Keyboard"	37	"Concrete"
14	ObjectId('688062461598c23…	"14"	"Incredible Steel Shirt"	54	"Metal"
	'688062461598c23	"15"	"Ergonomic Cotton Hat"	43	"Rubber"
	'688062461598c23	"16"	"Small Soft Chair"	47	"Cotton"

✅ **Import completed.**
25 documents imported.

1) Find all the information about each products

Code

```
> use store
< switched to db store
> show collections
< storedata
> db.storedata.find({})
```

Output

```
> db.storedata.find({})
< {
    _id: ObjectId('688062461598c23cf90a4422'),
    id: '1',
    product_name: 'Intelligent Fresh Chips',
    product_price: 655,
    product_material: 'Concrete',
    product_color: 'mint green'
  }
  {
    _id: ObjectId('688062461598c23cf90a4423'),
    id: '2',
    product_name: 'Practical Fresh Sausages',
    product_price: 911,
    product_material: 'Cotton',
    product_color: 'indigo'
  }
  {
    _id: ObjectId('688062461598c23cf90a4424'),
    id: '3',
    product_name: 'Refined Steel Car',
    product_price: 690,
    product_material: 'Rubber',
    product_color: 'gold'
  }
  {
    _id: ObjectId('688062461598c23cf90a4425'),
    id: '4',
    product_name: 'Gorgeous Plastic Pants',
    product_price: 492,
    product_material: 'Soft',
    product_color: 'plum'
  }
  {
    _id: ObjectId('688062461598c23cf90a4426'),
    id: '5',
    product_name: 'Sleek Cotton Chair',
    product_price: 33,
    product_material: 'Fresh',
    product_color: 'black'
  }
  {
    _id: ObjectId('688062461598c23cf90a4427'),
    id: '6',
    product_name: 'Awesome Wooden Towels',
    product_price: 474,
    product_material: 'Plastic',
    product_color: 'orange'
  }
  {
    _id: ObjectId('688062461598c23cf90a4428'),
    id: '7',
```

```
{
  _id: ObjectId('688062461598c23cf90a4429'),
  id: '8',
  product_name: 'Incredible Steel Hat',
  product_price: 78,
  product_material: 'Rubber',
  product_color: 'violet'
}
{
  _id: ObjectId('688062461598c23cf90a442a'),
  id: '9',
  product_name: 'Awesome Wooden Ball',
  product_price: 28,
  product_material: 'Soft',
  product_color: 'azure'
}
{
  _id: ObjectId('688062461598c23cf90a442b'),
  id: '10',
  product_name: 'Generic Wooden Pizza',
  product_price: 84,
  product_material: 'Frozen',
  product_color: 'indigo'
}
{
  _id: ObjectId('688062461598c23cf90a442c'),
  id: '11',
  product_name: 'Unbranded Wooden Cheese',
  product_price: 26,
  product_material: 'Soft',
  product_color: 'black'
}
{
  _id: ObjectId('688062461598c23cf90a442d'),
  id: '12',
  product_name: 'Unbranded Plastic Salad',
  product_price: 89,
  product_material: 'Wooden',
  product_color: 'pink'
}
{
  _id: ObjectId('688062461598c23cf90a442e'),
  id: '13',
  product_name: 'Gorgeous Cotton Keyboard',
  product_price: 37,
  product_material: 'Concrete',
  product_color: 'sky blue'
}
{
  _id: ObjectId('688062461598c23cf90a442f'),
  id: '14',
  product_name: 'Incredible Steel Shirt',
```

```
{
  _id: ObjectId('688062461598c23cf90a4430'),
  id: '15',
  product_name: 'Ergonomic Cotton Hat',
  product_price: 43,
  product_material: 'Rubber',
  product_color: 'mint green'
}
{
  _id: ObjectId('688062461598c23cf90a4431'),
  id: '16',
  product_name: 'Small Soft Chair',
  product_price: 47,
  product_material: 'Cotton',
  product_color: 'teal'
}
{
  _id: ObjectId('688062461598c23cf90a4432'),
  id: '17',
  product_name: 'Incredible Metal Car',
  product_price: 36,
  product_material: 'Fresh',
  product_color: 'indigo'
}
{
  _id: ObjectId('688062461598c23cf90a4433'),
  id: '18',
  product_name: 'Licensed Plastic Bacon',
  product_price: 88,
  product_material: 'Steel',
  product_color: 'yellow'
}
{
  _id: ObjectId('688062461598c23cf90a4434'),
  id: '19',
  product_name: 'Intelligent Cotton Chips',
  product_price: 46,
  product_material: 'Soft',
  product_color: 'azure'
}
{
  _id: ObjectId('688062461598c23cf90a4435'),
  id: '20',
  product_name: 'Handcrafted Wooden Bacon',
  product_price: 36,
  product_material: 'Concrete',
  product_color: 'lime'
}
```

```
< {
    _id: ObjectId('688062461598c23cf90a4436'),
    id: '21',
    product_name: 'Unbranded Granite Chicken',
    product_price: 90,
    product_material: 'Metal',
    product_color: 'gold'
  }
  {
    _id: ObjectId('688062461598c23cf90a4437'),
    id: '22',
    product_name: 'Ergonomic Soft Hat',
    product_price: 99,
    product_material: 'Rubber',
    product_color: 'black'
  }
  {
    _id: ObjectId('688062461598c23cf90a4438'),
    id: '23',
    product_name: 'Intelligent Steel Pizza',
    product_price: 95,
    product_material: 'Cotton',
    product_color: 'azure'
  }
  {
    _id: ObjectId('688062461598c23cf90a4439'),
    id: '24',
    product_name: 'Tasty Rubber Cheese',
    product_price: 47,
    product_material: 'Frozen',
    product_color: 'orchid'
  }
  {
    _id: ObjectId('688062461598c23cf90a443a'),
    id: '25',
    product_name: 'Licensed Steel Car',
    product_price: 20,
    product_material: 'Cotton',
    product_color: 'indigo'
  }
```

