



# MongoDB Query Language

K.S Mohan



# CRUD

Create

Read

Update

Delete



# Create

- `db.createCollection("Employee");`
- `{ "ok" : 1 }`
- **Create Collection with fields**
- `db.student.insert({_id:1,studRollNo:'16IT001',studName:'Abinaya',Grade:'III',DOB:'10-oct-1999'});`

```
> show collections
student
> db.createCollection("Employee");
{ "ok" : 1 }
> show collections
Employee
student
> db.createCollection("Accounts");
{ "ok" : 1 }
> show collections
Accounts
Employee
student
> db.createCollection("loan");
{ "ok" : 1 }
> show collections
Accounts
Employee
loan
student
```

```
C:\Windows\System32\cmd.exe - mongo
```

```
switched to db mydb
> db.createCollection("student")
{ "ok" : 1 }
> db.student.insert({_id:1,studRollNo:'16IT001',studName:'Abinaya',Grade:'III',DOB:'10-oct-1999'});
WriteResult({ "nInserted" : 1 })
>
```



# Insert (Create) In new Versions

- `> db.student.insertOne({ id:5, studRollNo:"16IT010", studName:"Dharshana", Grade:"III"})`
- `db.student.insertMany([ {id:6, studRollNo:"16IT018", studName:"ABC", Grade:"III", CGPA: 6.78},{id:7, studRollNo:"16IT019", studName:"Alex", Grade:"III", CGPA: 7.48}, {id:8, studRollNo:"16IT020", studName:"sowmini", Grade:"III", CGPA: 8.78,SGPA:7.98},{id:9, studRollNo:"16IT021", studName:"Ramya", Grade:"III", CGPA: 7.78, SGPA:8.98}])`

```
> db.student.insertMany([ {id:6, studRollNo:"16IT018", studName:"ABC", Grade:"III", CGPA: 6.78},{id:7, studRollNo:"16IT019", studName:"Alex", Grade:"III", CGPA: 7.48}, {id:8, studRollNo:"16IT020", studName:"sowmini", Grade:"III", CGPA: 8.78,SGPA:7.98},{id:9, studRollNo:"16IT021", studName:"Ramya", Grade:"III", CGPA: 7.78, SGPA:8.98}])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5c7a53d29a9d1ea1299d606e"),
    ObjectId("5c7a53d29a9d1ea1299d606f"),
    ObjectId("5c7a53d29a9d1ea1299d6070"),
    ObjectId("5c7a53d29a9d1ea1299d6071")
  ]
}
```



# Drop

- `> db.loan.drop();`
- true

```
> db.loan.drop();
true
> show collections
Accounts
Employee
student
```



# Update

**[db.collection.updateOne\(\)](#) New in version 3.2**

**[db.collection.updateMany\(\)](#) New in version 3.2**

**[db.collection.replaceOne\(\)](#) New in version 3.2**



- `> db.student.updateMany( { Hobbies: "Reading Books"}, {$set :{CGPA: 7.45}})`
- `{ "acknowledged" : true, "matchedCount" : 0, "modifiedCount" : 0 }`
- Upsert
- `db.student.update({id:10,studRollNo:"16IT25", studName:"Harshini"},{$set:{Hobbies:"Baseball"}},{upsert:true});`

```
> db.student.update({id:10,studRollNo:"16IT25", studName:"Harshini"},{$set:{Hobbies:"Baseball"}},{upsert:true});
WriteResult({
  "nMatched" : 0,
  "nUpserted" : 1,
  "nModified" : 0,
  "_id" : ObjectId("5c7a5abacfcf80c8ae376b51")
})
```



```
{ "_id" : 2, "studRollNo" : "16IT004", "studName" : "Arunkumar", "Grade" : "III", "DOB" : "14-sep-1999", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books" }
{ "_id" : 3, "studRollNo" : "16IT005", "studName" : "Aswathy", "Grade" : "III", "DOB" : "24-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books" }
{ "_id" : 4, "studRollNo" : "16IT006", "studName" : "Bhavadharani", "Grade" : "III", "DOB" : "28-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books" }
{ "_id" : ObjectId("5c7a51ae9a9d1ea1299d606d"), "id" : 5, "studRollNo" : "16IT010", "studName" : "Dharshana", "Grade" : "III", "CGPA" : 6.78 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d606e"), "id" : 6, "studRollNo" : "16IT018", "studName" : "ABC", "Grade" : "III", "CGPA" : 6.78 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d606f"), "id" : 7, "studRollNo" : "16IT019", "studName" : "Alex", "Grade" : "III", "CGPA" : 7.48 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d6070"), "id" : 8, "studRollNo" : "16IT020", "studName" : "sowmini", "Grade" : "III", "CGPA" : 8.78, "SGPA" : 7.98 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d6071"), "id" : 9, "studRollNo" : "16IT021", "studName" : "Ramya", "Grade" : "III", "CGPA" : 7.78, "SGPA" : 8.98 }
{ "_id" : ObjectId("5c7a5abacfcf80c8ae376b51"), "id" : 10, "studName" : "Harshini", "studRollNo" : "16IT25", "Hobbies" : "Baseball" }
```





