

# MCAE21 NoSQL Databases

## MongoDB Exercises

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### Exercise 2:

1.Create a database Sales

2.Create a collection Items and insert the following documents:

```
{_id: 1, item: { name: "ab", code: "123" }, qty: 15, tags: [ "A", "B", "C" ] }  
{_id: 2, item: { name: "cd", code: "123" }, qty: 20, tags: [ "B" ] }  
{_id: 3, item: { name: "ij", code: "456" }, qty: 25, tags: [ "A", "B" ] }  
{_id: 4, item: { name: "xy", code: "456" }, qty: 30, tags: [ "B", "A" ] }  
{_id: 5, item: { name: "mn", code: "000" }, qty: 20, tags: [ [ "A", "B" ], "C" ] }  
{_id: 6, item: { name: "rs", code: "000" }, tags: [ [ "A", "B" ], "C" ] }
```

### Command:

> use sales

switched to db sales

```
>db.items.insertMany([  
...{_id:1,item:{name:"ab",code:"123"},qty:15,tags:["A","B","C"],price:200},  
...{_id:2,item:{name:"cd",code:"123"},qty:20,tags:["B"],price:225},  
...{_id:3,item:{name:"ij",code:"456"},qty:25,tags:["A","B"],price:225},  
...{_id:4,item:{name:"xy",code:"456"},qty:30,tags:["B","A"],price:350},  
...{_id:5,item:{name:"mn",code:"000"},qty:20,tags:[["A","B"],"C"],price:300},  
...{_id:6,item:{name:"rs",code:"000"},tags:[["A","B"],"C"],price:350}])
```

### Queries:

1 Write a MongoDB query to display all the documents in the collection Item.

> db.items.find();

```
{ "_id" : 1, "item" : { "name" : "ab", "code" : "123", "qty" : 15, "tags" : [ "A", "B", "C" ],  
  "price" : 200 }  
{ "_id" : 2, "item" : { "name" : "cd", "code" : "123", "qty" : 20, "tags" : [ "B" ], "price" :  
  225 }  
{ "_id" : 3, "item" : { "name" : "ij", "code" : "456", "qty" : 25, "tags" : [ "A", "B" ], "price" :  
  225 }  
{ "_id" : 4, "item" : { "name" : "xy", "code" : "456", "qty" : 30, "tags" : [ "B", "A" ], "price"  
  : 350 }  
{ "_id" : 5, "item" : { "name" : "mn", "code" : "000", "qty" : 20, "tags" : [ [ "A", "B" ], "C" ],  
  "price" : 300 }  
{ "_id" : 6, "item" : { "name" : "rs", "code" : "000", "tags" : [ [ "A", "B" ], "C" ], "price" :  
  350 }
```

- 2 Write a MongoDB query to display the all the fields except id of all the documents.**

```
> db.items.find({},{_id:0});
{"item":{"name":"ab","code":"123"},"qty":15,"tags":["A","B","C"],"price":200}
{"item":{"name":"cd","code":"123"},"qty":20,"tags":["B"],"price":225}
{"item":{"name":"ij","code":"456"},"qty":25,"tags":["A","B"],"price":225}
{"item":{"name":"xy","code":"456"},"qty":30,"tags":["B","A"],"price":350}
{"item":{"name":"mn","code":"000"},"qty":20,"tags":["A","B","C"],"price":300}
{"item":{"name":"rs","code":"000"},"tags":["A","B","C"],"price":350}
{"item":{"name":"xy","code":"456"},"qty":30,"tags":["B","A"]}
{"item":{"name":"mn","code":"000"},"qty":20,"tags":["A","B","C"]}
{"item":{"name":"rs","code":"000"},"tags":["A","B","C"]}
```

- 3 Write a MongoDB query to display the documents that have quantity as any one of the following: 15 or 25 or 30.**

```
> db.items.find({$or:[{qty:{ $eq:15 }},{qty:{ $eq:25 }},{qty:{ $eq:30 } }]});
{"_id":1,"item":{"name":"ab","code":"123"},"qty":15,"tags":["A","B","C"],"price":200}
{"_id":3,"item":{"name":"ij","code":"456"},"qty":25,"tags":["A","B"],"price":225}
{"_id":4,"item":{"name":"xy","code":"456"},"qty":30,"tags":["B","A"],"price":350}
```

