

22.7.25

## MongoDB Assignments

### Inserting , Updating, Deleting Elements

#### 1. Inserting Data

##### Insert a single document

```
db.inventory.insertOne({ item: "canvas", qty: 100, tags: ["cotton"], size: {  
h: 28, w: 35.5 }, uom: "cm" });
```

```
test> db.inventory.insertOne({ item: "canvas", qty: 100, tags: ["cotton"], size: { h: 28, w: 35.5 }, uom: "cm" });  
{  
  acknowledged: true,  
  insertedId: ObjectId('687f96caf1ff6af535eec4b2')  
}  
test> |
```

##### Insert multiple documents

```
db.inventory.insertMany([  
  { item: "journal", qty: 25, tags: ["blank", "red"], size: { h: 14, w: 21 },  
    uom: "cm" },  
  { item: "mat", qty: 85, tags: ["gray"], size: { h: 27.9, w: 35.5 }, uom:  
    "cm" },  
  { item: "mousepad", qty: 25, tags: ["gel", "blue"], size: { h: 19, w: 22.85  
    }, uom: "cm" }  
]);
```

```
test> db.inventory.insertMany([  
... { item: "journal", qty: 25, tags: ["blank", "red"], size: { h: 14, w: 21 }, uom: "cm" },  
... { item: "mat", qty: 85, tags: ["gray"], size: { h: 27.9, w: 35.5 }, uom: "cm" },  
... { item: "mousepad", qty: 25, tags: ["gel", "blue"], size: { h: 19, w: 22.85 }, uom: "cm" }  
... ]);  
{  
  acknowledged: true,  
  insertedIds: {  
    '0': ObjectId('687f96e7f1ff6af535eec4b3'),  
    '1': ObjectId('687f96e7f1ff6af535eec4b4'),  
    '2': ObjectId('687f96e7f1ff6af535eec4b5')  
  }  
}
```

## 2. Finding Data

Find documents where item = "journal"

```
db.inventory.find({ item: "journal" });
```

```
test> db.inventory.find({ item: "journal" });
[
  {
    _id: ObjectId('687f990ff1ff6af535eec4b7'),
    item: 'journal',
    qty: 25,
    tags: [ 'blank', 'red' ],
    size: { h: 14, w: 21 },
    uom: 'cm'
  }
]
```

Find all documents

```
db.inventory.find();
```

```
test> db.inventory.find();
[
  {
    _id: ObjectId('687f990ef1ff6af535eec4b6'),
    item: 'canvas',
    qty: 100,
    tags: [ 'cotton' ],
    size: { h: 28, w: 35.5 },
    uom: 'cm'
  },
  {
    _id: ObjectId('687f990ff1ff6af535eec4b7'),
    item: 'journal',
    qty: 25,
    tags: [ 'blank', 'red' ],
    size: { h: 14, w: 21 },
    uom: 'cm'
  },
  {
    _id: ObjectId('687f990ff1ff6af535eec4b8'),
    item: 'mat',
    qty: 85,
    tags: [ 'gray' ],
    size: { h: 27.9, w: 35.5 },
    uom: 'cm'
  },
  {
    _id: ObjectId('687f990ff1ff6af535eec4b9'),
    item: 'mousepad',
    qty: 25,
    tags: [ 'gel', 'blue' ],
    size: { h: 19, w: 22.85 },
    uom: 'cm'
  }
]
```

Find one document with item = "mat"

```
db.inventory.findOne({ item: "mat" });
```

```
test> db.inventory.findOne({ item: "mat" });
{
  _id: ObjectId('687f990ff1ff6af535eec4b8'),
  item: 'mat',
  qty: 85,
  tags: [ 'gray' ],
  size: { h: 27.9, w: 35.5 },
  uom: 'cm'
}
test> |
```

### 3. Updating Data

**Update one document: set qty = 50 for journal**

```
db.inventory.updateOne(  
  { item: "journal" },  
  { $set: { qty: 50 } }  
);
```

```
test> db.inventory.updateOne(  
...   { item: "journal" },  
...   { $set: { qty: 50 } }  
... );  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}
```

**Update many documents: set qty = 30 where qty = 25**

```
db.inventory.updateMany(  
  { qty: 25 },  
  { $set: { qty: 30 } }  
);
```

```
test> db.inventory.updateMany(  
...   { qty: 25 },  
...   { $set: { qty: 30 } }  
... );  
...  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}
```

## 4. Deleting Data

**Delete one document with item = "mousepad"**

```
db.inventory.deleteOne({ item: "mousepad" });
```

```
test> db.inventory.deleteOne({ item: "mousepad" });  
{ acknowledged: true, deletedCount: 1 }  
test> |
```

**Delete many documents with qty = 30**

```
db.inventory.deleteMany({ qty: 30 });
```

```
test> db.inventory.deleteMany({ qty: 30 });  
{ acknowledged: true, deletedCount: 0 }  
test> |
```

**Find one document and delete it**

```
db.inventory.findOneAndDelete({ item: "journal" });
```

```
test> db.inventory.findOneAndDelete({ item: "journal" });  
{  
  _id: ObjectId('687f990ff1ff6af535eec4b7'),  
  item: 'journal',  
  qty: 50,  
  tags: [ 'blank', 'red' ],  
  size: { h: 14, w: 21 },  
  uom: 'cm'  
}
```

## Projection

### 1. Show only specific fields (item and qty)

`db.inventory.find({}, { item: 1, qty: 1 });`

```
test> db.inventory.find({}, { item: 1, qty: 1 });
[
  {
    _id: ObjectId('687f990ef1ff6af535eec4b6'),
    item: 'canvas',
    qty: 100
  },
  { _id: ObjectId('687f990ff1ff6af535eec4b8'), item: 'mat', qty: 85 }
]
```

### 2. Include only selected fields and exclude \_id

`db.inventory.find({}, { item: 1, qty: 1, _id: 0 });`

```
test> db.inventory.find({}, { item: 1, qty: 1, _id: 0 });
[ { item: 'canvas', qty: 100 }, { item: 'mat', qty: 85 } ]
test> |
```

### 3. Show item and uom, without \_id

`db.inventory.find({}, { item: 1, uom: 1, _id: 0 });`

```
test> db.inventory.find({}, { item: 1, uom: 1, _id: 0 });
[ { item: 'canvas', uom: 'cm' }, { item: 'mat', uom: 'cm' } ]
test> |
```

### 4. Filter and project (qty: 25)

`db.inventory.find({ qty: 25 }, { item: 1, qty: 1, _id: 0 });`

```
test> db.inventory.find({ qty: 85 }, { item: 1, qty: 1, _id: 0 });  
[ { item: 'mat', qty: 85 } ]
```

#### 5. Show only one field (e.g., item) without \_id

```
db.inventory.find({}, { item: 1, _id: 0 });
```

```
test> db.inventory.find({}, { item: 1, _id: 0 });  
[ { item: 'canvas' }, { item: 'mat' } ]  
test> |
```

#### 6. Project tags array only

```
db.inventory.find({}, { tags: 1, _id: 0 });
```

```
test> db.inventory.find({}, { tags: 1, _id: 0 });  
[ { tags: [ 'cotton' ] }, { tags: [ 'gray' ] } ]  
test> |
```

#### 7. Show nested field from embedded document (size.h and item)

```
db.inventory.find({}, { "size.h": 1, item: 1, _id: 0 });
```

```
test> db.inventory.find({}, { "size.h": 1, item: 1, _id: 0 });  
[  
  { item: 'canvas', size: { h: 28 } },  
  { item: 'mat', size: { h: 27.9 } }  
]
```