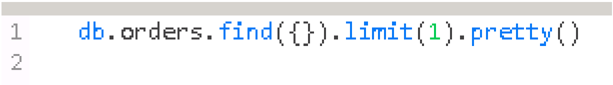
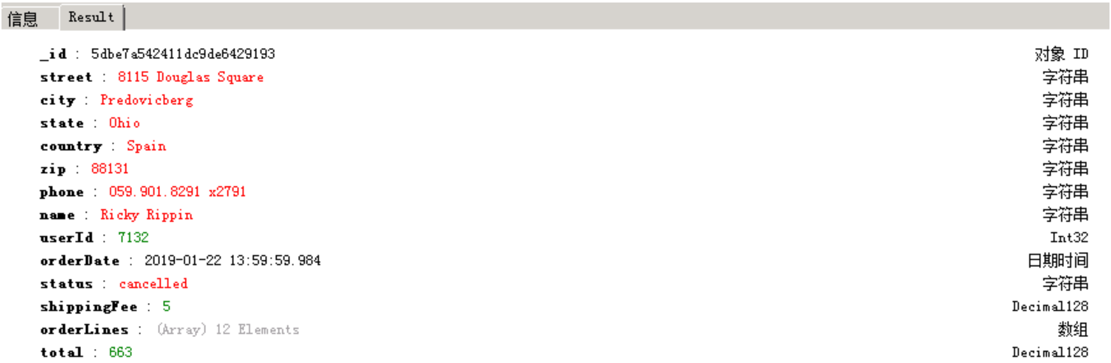
目录

1 表结构

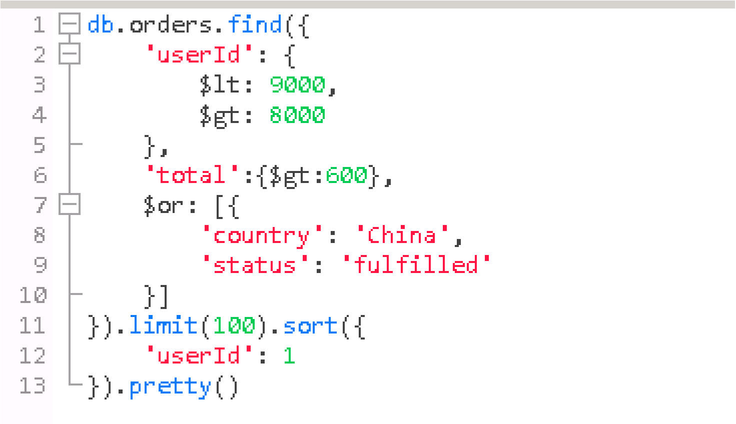


```
db.orders.find({}).limit(1).pretty()
```



```
_id : 5dbe7a542411dc9de6429193                                   对象 ID
street : 8115 Douglas Square                                      字符串
city : Predovicberg                                               字符串
state : Ohio                                                      字符串
country : Spain                                                   字符串
zip : 88131                                                       字符串
phone : 059.901.8291 x2791                                        字符串
name : Ricky Rippin                                               字符串
userId : 7132                                                       Int32
orderDate : 2019-01-22 13:59:59.984                              日期时间
status : cancelled                                                字符串
shippingFee : 5                                                Decimal128
orderLines : (Array) 12 Elements                                    数组
total : 663                                                    Decimal128
```

