

MongoDB Operations - Bookshop Example

1. Create Database and Collection

```
use bookshop
db.createCollection("books")
```

2. Insert Data

```
db.books.insertMany([
  {
    "title": "The Hobbit",
    "author": "J.R.R. Tolkien",
    "published_year": 1937,
    "genres": ["Fantasy", "Adventure"],
    "pages": 310,
    "available": true,
    "rating": 4.8
  },
  {
    "title": "1984",
    "author": "George Orwell",
    "published_year": 1949,
    "genres": ["Dystopian", "Political Fiction"],
    "pages": 328,
    "available": true,
    "rating": 4.7
  },
  {
    "title": "To Kill a Mockingbird",
    "author": "Harper Lee",
    "published_year": 1960,
    "genres": ["Southern Gothic", "Drama"],
    "pages": 281,
    "available": false,
    "rating": 4.6
  },
])
```

```
{
  "title": "The Great Gatsby",
  "author": "F. Scott Fitzgerald",
  "published_year": 1925,
  "genres": ["Tragedy"],
  "pages": 180,
  "available": true,
  "rating": 4.4
},
{
  "title": "Brave New World",
  "author": "Aldous Huxley",
  "published_year": 1932,
  "genres": ["Science Fiction", "Dystopian"],
  "pages": 311,
  "available": true,
  "rating": 4.2
}
])
```

3. Queries

✓ Find all books

```
db.books.find()
```

✓ Find all books published after 1950

```
db.books.find({ published_year: { $gt: 1950 } })
```

✓ Find the available books

```
db.books.find({ available: true })
```

✓ Find all books that belong to the "Dystopian" genre

```
db.books.find({ genres: "Dystopian" })
```

✓ Find the books published after 1960 with rating > 4.0

```
db.books.find({ published_year: { $gte: 1960 }, rating: { $gt: 4.0 } })
```

4. Projections

✓ Project only title and author fields

```
db.books.find({}, { title: 1, author: 1, _id: 0 })
```

5. Updates

✓ Update the book "1984" to set available: false

```
db.books.updateOne({ title: "1984" }, { $set: { available: false } })
```

✓ Increase the rating of "Brave New World" by +0.1

```
db.books.updateOne({ title: "Brave New World" }, { $inc: { rating: 0.1 } })
```

✓ Add a new genre "Classic" to "The Great Gatsby"

```
db.books.updateOne({ title: "The Great Gatsby" }, { $push: { genres: "Classic" } })
```

6. Sorting

✓ Sort books by published_year ascending

```
db.books.find().sort({ published_year: 1 })
```

✓ Sort books by rating descending

```
db.books.find().sort({ rating: -1 })
```

7. Delete

✓ Delete all books with a rating lower than 4.5

```
db.books.deleteMany({ rating: { $lt: 4.5 } })
```