

## Experiment – 6: MongoDB

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**Aim:** To study CRUD operations in MongoDB

### Overview Of Tasks Performed:

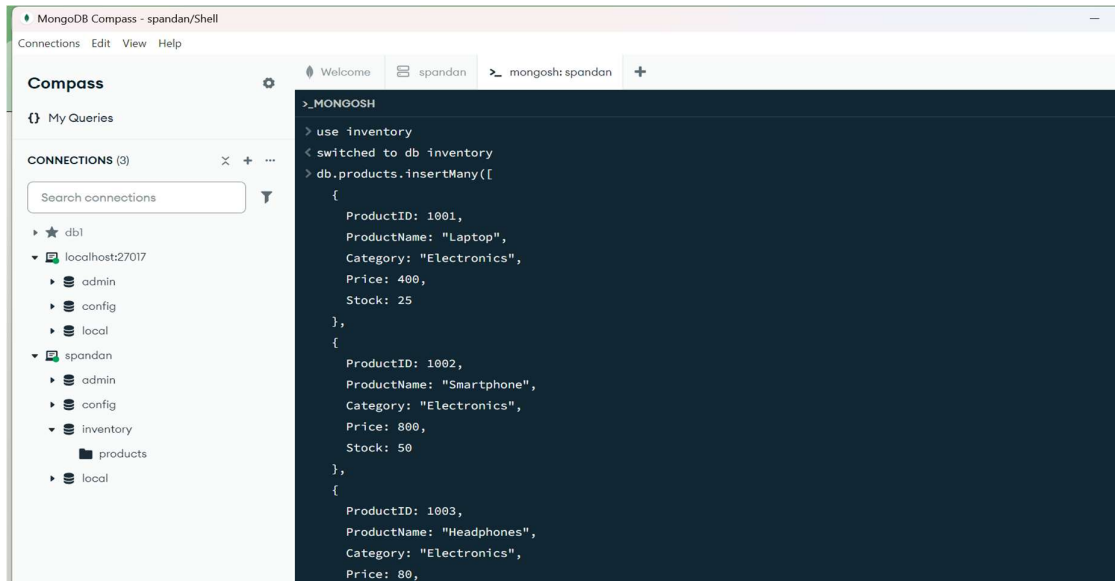
This experiment focused on performing CRUD operations in MongoDB, including creating a database and collection, inserting documents, and querying data. Tasks involved filtering products by category, sorting by name, updating prices, and deleting specific entries. The experiment demonstrated MongoDB's flexibility in handling dynamic data and its scalability through sharding.

GitHub Link-

<https://github.com/spandandeb/WEBXLab/blob/main/Experiment%206.pdf>

## Output:

### Insert Data (Create Operation)



### Read Data(Retrieve Documents)

```
> db.products.find()
< {
  _id: ObjectId('67ea9783f291a474bf0c8b63'),
  ProductID: 1001,
  ProductName: 'Laptop',
  Category: 'Electronics',
  Price: 400,
  Stock: 25
}
{
  _id: ObjectId('67ea9783f291a474bf0c8b64'),
  ProductID: 1002,
  ProductName: 'Smartphone',
  Category: 'Electronics',
  Price: 800,
  Stock: 50
}
{
  _id: ObjectId('67ea9783f291a474bf0c8b65'),
```

Update data (eg Updated laptop price to 1300)

```
> db.products.updateOne(
  { ProductName: "Laptop" },
  { $set: { Price: 1300 } }
)
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

Delete data

```
> db.products.deleteOne({ ProductID: 1005 })
< {
  acknowledged: true,
  deletedCount: 1
}
```

## Conclusion:

Successfully performed CRUD operations in MongoDB. MongoDB is a powerful NoSQL database offering flexible document storage, scalability through sharding, and efficient querying. It is ideal for handling large datasets, real-time applications, and dynamic content management. Sharding in MongoDB enables horizontal scaling, improving both performance and reliability in distributed environments.