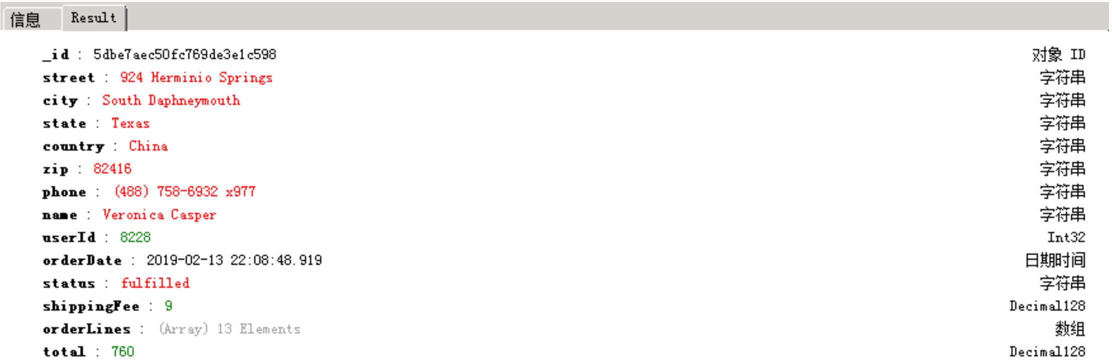
2 标准查询



```
db.orders.find({
    'userId': {
        $lt: 9000,
        $gt: 8000
    },
    'total':{$gt:600},
    $or: [{
        'country': 'China',
        'status': 'fulfilled'
    }]
}).limit(100).sort({
    'userId': 1
}).pretty()
```

```
db.orders.find({
    'userId': {
        $lt: 9000,
        $gt: 8000
    },
   'total':{$gt:600},
    $or: [{
        'country': 'China',
        'status': 'fulfilled'
    }]
}).limit(100).sort({
    'userId': 1
}).pretty()
```

查询 orders 集合， userId 大于 8000，小于 9000， 并且'total' 大于 600 并且 ('country' ='China' 或者 'status'='fulfilled') ，限制读取 100 表，按照 'userId' 升序排列。



```
_id : 5dbe7aec50fc769de3e1c598                              对象 ID
street : 924 Herminio Springs                                字符串
city : South Daphneymouth                                    字符串
state : Texas                                                字符串
country : China                                              字符串
zip : 82416                                                  字符串
phone : (488) 758-6932 x977                                  字符串
name : Veronica Casper                                       字符串
userId : 8228                                                 Int32
orderDate : 2019-02-13 22:08:48.919                         日期时间
status : fulfilled                                           字符串
shippingFee : 9                                          Decimal128
orderLines : (Array) 13 Elements                               数组
total : 760                                              Decimal128
```

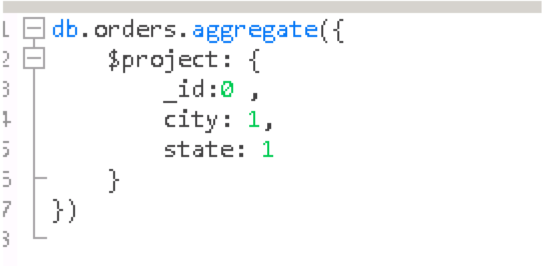
3 聚合运算

3.1、$project

(1)获取 orders 数据集的 city 字段和 state 字段

```
db.orders.aggregate({
    $project: {
        city: 1,
        state: 1
    }
})
```