2) Find the product price which are between 400 to 800

Code

```
> db.storedata.find({product_price: {$gte:400, $lte:800}})
```

Output

```
< {
    _id: ObjectId('688062461598c23cf90a4422'),
    id: '1',
    product_name: 'Intelligent Fresh Chips',
    product_price: 655,
    product_material: 'Concrete',
    product_color: 'mint green'
  }
  {
    _id: ObjectId('688062461598c23cf90a4424'),
    id: '3',
    product_name: 'Refined Steel Car',
    product_price: 690,
    product_material: 'Rubber',
    product_color: 'gold'
  }
  {
    _id: ObjectId('688062461598c23cf90a4425'),
    id: '4',
    product_name: 'Gorgeous Plastic Pants',
    product_price: 492,
    product_material: 'Soft',
    product_color: 'plum'
  }
  {
    _id: ObjectId('688062461598c23cf90a4427'),
    id: '6',
    product_name: 'Awesome Wooden Towels',
    product_price: 474,
    product_material: 'Plastic',
    product_color: 'orange'
  }
  {
    _id: ObjectId('688062461598c23cf90a4428'),
    id: '7',
    product_name: 'Practical Soft Shoes',
    product_price: 500,
    product_material: 'Rubber',
    product_color: 'pink'
  }
```

3) Find the product price which are not between 400 to 600

Code

```
> db.storedata.find({$or: [{product_price: {$lt:400}}, {product_price: {$gt:600}}]})
```

