MongoDB Cheat Sheet

Basic commands

1. Connect to MongoDB: Different ways to connect using Mongoshell

```
mongosh "URI"
mongosh --host mongodb0.example.com --port 28015
mongosh "mongodb://mongodb0.example.com:28015" --username alice --authenticationDatabase admin
```

1. Show databases
   ```
   show dbs
   ```
2. Switch database
   ```
   use <database_name>
   ```
3. Create a collection
   ```
   db.createCollection("<collection_name>")
   ```
4. Show collections in the current database
   ```
   show collections
   ```
5. Insert a document
   ```
   db.<collection_name>.insert({ field1: value1, field2: value2, ... })
   ```
6. Insert multiple documents
   ```
   db.<collection_name>.insertMany([document1, document2, ...])
   ```
7. Find documents
   ```
   db.<collection_name>.find()
   ```

Querying

1. Filter documents with a query
   ```
   db.<collection_name>.find({ field: value })
   ```
2. Equality query
   ```
   db.<collection_name>.find({ field: "value" })
   ```
3. Range query

   ```
   db.<collection_name>.find({ field: { $lt: value } })
   db.<collection_name>.find({ field: { $gt: value } })
   db.<collection_name>.find({ field: { $lt: value, $gt: value } })
   ```

4. AND query
   ```
   db.<collection_name>.find({ field1: value1, field2: value2 })
   ```
5. OR query
   ```
   db.<collection_name>.find({ $or: [ { field1: value1 }, { field2: value2 } ] })
   ```
6. Sort ascending
   ```
   db.<collection_name>.find().sort({ field: 1 })
   ```
7. Sort descending
   ```
   db.<collection_name>.find().sort({ field: -1 })
   ```

Update and delete

1. Update documents

   ```
   db.<collection_name>.updateOne({ field: value }, { $set: { new_field: new_value } })
   db.<collection_name>.updateMany({ field: value }, { $set: { new_field: new_value } })
   ```

2. Delete documents

   ```
   db.<collection_name>.deleteOne({ field: value })
   db.<collection_name>.deleteMany({ field: value })
   ```

Aggregation

1. Aggregation pipeline

   ```
   db.<collection_name>.aggregate([
   { $match: { field: value } },
   { $group: { _id: "$field", total: { $sum: 1 } } }
   ])
   ```

Indexing

1. Create a single field index
   ```
   db.<collection_name>.createIndex({ field: 1 })
   ```
2. Create a compound index
   ```
   db.<collection_name>.createIndex({ field: 1, another_field: 1 })
   ```
3. List all indexes
   ```
   db.<collection_name>.getIndexes()
   ```

Export and import data

1. Export data to JSON
   ```
   mongoexport --db <database_name> --collection <collection_name> --out <output_file.json>
   ```
2. Import data from JSON
   ```
   mongoimport --db <database_name> --collection <collection_name> --file <input_file.json>
   ```

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