(2) 获取 orders 数据集的 city 字段和 state 字段，_id 不显示

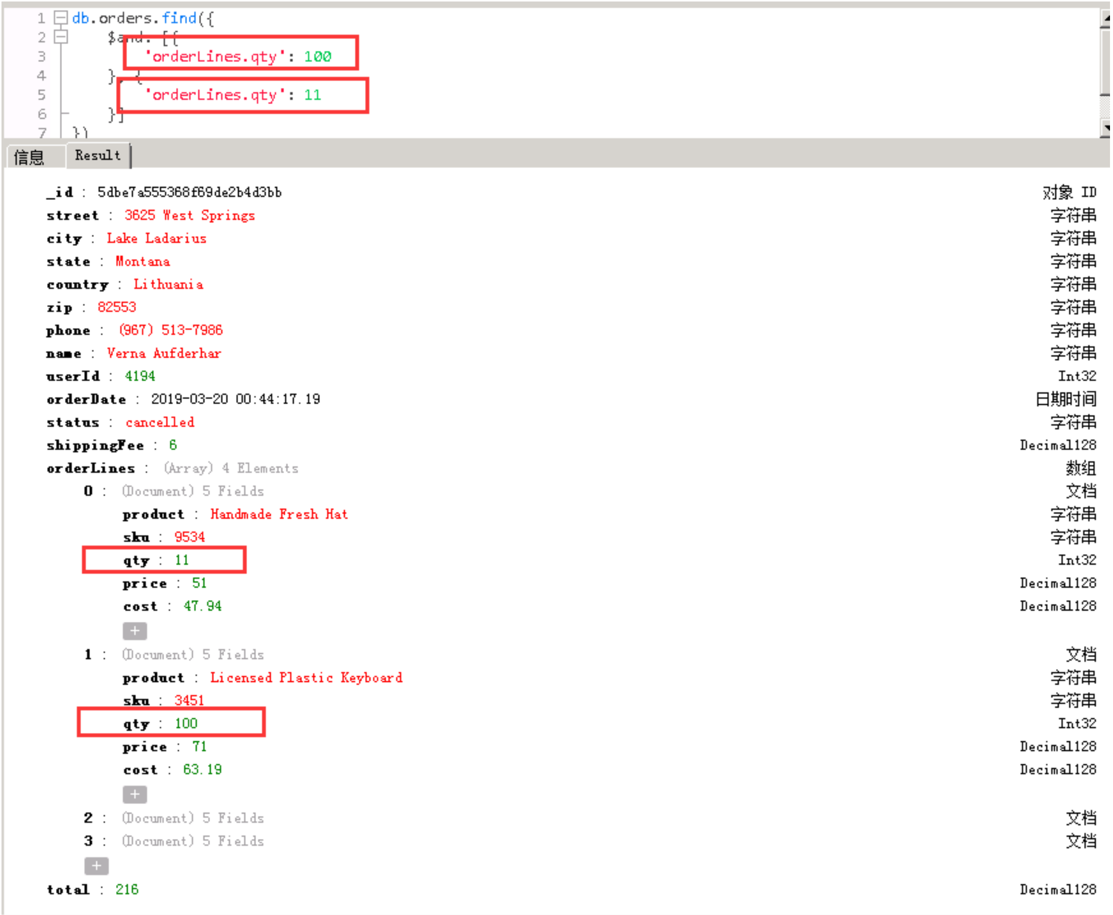


```
db.orders.aggregate({
    $project: {
        _id:0 ,
        city: 1,
        state: 1
    }
})
```

```
db.orders.aggregate({$project:{_id:0,city:1,state:1}})
```

(3) 查询嵌套在一个数组的 JSON 对象 例如：'orderLines. qty' 为 11 和 100 的文档

```
db.orders.find({
    $and: [{
        'orderLines.qty': 100
    }, {
        'orderLines.qty': 11
    }]
})
```