Output

```
< {
    _id: ObjectId('688062461598c23cf90a4422'),
    id: '1',
    product_name: 'Intelligent Fresh Chips',
    product_price: 655,
    product_material: 'Concrete',
    product_color: 'mint green'
}
{
    _id: ObjectId('688062461598c23cf90a4423'),
    id: '2',
    product_name: 'Practical Fresh Sausages',
    product_price: 911,
    product_material: 'Cotton',
    product_color: 'indigo'
}
{
    _id: ObjectId('688062461598c23cf90a4424'),
    id: '3',
    product_name: 'Refined Steel Car',
    product_price: 690,
    product_material: 'Rubber',
    product_color: 'gold'
}
{
    _id: ObjectId('688062461598c23cf90a4426'),
    id: '5',
    product_name: 'Sleek Cotton Chair',
    product_price: 33,
    product_material: 'Fresh',
    product_color: 'black'
}
{
    _id: ObjectId('688062461598c23cf90a4429'),
    id: '8',
    product_name: 'Incredible Steel Hat',
    product_price: 78,
    product_material: 'Rubber',
    product_color: 'violet'
}
{
    _id: ObjectId('688062461598c23cf90a442a'),
    id: '9',
    product_name: 'Awesome Wooden Ball',
    product_price: 28,
    product_material: 'Soft',
    product_color: 'azure'
}
```

```
{
    _id: ObjectId('688062461598c23cf90a442b'),
    id: '10',
    product_name: 'Generic Wooden Pizza',
    product_price: 84,
    product_material: 'Frozen',
    product_color: 'indigo'
}
{
    _id: ObjectId('688062461598c23cf90a442c'),
    id: '11',
    product_name: 'Unbranded Wooden Cheese',
    product_price: 26,
    product_material: 'Soft',
    product_color: 'black'
}
{
    _id: ObjectId('688062461598c23cf90a442d'),
    id: '12',
    product_name: 'Unbranded Plastic Salad',
    product_price: 89,
    product_material: 'Wooden',
    product_color: 'pink'
}
{
    _id: ObjectId('688062461598c23cf90a442e'),
    id: '13',
    product_name: 'Gorgeous Cotton Keyboard',
    product_price: 37,
    product_material: 'Concrete',
    product_color: 'sky blue'
}
{
    _id: ObjectId('688062461598c23cf90a442f'),
    id: '14',
    product_name: 'Incredible Steel Shirt',
    product_price: 54,
    product_material: 'Metal',
    product_color: 'white'
}
{
    _id: ObjectId('688062461598c23cf90a4430'),
    id: '15',
    product_name: 'Ergonomic Cotton Hat',
    product_price: 43,
    product_material: 'Rubber',
    product_color: 'mint green'
}
```

```
{
  _id: ObjectId('688062461598c23cf90a4431'),
  id: '16',
  product_name: 'Small Soft Chair',
  product_price: 47,
  product_material: 'Cotton',
  product_color: 'teal'
}
{
  _id: ObjectId('688062461598c23cf90a4432'),
  id: '17',
  product_name: 'Incredible Metal Car',
  product_price: 36,
  product_material: 'Fresh',
  product_color: 'indigo'
}
{
  _id: ObjectId('688062461598c23cf90a4433'),
  id: '18',
  product_name: 'Licensed Plastic Bacon',
  product_price: 88,
  product_material: 'Steel',
  product_color: 'yellow'
}
{
  _id: ObjectId('688062461598c23cf90a4434'),
  id: '19',
  product_name: 'Intelligent Cotton Chips',
  product_price: 46,
  product_material: 'Soft',
  product_color: 'azure'
}
{
  _id: ObjectId('688062461598c23cf90a4435'),
  id: '20',
  product_name: 'Handcrafted Wooden Bacon',
  product_price: 36,
  product_material: 'Concrete',
  product_color: 'lime'
}
{
  _id: ObjectId('688062461598c23cf90a4436'),
  id: '21',
  product_name: 'Unbranded Granite Chicken',
  product_price: 90,
  product_material: 'Metal',
  product_color: 'gold'
}

{
  _id: ObjectId('688062461598c23cf90a4437'),
  id: '22',
  product_name: 'Ergonomic Soft Hat',
  product_price: 99,
  product_material: 'Rubber',
  product_color: 'black'
}
{
  _id: ObjectId('688062461598c23cf90a4438'),
  id: '23',
  product_name: 'Intelligent Steel Pizza',
  product_price: 95,
  product_material: 'Cotton',
  product_color: 'azure'
}
Type "it" for more
> it
< {
  _id: ObjectId('688062461598c23cf90a4439'),
  id: '24',
  product_name: 'Tasty Rubber Cheese',
  product_price: 47,
  product_material: 'Frozen',
  product_color: 'orchid'
}
{
  _id: ObjectId('688062461598c23cf90a443a'),
  id: '25',
  product_name: 'Licensed Steel Car',
  product_price: 20,
  product_material: 'Cotton',
  product_color: 'indigo'
}
```

4) List the four product which are greater than 500 in price

Code

```
> db.storedata.find({product_price: {$gt:500}}).limit(4)
```

Output

```
< {
    _id: ObjectId('688062461598c23cf90a4422'),
    id: '1',
    product_name: 'Intelligent Fresh Chips',
    product_price: 655,
    product_material: 'Concrete',
    product_color: 'mint green'
  }
  {
    _id: ObjectId('688062461598c23cf90a4423'),
    id: '2',
    product_name: 'Practical Fresh Sausages',
    product_price: 911,
    product_material: 'Cotton',
    product_color: 'indigo'
  }
  {
    _id: ObjectId('688062461598c23cf90a4424'),
    id: '3',
    product_name: 'Refined Steel Car',
    product_price: 690,
    product_material: 'Rubber',
    product_color: 'gold'
  }
```

5) Find the product name and product material of each products

Code

```
> db.storedata.find({},{_id:0, product_name:1, product_material:1})
```