- 4 Write a MongoDB query to display the documents that does not have quantity as any one of the following: 15 and 25.**

```
> db.items.find({$and:[{qty:{ $ne:15 }},{qty:{ $ne:25 } }]});
{"_id":2,"item":{"name":"cd","code":"123"},"qty":20,"tags":["B"],"price":225}
{"_id":4,"item":{"name":"xy","code":"456"},"qty":30,"tags":["B","A"],"price":350}
{"_id":5,"item":{"name":"mn","code":"000"},"qty":20,"tags":["A","B","C"],"price":300}
{"_id":6,"item":{"name":"rs","code":"000"},"tags":["A","B","C"],"price":350}
```

- 5 Write a MongoDB query to display the documents that does not have quantity as any one of the following: 15 and 25 but have quantity field.**

```
> db.items.find({$and:[{qty:{ $ne:15 }},{qty:{ $ne:25 }},{qty:{ $ne:null } }]});
{"_id":2,"item":{"name":"cd","code":"123"},"qty":20,"tags":["B"],"price":225}
{"_id":4,"item":{"name":"xy","code":"456"},"qty":30,"tags":["B","A"],"price":350}
{"_id":5,"item":{"name":"mn","code":"000"},"qty":20,"tags":["A","B","C"],"price":300}
```

**7. Write a MongoDB query to display the documents that have quantity as 25 or price as 225.**

**> db.items.find({\$or:{{qty:{\$eq:25}},{price:{\$eq:225}}}});**

```
{ "_id" : 2, "item" : { "name" : "cd", "code" : "123" }, "qty" : 20, "tags" : [ "B" ], "price" : 225 }
{ "_id" : 3, "item" : { "name" : "ij", "code" : "456" }, "qty" : 25, "tags" : [ "A", "B" ], "price" : 225 }
```

**8. Write a MongoDB query to display the documents that have neither item name as 'ab' nor price as 350.**

**> db.items.find({\$nor:{{"item.name":"ab"},{price:350}}});**

```
{ "_id" : 2, "item" : { "name" : "cd", "code" : "123" }, "qty" : 20, "tags" : [ "B" ], "price" : 225 }
{ "_id" : 3, "item" : { "name" : "ij", "code" : "456" }, "qty" : 25, "tags" : [ "A", "B" ], "price" : 225 }
{ "_id" : 5, "item" : { "name" : "mn", "code" : "000" }, "qty" : 20, "tags" : [ [ "A", "B" ], "C" ], "price" : 300 }
```

**9. Write a MongoDB query to display the documents that have neither item name as 'ab' nor price as 350.**

**> db.items.find({\$nor:{{"item.name":"ab"},{"price":350}}});**

```
{ "_id" : 2, "item" : { "name" : "cd", "code" : "123" }, "qty" : 20, "tags" : [ "B" ], "price" : 225 }
{ "_id" : 3, "item" : { "name" : "ij", "code" : "456" }, "qty" : 25, "tags" : [ "A", "B" ], "price" : 225 }
{ "_id" : 5, "item" : { "name" : "mn", "code" : "000" }, "qty" : 20, "tags" : [ [ "A", "B" ], "C" ], "price" : 300 }
```

**10. Write a MongoDB query to display the documents that have item name is not equal to 'xy' and price filed not equal to 350 and price field must exist.**

**> db.items.find({\$and:{{"item.name":{\$ne:"xy"}},{price:{\$ne:350}},{price:{\$ne:null}}}});**

```
{ "_id" : 1, "item" : { "name" : "ab", "code" : "123" }, "qty" : 15, "tags" : [ "A", "B", "C" ], "price" : 200 }
{ "_id" : 2, "item" : { "name" : "cd", "code" : "123" }, "qty" : 20, "tags" : [ "B" ], "price" : 225 }
{ "_id" : 3, "item" : { "name" : "ij", "code" : "456" }, "qty" : 25, "tags" : [ "A", "B" ], "price" : 225 }
{ "_id" : 5, "item" : { "name" : "mn", "code" : "000" }, "qty" : 20, "tags" : [ [ "A", "B" ], "C" ], "price" : 300 }
```