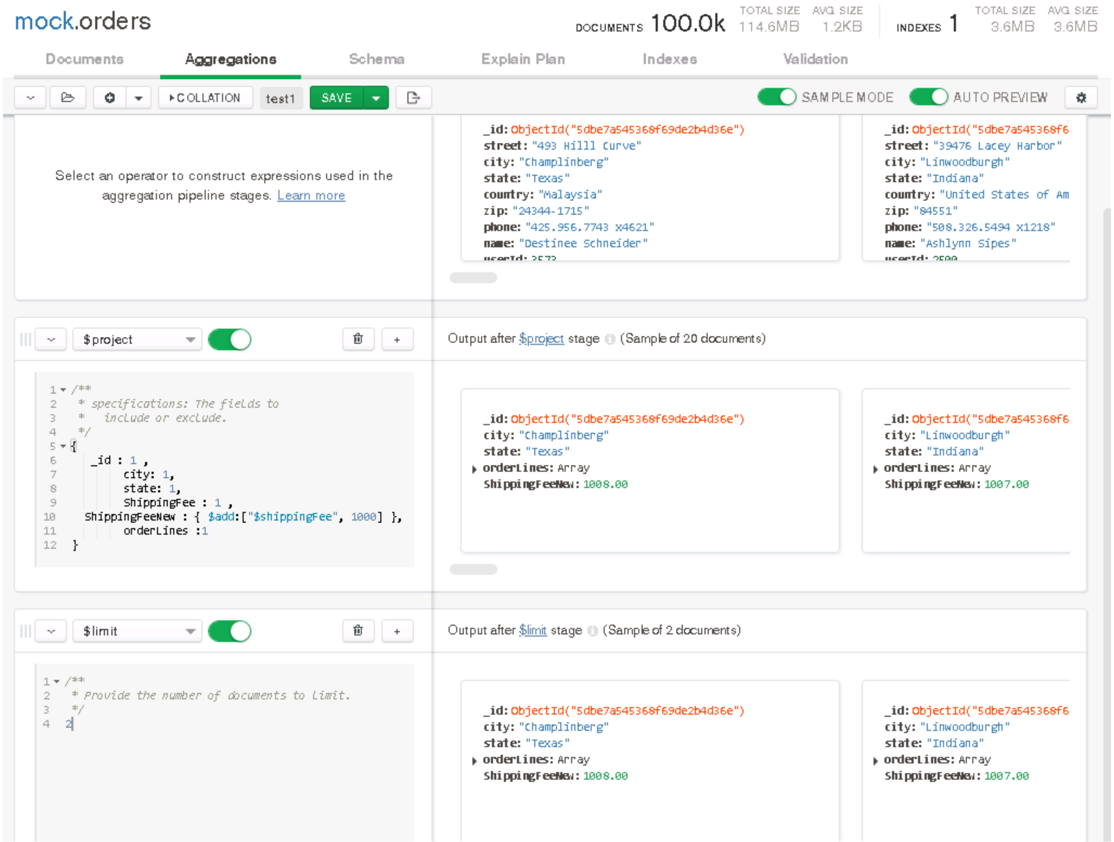


```
db.orders.find({
    $and: [{
        'orderLines.qty': 100
    }, {
        'orderLines.qty': 11
    }]
})
```

```
_id : 5dbe7a555368f69de2b4d3bb                                    对象 ID
street : 3625 West Springs                                         字符串
city : Lake Ladarius                                               字符串
state : Montana                                                    字符串
country : Lithuania                                                字符串
zip : 82553                                                        字符串
phone : (967) 513-7986                                             字符串
name : Verna Aufderhar                                             字符串
userId : 4194                                                       Int32
orderDate : 2019-03-20 00:44:17.19                                 日期时间
status : cancelled                                                 字符串
shippingFee : 6                                                Decimal128
orderLines : (Array) 4 Elements                                      数组
    0 : (Document) 5 Fields                                          文档
        product : Handmade Fresh Hat                               字符串
        sku : 9534                                                 字符串
        qty : 11                                                    Int32
        price : 51                                             Decimal128
        cost : 47.94                                           Decimal128
        +
    1 : (Document) 5 Fields                                          文档
        product : Licensed Plastic Keyboard                        字符串
        sku : 3451                                                 字符串
        qty : 100                                                   Int32
        price : 71                                             Decimal128
        cost : 63.19                                           Decimal128
        +
    2 : (Document) 5 Fields                                          文档
    3 : (Document) 5 Fields                                          文档
    +
total : 216                                                    Decimal128
```

查询'orderLines. qty' 为 11 和 100 的文档，并且 ShippingFee 的值加 1000，然后将结果赋值给一个新的字段:ShippingFeeNew，限制显示前 2 行。

```
db.orders.aggregate(
    [
        {
            $project: {
                _id: 1,
                city: 1,
                state: 1,
                ShippingFee: 1,
                ShippingFeeNew: {
                    $add: ["$shippingFee", 1000]
                },
                orderLines: 1
            }
        },
        {
            "$limit": 2
        }
    ]
);
```



