



## Experiment 10

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**Subject Name:** ADBMS

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### 1. Aim:

To perform and understand the basic CRUD (Create, Read, Update, Delete) operations in MongoDB, a NoSQL document-oriented database.

### 2. Objectives:

- To learn how to create and manage databases and collections in MongoDB.
- To understand how to insert, retrieve, modify, and delete documents.
- To gain hands-on experience with Mongo Shell or MongoDB Compass commands.

### 3. DBMS script and output:

#### A. Create(C)

```
show dbs
use db
db.cars.insertOne({
  "maker": "Tata",
  "model": "Nexon",
  "fuel_type": "Petrol",
  "engine": {
    "type": "Turbocharged",
    "cc": 1199
  },
  "features": [
    "Touchscreen",
    "Reverse Camera"
  ]
})
```



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```
// Example from the file
db.cars.insertMany([
  {
    "maker": "Hyundai",
    "model": "Creta",
    "fuel_type": "Diesel"
  },
  {
    "maker": "Maruti Suzuki",
    "model": "Baleno"
  }
])
```

```
db> db.createCollection('student')
{ ok: 1 }
db> show collections
student
db> db.dropDatabase()
{ ok: 1, dropped: 'db' }
db> db.student.drop()
true
```

```
db> db.collection.insertOne({
... 'maker': 'tata', 'model': 'Nexon'})
{
  acknowledged: true,
  insertedId: ObjectId('6908bd50ae56512c8fcebea4')
}
db> // Example from the file
... db.cars.insertOne({
...   "maker": "Tata",
...   "model": "Nexon",
...   "fuel_type": "Petrol",
...   "engine": {
...     "type": "Turbocharged",
...     "cc": 1199
...   },
...   "features": [
...     "Touchscreen",
...     "Reverse Camera"
...   ]
... })
{
  acknowledged: true,
  insertedId: ObjectId('6908bd6bae56512c8fcebea5')
}
```

## Read(R)

```
db.cars.find({fuel_type: "Petrol"})
db.cars.find({"engine.type": "Turbocharged"})
db.cars.find({}, {model:1, _id:0})
```

```
db> db.cars.find()
[
  {
    _id: ObjectId('6908bd6bae56512c8fcebea5'),
    maker: 'Tata',
    model: 'Nexon',
    fuel_type: 'Petrol',
    engine: { type: 'Turbocharged', cc: 1199 },
    features: [ 'Touchscreen', 'Reverse Camera' ]
  }
]
db> db.cars.insertMany([{'makers': 'Hyundai'}, {'makers': 'maruti'}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('6908be93ae56512c8fcebea6'),
    '1': ObjectId('6908be93ae56512c8fcebea7')
  }
}
```

```
db> db.cars.find()
[
  {
    _id: ObjectId('6908bd6bae56512c8fcebea5'),
    maker: 'Tata',
    model: 'Nexon',
    fuel_type: 'Petrol',
    engine: { type: 'Turbocharged', cc: 1199, torque: '270 Nm' },
    features: [ 'Touchscreen', 'Reverse Camera' ]
  },
  { _id: ObjectId('6908be93ae56512c8fcebea6'), makers: 'Hyundai' },
  { _id: ObjectId('6908be93ae56512c8fcebea7'), makers: 'maruti' },
  {
    _id: ObjectId('6908c5a14519b726a716ab46'),
    model: 'Venue',
    Maker: 'Hyundai'
  }
]
```

## B. Update(U)

```
db> db.cars.updateMany({model:"Venue"},{$set:{Maker:"Hyundai"}},{upsert:true})
{
  acknowledged: true,
  insertedId: ObjectId('6908c5a14519b726a716ab46'),
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 1
}
```

```
db> db.cars.updateOne({model:"NEXON"},{$set:{color:"RED"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
db> db.cars.find()
[
  {
    _id: ObjectId('6908bd6bae56512c8fcebea5'),
    maker: 'Tata',
    model: 'Nexon',
    fuel_type: 'Petrol',
    engine: { type: 'Turbocharged', cc: 1199 },
    features: [ 'Touchscreen', 'Reverse Camera' ]
  },
  { _id: ObjectId('6908be93ae56512c8fcebea6'), makers: 'Hyundai' },
  { _id: ObjectId('6908be93ae56512c8fcebea7'), makers: 'maruti' }
]
db> db.cars.updateOne({model:'Nexon'},{$set:{color:'Red'}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

## C. Delete(D)

```
db> db.cars.deleteOne({fuel_type:"Petrol"})
{ acknowledged: true, deletedCount: 1 }
db> db.cars.deleteMany({maker:'Hyundai'})
{ acknowledged: true, deletedCount: 0 }
db> db.cars.deleteMany({})
{ acknowledged: true, deletedCount: 3 }
db> // Example from the file
... db.cars.insertMany([
...   {
...     "maker": "Hyundai",
...     "model": "Creta",
...     "fuel_type": "Diesel"
...   },
...   {
...     "maker": "Maruti Suzuki",
...     "model": "Baleno"
...   }
... ])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('69097e17ae56512c8fcebea8'),
    '1': ObjectId('69097e17ae56512c8fcebea9')
  }
}
```