▶ Click here for Hint
▶ Click here for Solution

Exercise 2 - Create documents

1. Run the below commands in mongo client to insert two documents into the collection `languages` one at a time.

```
1. 1
2. 2
1. db.languages.insertOne({"name":"java","type":"object oriented"})
2. db.languages.insertOne({"name":"python","type":"general purpose","versions":201})
```
Copied!

2. To insert more than one document at the same time, you can use `insertMany` command; which accepts an array as the argument.

```
1. 1
2. 2
3. 3
4. 4
5. 5
1. db.languages.insertMany([
2.     {"name":"scala","type":"functional"},
3.     {"name":"c","type":"procedural"},
4.     {"name":"c++","type":"object oriented"}
5. ])
```
Copied!

Exercise 3 - Read documents

Let's try out different ways of querying documents.

1. Find how many documents in `languages` collection.

```
1. 1
1. db.languages.countDocuments()
```
Copied!

2. List the first document in the collection.

```
1. 1
1. db.languages.findOne()
```
Copied!

3. List all documents in the collection.

```
1. 1
1. db.languages.find()
```
Copied!

4. List first 3 documents in the collection.

```
1. 1
1. db.languages.find().limit(3)
```
Copied!

5. Query for "python" language.

```
1. 1
1. db.languages.find({"name":"python"})
```
Copied!

6. Query for "object oriented" languages.

```
1. 1
1. db.languages.find({"type":"object oriented"})
```
Copied!

7. Use projection to only `project` specific fields. Using a projection document you can specify what fields we wish to see or skip in the output.

   This command lists all the documents with only `name` field in the output.

```
1. 1
1. db.languages.find({},{"name":1})
```
Copied!

8. This command lists all the documents without the `name` field in the output.

```
1. 1
1. db.languages.find({},{"name":0})
```
Copied!

9. This command lists all the `object oriented` languages with only `name` field in the output.

```
1. 1
1. db.languages.find({"type":"object oriented"},{"name":1})
```
Copied!

Exercise 4 - Update documents

You will now update documents based on a criteria.

1. Add a field to all documents

   The `updateMany` command is used to update documents in a mongodb collection, and it has the following generic syntax.

```
1. 1
1. db.collection.updateMany(<filter>,<update>)
```
Copied!

   Here we are adding a field `description` with value `programming language` to all documents.

```
1. 1
1. db.languages.updateMany({},{$set:{"description":"programming language"}})
```
Copied!

2. Set the `creater` for python language.

```
1. 1
1. db.languages.updateMany({"name":"python"},{$set:{"creator":"Guido van Rossum"}})
```
Copied!

3. Set a field named `compiled` with a value `true` for all the `object oriented` languages.

```
1. 1
1. db.languages.updateMany({"type":"object oriented"},{$set:{"compiled":true}})
```
Copied!

4. Increment `version` for `python` by `1`.

```
1. 1
1. db.languages.updateOne({"name":"python"},{$inc:{"version":1}})
```
Copied!

Exercise 5 - Delete documents

Delete documents based on a criteria.

1. Delete one `scala` language document.

```
1. 1
1. db.languages.deleteOne({"name":"scala"})
```
Copied!

2. Delete all `object oriented` languages.

```
1. 1
1. db.languages.deleteMany({"type":"object oriented"})
```
Copied!

3. Delete all the documents in a collection.

```
1. 1
1. db.languages.deleteMany({})
```
Copied!

Practice exercises

Run the below code on mongo console. It will insert 5 documents, which will serve as sample data for the next steps.

```
1. 1
2. 2
```

```
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
```

```
1. use training
2. db.languages.insertMany([
3.     {"name":"java","type":"object oriented"},
4.     {"name":"python","type":"general purpose"},
5.     {"name":"scala","type":"functional"},
6.     {"name":"c","type":"procedural"},
7.     {"name":"c++","type":"object oriented"}
8. ])
```

Copied!

1. Problem:

   Insert an entry for `Haskell` programming language which is of type `functional`.

▶ Click here for Hint
▶ Click here for Solution

2. Problem:

   Query all languages with `type` as `functional`.

▶ Click here for Hint
▶ Click here for Solution

3. Problem:

   Add `Bjarne Stroustrup` as creator for c++.

▶ Click here for Hint
▶ Click here for Solution

4. Problem:

   Delete all functional programming languages.

▶ Click here for Hint
▶ Click here for Solution

5. Problem:

   Disconnect from the mongodb server.

▶ Click here for Solution

Summary

In this lab, you have gained the understanding of CRUD operations in MongoDB.

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