

MongoDB Operations Documentation

- This document demonstrates various MongoDB operations with practical examples.
 - All queries are executed using the database: trainingdb.
 - Collection used: people.
 - Each operation includes the command, explanation, and space for a screenshot.
 - The objective is to understand CRUD operations, projections, replacements, and operators in MongoDB.
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1. Update One Document

Query:

```
db.people.updateOne(  
{ user_id: 3 }, { $set: { status: "failed" } }  
)
```

Screenshot:



```
trainingdb> db.people.updateOne({ user_id: 3 }, { $set: { status: "failed" } })  
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 0,  
  modifiedCount: 0,  
  upsertedCount: 0  
}
```

Explanation:

This command modifies just one document where the user_id is 3. It uses the \$set operator to assign the value "failed" to the status field.

2. Update Multiple Document

Query:

```
db.people.updateMany(  
{ status: "failed" }, { $inc: { age: 2 } }  
)
```

Screenshot:

```
trainingdb> db.people.updateMany({ status: "Failed" }, { $inc: { age: 2 } })
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
```

Explanation:

This operation increases the age by 2 for all documents that have the status field set to "failed", using the \$inc operator to increment values.

3. Delete One Document

Query:

```
db.people.deleteOne(
  { age: 28 }
)
```

Screenshot:

```
trainingdb> db.people.deleteOne({ age: 28 })
{ acknowledged: true, deletedCount: 1 }
```

Explanation:

Removes the first document it finds in the collection where the age is 28.

4. Delete Multiple Documents

Query:

```
db.people.deleteOne(
  { age: 28 }
)
```

Screenshot:

```
trainingdb> db.people.deleteOne({ age: 28 })
{ acknowledged: true, deletedCount: 1 }
```

Explanation:

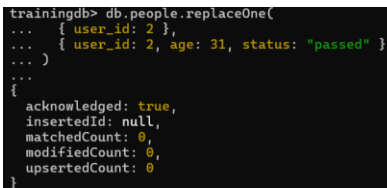
Removes the first document it finds in the collection where the age is 28.

5. Replace One Document

Query:

```
db.people.replaceOne(  
  { user_id: 2 },  
  { user_id: 2, age: 31, status: "passed" }  
)
```

Screenshot:



```
trainingdb> db.people.replaceOne(  
...   { user_id: 2 },  
...   { user_id: 2, age: 31, status: "passed" }  
... )  
...  
...  
acknowledged: true,  
insertedId: null,  
matchedCount: 0,  
modifiedCount: 0,  
upsertedCount: 0  
}
```

Explanation:

This command replaces the entire document that matches `user_id` 2 with a new document containing only the provided fields (`user_id`, `age`, and `status`).

6. Projection Queries

Query:

```
db.people.find(  
  { status: "passed" }, { user_id: 1, _id: 0 }  
)  
  
db.people.find(  
  { status: "passed" }, { user_id: 1, status: 1, _id: 0 }  
)
```

Screenshot:



```
trainingdb> db.people.find({ status: "passed" }, { user_id: 1, _id: 0 })  
[ { user_id: 1 }, { user_id: 2 } ]  
trainingdb> db.people.find({ status: "passed" }, { user_id: 1, status: 1, _id: 0 })  
[ { user_id: 1, status: 'passed' }, { user_id: 2, status: 'passed' } ]
```

Explanation:

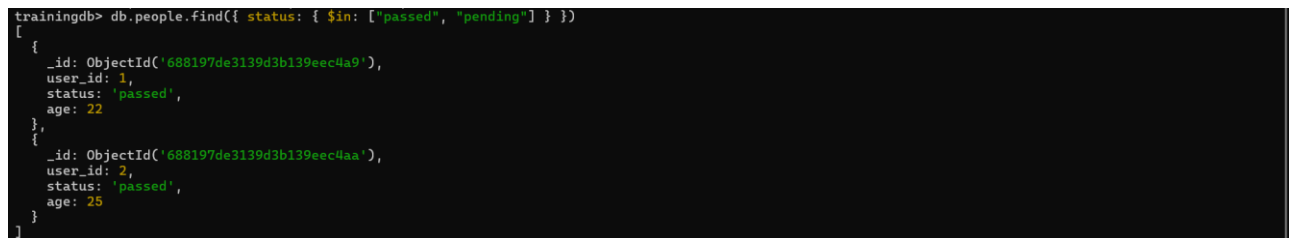
These queries show how to use projections. The first displays only `user_id` (excluding `_id`), while the second displays both `user_id` and `status`, again omitting the `_id` field.

7. Query with \$in Operator

Query:

```
db.people.find(  
{ status: { $in: ["passed", "pending"]} } }  
)
```

Screenshot:



```
trainingdb> db.people.find({ status: { $in: ["passed", "pending"]} })  
[  
  {  
    _id: ObjectId('688197de3139d3b139eec4a9'),  
    user_id: 1,  
    status: 'passed',  
    age: 22  
  },  
  {  
    _id: ObjectId('688197de3139d3b139eec4aa'),  
    user_id: 2,  
    status: 'passed',  
    age: 25  
  }  
]
```

Explanation:

This retrieves all documents where the status field is either "passed" or "pending" by using the \$in operator to match multiple possible values.

Conclusion:

- This document covered basic to intermediate MongoDB operations.
 - CRUD operations were performed using appropriate MongoDB commands.
 - Projection, \$in operator, and replacement operations were demonstrated.
 - Screenshots were included to verify the output of each query.
 - The practice enhances understanding of how MongoDB manages data in document-based format.
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