- `db.student.update({"Age":{ $lt: 18}},{ $set: {status:"Not Approve"}})`
- `db.student.update({"Age":{ $gt: 18}},{ $set: {status:" Approve"}})`



# Delete

- `db.student.deleteMany({CGPA: 7.45})`
- `{ "acknowledged" : true, "deletedCount" : 0 }`

```
> db.student.deleteMany({CGPA: 7.45})
{ "acknowledged" : true, "deletedCount" : 0 }
> db.student.find()
{ "_id" : 1, "studRollNo" : "16IT001", "studName" : "Abinaya", "Grade" : "III", "DOB" : "10-oct-1999", "Hobbies" : "reading Books", "CGPA" : 5, "SGPA" : 4 }
{ "_id" : 2, "studRollNo" : "16IT004", "studName" : "Arunkumar", "Grade" : "III", "DOB" : "14-sep-1999", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books" }
{ "_id" : 3, "studRollNo" : "16IT005", "studName" : "Aswathy", "Grade" : "III", "DOB" : "24-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books" }
{ "_id" : 4, "studRollNo" : "16IT006", "studName" : "Bhavadharani", "Grade" : "III", "DOB" : "28-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books" }
{ "_id" : ObjectId("5c7a51ae9a9d1ea1299d606d"), "id" : 5, "studRollNo" : "16IT010", "studName" : "Dharshana", "Grade" : "III" }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d606e"), "id" : 6, "studRollNo" : "16IT018", "studName" : "ABC", "Grade" : "III", "CGPA" : 6.78 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d606f"), "id" : 7, "studRollNo" : "16IT019", "studName" : "Alex", "Grade" : "III", "CGPA" : 7.48 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d6070"), "id" : 8, "studRollNo" : "16IT020", "studName" : "sowmini", "Grade" : "III", "CGPA" : 8.78, "SGPA" : 7.98 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d6071"), "id" : 9, "studRollNo" : "16IT021", "studName" : "Ramya", "Grade" : "III", "CGPA" : 7.78, "SGPA" : 8.98 }
>
```



- `db.student.update({id:12,studRollNo:"16IT26",studName:"Hashini"},{$set:{Hobbies:"cricket"}},{upsert:false});`

```
> db.student.update({id:12,studRollNo:"16IT26", studName:"Hashini"},{$set:{Hobbies:"cricket"}},{upsert:false});
WriteResult({ "nMatched" : 0, "nUpserted" : 0, "nModified" : 0 })
```

- `db.student.remove({"Age": {$lt :16}})`

```
"CGPA" : 7.78, "SGPA" : 8.98, "Age" : 20 }
{ "_id" : ObjectId("5c7a5abacfcf80c8ae376b51"), "id" : 10, "studName" : "Harshini", "studRollNo" : "16IT25", "Hobbies" : "Baseball", "Age" : 19 }
{ "_id" : ObjectId("5c7a5cf6cfcf80c8ae376bbe"), "id" : 1, "Age" : 15 }
> db.student.update({"Age":{ $lt: 18}},{ $set: {status:"Not Approve"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 0 })
```

```
"_id" : ObjectId("5c7a53d29a9d1ea1299d6071"), "id" : 9, "studRollNo" : "16IT021", "studName" : "Ramya", "Grade" : "III", "CGPA" : 7.78, "SGPA" : 8.98, "Age" : 20 }
{ "_id" : ObjectId("5c7a5abacfcf80c8ae376b51"), "id" : 10, "studName" : "Harshini", "studRollNo" : "16IT25", "Hobbies" : "Baseball", "Age" : 19 }
```



- Aggregate Function
- Count
- `> db.student.count()`
- 10
- `> db.student.count({Age :{ $gt :18}})`
- 7
- `db.student.find().sort({studRollNo:1})`