Select an operator to construct expressions used in the aggregation pipeline stages. Learn more

```
_id: ObjectId("5dbe7a545368f69de2b4d36e")
street: "493 Hilll Curve"
city: "Champlinberg"
state: "Texas"
country: "Malaysia"
zip: "24344-1715"
phone: "425.956.7743 x4621"
name: "Destinee Schneider"
userId: 3573
```

```
_id: ObjectId("5dbe7a545368f6
street: "39476 Lacey Harbor"
city: "Linwoodburgh"
state: "Indiana"
country: "United States of Am
zip: "84551"
phone: "508.326.5494 x1218"
name: "Ashlynn Sipes"
userId: 2500
```

```
/**
 * specifications: The fields to
 *   include or exclude.
 */
{
  _id : 1 ,
        city: 1,
        state: 1,
        ShippingFee : 1 ,
  ShippingFeeNew : { $add:["$shippingFee", 1000] },
        orderLines :1
}
```

Output after $project stage (Sample of 20 documents)

```
_id: ObjectId("5dbe7a545368f69de2b4d36e")
city: "Champlinberg"
state: "Texas"
▸ orderLines: Array
ShippingFeeNew: 1008.00
```

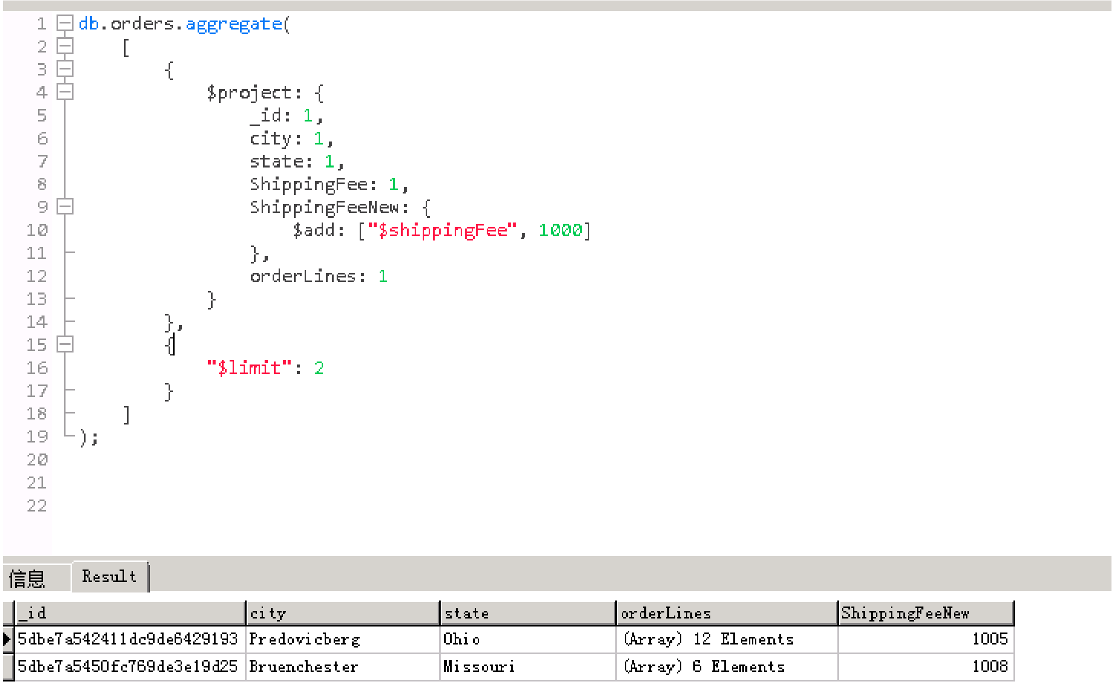
```
_id: ObjectId("5dbe7a545368f6
city: "Linwoodburgh"
state: "Indiana"
▸ orderLines: Array
ShippingFeeNew: 1007.00
```

```
/**
 * Provide the number of documents to limit.
 */
2
```