Output

```
< {
    product_name: 'Intelligent Fresh Chips',
    product_material: 'Concrete'
  }
  {
    product_name: 'Practical Fresh Sausages',
    product_material: 'Cotton'
  }
  {
    product_name: 'Refined Steel Car',
    product_material: 'Rubber'
  }
  {
    product_name: 'Gorgeous Plastic Pants',
    product_material: 'Soft'
  }
  {
    product_name: 'Sleek Cotton Chair',
    product_material: 'Fresh'
  }
  {
    product_name: 'Awesome Wooden Towels',
    product_material: 'Plastic'
  }
  {
    product_name: 'Practical Soft Shoes',
    product_material: 'Rubber'
  }
  {
    product_name: 'Incredible Steel Hat',
    product_material: 'Rubber'
  }
  {
    product_name: 'Awesome Wooden Ball',
    product_material: 'Soft'
  }
  {
    product_name: 'Generic Wooden Pizza',
    product_material: 'Frozen'
  }
  {
    product_name: 'Unbranded Wooden Cheese',
    product_material: 'Soft'
  }
  {
    product_name: 'Unbranded Plastic Salad',
    product_material: 'Wooden'
  }
  {
    product_name: 'Gorgeous Cotton Keyboard',
    product_material: 'Concrete'
  }

  {
    product_name: 'Incredible Steel Shirt',
    product_material: 'Metal'
  }
  {
    product_name: 'Ergonomic Cotton Hat',
    product_material: 'Rubber'
  }
  {
    product_name: 'Small Soft Chair',
    product_material: 'Cotton'
  }
  {
    product_name: 'Incredible Metal Car',
    product_material: 'Fresh'
  }
  {
    product_name: 'Licensed Plastic Bacon',
    product_material: 'Steel'
  }
  {
    product_name: 'Intelligent Cotton Chips',
    product_material: 'Soft'
  }
  {
    product_name: 'Handcrafted Wooden Bacon',
    product_material: 'Concrete'
  }
Type "it" for more
> it
< {
    product_name: 'Unbranded Granite Chicken',
    product_material: 'Metal'
  }
  {
    product_name: 'Ergonomic Soft Hat',
    product_material: 'Rubber'
  }
  {
    product_name: 'Intelligent Steel Pizza',
    product_material: 'Cotton'
  }
  {
    product_name: 'Tasty Rubber Cheese',
    product_material: 'Frozen'
  }
  {
    product_name: 'Licensed Steel Car',
    product_material: 'Cotton'
  }
```

6) Find the product with a row id of 10

Code

```
> db.storedata.find({id:"10"})
```

Output

```
< {
    _id: ObjectId('688062461598c23cf90a442b'),
    id: '10',
    product_name: 'Generic Wooden Pizza',
    product_price: 84,
    product_material: 'Frozen',
    product_color: 'indigo'
  }
```

7) Find all products which contain the value of soft in product material

Code

```
db.storedata.find({product_material:"Soft"})
```

Output

```
< {
    _id: ObjectId('688062461598c23cf90a4425'),
    id: '4',
    product_name: 'Gorgeous Plastic Pants',
    product_price: 492,
    product_material: 'Soft',
    product_color: 'plum'
  }
  {
    _id: ObjectId('688062461598c23cf90a442a'),
    id: '9',
    product_name: 'Awesome Wooden Ball',
    product_price: 28,
    product_material: 'Soft',
    product_color: 'azure'
  }
  {
    _id: ObjectId('688062461598c23cf90a442c'),
    id: '11',
    product_name: 'Unbranded Wooden Cheese',
    product_price: 26,
    product_material: 'Soft',
    product_color: 'black'
  }
  {
    _id: ObjectId('688062461598c23cf90a4434'),
    id: '19',
    product_name: 'Intelligent Cotton Chips',
    product_price: 46,
    product_material: 'Soft',
    product_color: 'azure'
  }
```

8) Find products which contain product color indigo and product price 492.00

Inserting a value

```
> db.storedata.insertOne({
      id: "26",
      product_name: "Special Indigo Pants",
      product_price: 492.00,
      product_material: "Cotton",
      product_color: "indigo"
  })
< {
    acknowledged: true,
    insertedId: ObjectId('6886f31dad192edb1f66c638')
  }
```

Finding the product that has color indigo and price 492.00

```
> db.storedata.find({
      product_color: "indigo",
      product_price: 492.00
  })
```

Output

```
< {
    _id: ObjectId('6886f31dad192edb1f66c638'),
    id: '26',
    product_name: 'Special Indigo Pants',
    product_price: 492,
    product_material: 'Cotton',
    product_color: 'indigo'
  }
```

9) Delete the products which product price value are same

First finding the duplicate products

```
> db.storedata.aggregate([
    {
      $group: {
        _id: "$product_price",
        count: { $sum: 1 }
      }
    },
    {
      $match: {
        count: { $gt: 1 }
      }
    }
  ])
```

Output

```
< {
    _id: 47,
    count: 2
  }
  {
    _id: 36,
    count: 2
  }
store >
```

Deleting the duplicate product

```
> db.storedata.deleteMany({
    product_price: { $in: [36.00, 47.00] }
  })
```

Output

```
< {
    acknowledged: true,
    deletedCount: 4
}
```