# db.student.find().sort({studRollNo:1})

```
> db.student.find().sort({studRollNo:1})
{ "_id" : 1, "studRollNo" : "16IT001", "studName" : "Abinaya", "Grade" : "III", "DOB" : "10-oct-1999", "Hobbies" : "reading Books", "CGPA" : 5, "SGPA" : 4, "Age" : 20, "status" : "Approve" }
{ "_id" : 2, "studRollNo" : "16IT004", "studName" : "Arunkumar", "Grade" : "III", "DOB" : "14-sep-1999", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books", "Age" : 19 }
{ "_id" : 3, "studRollNo" : "16IT005", "studName" : "Aswathy", "Grade" : "III", "DOB" : "24-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books", "Age" : 20 }
{ "_id" : 4, "studRollNo" : "16IT006", "studName" : "Bhavadharani", "Grade" : "III", "DOB" : "28-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books", "Age" : 21 }
{ "_id" : ObjectId("5c7a51ae9a9d1ea1299d606d"), "id" : 5, "studRollNo" : "16IT010", "studName" : "Dharshana", "Grade" : "III", "Age" : 18 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d606e"), "id" : 6, "studRollNo" : "16IT018", "studName" : "ABC", "Grade" : "III", "CGPA" : 6.78, "Age" : 19 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d606f"), "id" : 7, "studRollNo" : "16IT019", "studName" : "Alex", "Grade" : "III", "CGPA" : 7.48, "Age" : 18 }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d6070"), "id" : 8, "studRollNo" : "16IT020", "studName" : "sowmini", "Grade" : "III", "CGPA" : 8.78, "SGPA" : 7.98, "Age" : 17, "status" : "Not Approve" }
{ "_id" : ObjectId("5c7a53d29a9d1ea1299d6071"), "id" : 9, "studRollNo" : "16IT021", "studName" : "Ramya", "Grade" : "III", "CGPA" : 7.78, "SGPA" : 8.98, "Age" : 20 }
{ "_id" : ObjectId("5c7a5abacfcf80c8ae376b51"), "id" : 10, "studName" : "Harshini", "studRollNo" : "16IT25", "Hobbies" : "Baseball", "Age" : 19 }
> _
```



```
db.student.find().sort({studRollNo:1}).pretty();
```

```
> db.student.find().sort({studRollNo:1}).pretty();
{
  "_id" : 1,
  "studRollNo" : "16IT001",
  "studName" : "Abinaya",
  "Grade" : "III",
  "DOB" : "10-oct-1999",
  "Hobbies" : "reading Books",
  "CGPA" : 5,
  "SGPA" : 4,
  "Age" : 20,
  "status" : "Approve"
}
{
  "_id" : 2,
  "studRollNo" : "16IT004",
  "studName" : "Arunkumar",
  "Grade" : "III",
  "DOB" : "14-sep-1999",
```



- `db.student.find().skip(1)` → Skips First doc
- `db.student.find().skip(2)` → Skips Second doc
- `db.student.find().skip(2).pretty().sort({Age:1});`
- `db.student.find().skip(2).limit(3)` → skips second and retrieves 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> doc



```
> db.student.find().skip(2).pretty().sort({Age:1});
{
  "_id" : ObjectId("5c7a53d29a9d1ea1299d606f"),
  "id" : 7,
  "studRollNo" : "16IT019",
  "studName" : "Alex",
  "Grade" : "III",
  "CGPA" : 7.48,
  "Age" : 18
}
{
  "_id" : 2,
  "studRollNo" : "16IT004",
  "studName" : "Arunkumar",
  "Grade" : "III",
  "DOB" : "14-sep-1999",
  "CGPA" : 5,
  "SGPA" : 4,
  "Hobbies" : "Reading books",
  "Age" : 19
}
{
  "_id" : ObjectId("5c7a53d29a9d1ea1299d606e"),
  "id" : 6,
  "studRollNo" : "16IT018",
  "studName" : "ABC",
  "Grade" : "III",
  "CGPA" : 6.78,
  "Age" : 19
}
```

Activate Windows  
Go to Settings to activate Windows.





db.student.find().skip(2).limit(3) → skips second and retrieves 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> doc

C:\Windows\System32\cmd.exe - mongo

```
> db.student.find().skip(2).limit(3);
{ "_id" : 3, "studRollNo" : "16IT005", "studName" : "Aswathy", "Grade" : "III", "DOB" : "24-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books", "Age" : 20 }
{ "_id" : 4, "studRollNo" : "16IT006", "studName" : "Bhavadharani", "Grade" : "III", "DOB" : "28-july-2000", "CGPA" : 5, "SGPA" : 4, "Hobbies" : "Reading books", "Age" : 21 }
{ "_id" : ObjectId("5c7a51ae9a9d1ea1299d606d"), "id" : 5, "studRollNo" : "16IT010", "studName" : "Dharshana", "Grade" : "III", "Age" : 18 }
>
```