Output after $limit stage (Sample of 2 documents)

```
_id: ObjectId("5dbe7a545368f69de2b4d36e")
city: "Champlinberg"
state: "Texas"
▸ orderLines: Array
ShippingFeeNew: 1008.00
```

```
_id: ObjectId("5dbe7a545368f6
city: "Linwoodburgh"
state: "Indiana"
▸ orderLines: Array
ShippingFeeNew: 1007.00
```



```
db.orders.aggregate(
    [
        {
            $project: {
                _id: 1,
                city: 1,
                state: 1,
                ShippingFee: 1,
                ShippingFeeNew: {
                    $add: ["$shippingFee", 1000]
                },
                orderLines: 1
            }
        },
        {
            "$limit": 2
        }
    ]
);
```

_id	city	state	orderLines	ShippingFeeNew
5dbe7a542411dc9de6429193	Predovicberg	Ohio	(Array) 12 Elements	1005
5dbe7a5450fc769de3e19d25	Bruenchester	Missouri	(Array) 6 Elements	1008

(4) 把 ShippingFee 重命名为 ShippingFeeNew

```
db.orders.aggregate(
    { $project : {
        city: 1,
        state: 1,
        shippingFee : 1 ,
          ShippingFeeNew : "$shippingFee"
    }}
 );
```

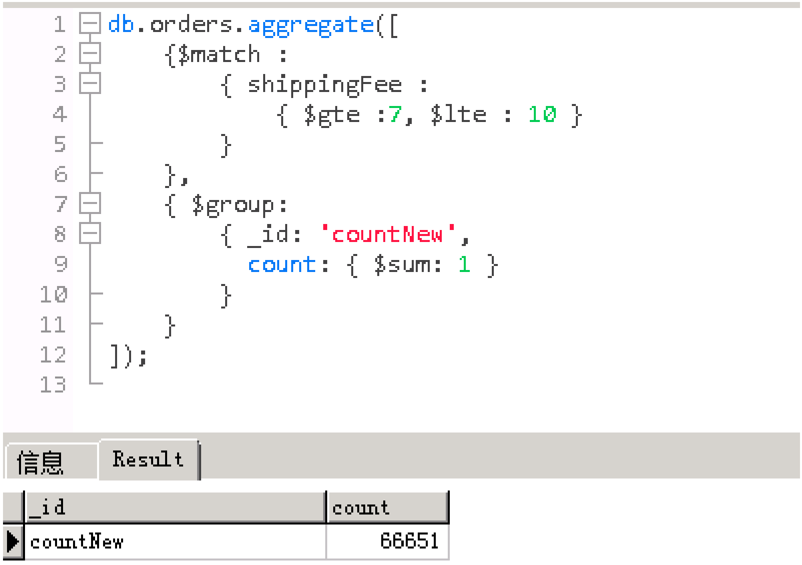
3.2、$match 与 $group

(1) 获取 orders 集合的 shippingFee>=7 并且 shippingFee<=9

```
db.orders.aggregate({
    $match:
    {
      shippingFee:
      {
        $gte:7,$lte:9
      }
    }
}).pretty()
```

(2) 获取 orders 集合的 shippingFee>=7 且 shippingFee<=10,然后将符合条件的记录送到下一阶段$group 管道操作符进行处理

```
db.orders.aggregate([
    {$match :
        { shippingFee :
            { $gte :7, $lte : 10 }
        }
    },
    { $group:
        { _id: 'countNew',
          count: { $sum: 1 }
        }
    }
]);
```



```
db.orders.aggregate([
    {$match :
        { shippingFee :
            { $gte :7, $lte : 10 }
        }
    },
    { $group:
        { _id: 'countNew',
          count: { $sum: 1 }
        }
    }
]);
```

_id	count
countNew	66651

3.3、$limit

查询 3 条文档记录

```
db.orders.aggregate({$limit:3}).pretty()
```

3.4 $skip

获取 orders 集合中第 99999 条数据之后的数据

```
db.orders.aggregate([
   { $group:
       { _id: 'countNew',
         count: { $sum: 1 }
       }
   }
]);
db.orders.aggregate({ $skip: 99999});
```

https://blog.csdn.net/weixin_43453386/article/details/85065043

mongoDB 重启数据库

https://www.jianshu.com/p/617d672034a2