

MongoDB Practical Report

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Title: MongoDB Operations - Drop, Delete Collections, Update Documents

1. Objective

This document demonstrates essential MongoDB operations, including creating and dropping databases and collections, inserting multiple documents, deleting specific documents, updating data, and querying with projections. The goal is to understand and apply basic MongoDB shell commands effectively.

2. MongoDB Operations and Queries

2.1 Create Database and Collection

Database: sampled

Collection: sample

```
use sampled
db.createCollection("sample")
```

2.2 Drop Database

Database: sampled

```
use sampled
db.dropDatabase()
```

2.3 Create Database and Collection

Database: check

Collection: sampledata

```
use check
db.createCollection("sampledata")
```

2.4 Drop Collection

Collection: sampledata

```
db.sampledata.drop()
```

2.5 Create Collection in unidb

Database: unidb

Collection: degrees

```
use unidb
```

```
db.createCollection("degrees")
```

2.6 Insert Multiple Documents

Documents Inserted into degrees:

```
db.degrees.insertMany([
  { name: "BSc IT", duration: 3 },
  { name: "BSc CS", duration: 4 },
  { name: "BEng Software", duration: 5 }
])
```

2.7 Delete Particular ObjectId

Collection: degrees

```
db.degrees.deleteOne({ _id: ObjectId('680ee9390937de0b64ee8b41') })
```

2.8 Check Whether It's Deleted (Projection)

Projection: name, duration

```
db.degrees.find({}, { name: 1, duration: 1, _id: 0 })
```

2.9 Select Certain Data (Name Only)

```
db.degrees.find({}, { name: 1, _id: 0 }).pretty()
```

2.10 Delete Degrees Where Duration < 4

```
db.degrees.deleteMany({ duration: { $lt: 4 } })
```

3. Update Operations

3.1 Update One Document

```
db.degrees.updateOne(  
  { _id: ObjectId('680eef370937de0b64ee8b53') },  
  { $set: { name: 'BIT', duration: 3 } }  
)
```

3.2 Find Updated Data

```
db.degrees.find()
```

3.3 Increase Duration by 1 Where Duration >= 4

```
db.degrees.updateMany(  
  { duration: { $gte: 4 } },  
  { $inc: { duration: 1 } }  
)
```

4. Add New Skill to a Student

4.1 Push New Skill to a Student's skills Array

```
db.students.updateOne(  
  { regno: '2021IT001' },  
  { $push: { skills: 'PHP' } }  
)
```

4.2 Find the Updated Student

```
db.students.findOne({ regno: '2021IT001' })
```

5. Conclusion

The above MongoDB shell queries cover key operations for database and collection management, data insertion, updates, deletions, and data querying. This hands-on task enhances understanding of MongoDB's basic CRUD operations and data manipulation commands.