

# Full stack Bootcamp

**Mongo Query Operators**



## Create database

```
Enterprise movies-db> db.movies.insertOne({"title": "The Lord of the Rings: The Return of the King", "year": 2003, "genre": ["Action", "Adventure", "Drama"], "director": "Peter Jackson", "actors": ["Elijah Wood", "Viggo Mortensen", "Ian McKellen"], "ratings": {"critics": 9.2, "audience": 6.0}})
{
  acknowledged: true,
  insertedId: ObjectId("64a67e981416c958f68064bd")
}
Enterprise movies-db> db.movies.insertMany([{"title": "Forrest Gump", "year": 1994, "genre": ["Drama", "Romance"], "director": "Robert Zemeckis", "actors": ["Tom Hanks", "Robin Wright", "Gary Sinise"], "ratings": {"critics": 9.0, "audience": 9.0}}, {"title": "The Dark Knight", "year": 2008, "genre": ["Action", "Crime", "Drama"], "director": "Christopher Nolan", "actors": ["Christian Bale", "Heath Ledger", "Aaron Eckhart"], "ratings": {"critics": 9.2, "audience": 8.0}}, {"title": "The Godfather", "year": 1972, "genre": ["Crime", "Drama"], "director": "Francis Ford Coppola", "actors": ["Marlon Brando", "Al Pacino", "James Caan"], "ratings": {"critics": 8.2, "audience": 9.0}}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("64a6801c1416c958f68064be"),
    '1': ObjectId("64a6801c1416c958f68064bf"),
    '2': ObjectId("64a6801c1416c958f68064c0")
  }
}
Enterprise movies-db>
```

## Read all record find()

```
mongosh mongodb://127.0.0.1:27020
> use movies
> db.movies.find()
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'The Godfather',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
```

## Read one record findOne()

```
mongosh mongodb://127.0.0.1:27020/enterprise-movies-database
> db.movies.findOne({title: "The Godfather"})
{
  _id: ObjectId("64a6801c1416c958f68064c0"),
  title: 'The Godfather',
  year: 1972,
  genre: [ 'Crime', 'Drama' ],
  director: 'Francis Ford Coppola',
  actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
  ratings: { critics: 8.2, audience: 9 }
}
> db.movies.find({}, {title: 1, director: 1})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    director: 'Peter Jackson'
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    director: 'Robert Zemeckis'
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    director: 'Christopher Nolan'
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'The Godfather',
    director: 'Francis Ford Coppola'
  }
]
```

## Count record estimatedDocumentCount() & runCommand()

```
Enterprise movies-db> db.movies.runCommand({"count": "movies", query: {title: "The Godfather"}})
{ n: 1, ok: 1 }
Enterprise movies-db> db.movies.estimatedDocumentCount()
4
Enterprise movies-db> db.movies.runCommand({"count": "movies"})
{ n: 4, ok: 1 }
Enterprise movies-db> db.movies.runCommand({"count": "movies", query: {title: "The Godfather"}})
{ n: 1, ok: 1 }
```

## Limit()

```
Enterprise movies-db> db.movies.find().limit(2)
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  }
]
```

## Limit() and skip()

```
Enterprise movies-db> db.movies.find().skip(2).limit(1)
[
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  }
]
```

## Sort() by year descending

```
Enterprise movies-db> db.movies.find().sort({year:-1})
[
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  },
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),

```

## Searching array

```
Enterprise movies-db> db.movies.find({genre:['Crime','Drama']})
[
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'The Godfather',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
Enterprise movies-db>
```

# projection

```
}
Enterprise movies-db> db.movies.find({}, {title:1,director:1})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    director: 'Peter Jackson'
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    director: 'Robert Zemeckis'
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    director: 'Christopher Nolan'
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'The Godfather',
    director: 'Francis Ford Coppola'
  }
]
Enterprise movies-db> |
```

```
]
Enterprise movies-db> db.movies.find({}, {title:0,director:0})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
```

# Comparison Query Operators

## \$gt

```
mongosh mongodb://127.0.0.1:27020/enterprise-movies
> use movies
> db.movies.find({year:{>:2000}})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  }
]
```

## \$lt and \$eq

```
mongosh mongodb://127.0.0.1:27020/enterprise-movies
> use movies
> db.movies.find({year:{<:2000}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'The Godfather',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
```

```
mongosh mongodb://127.0.0.1:27020/enterprise-movies
> use movies
> db.movies.find({year:{eq:2008}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  }
]
```

## \$ne

```
Full Stack Development BootCamp x (2) WhatsApp x
mongosh mongodb://127.0.0.1 x + v
Enterprise movies-db> db.movies.find({year:{$ne:2008}})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'The Godfather',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
```

## \$ In \$nin

```
mongosh mongodb://127.0.0.1 x + v
Enterprise movies-db> db.movies.find({genre:{$in:['Action','Crime']}})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'superMan',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
```

```

]
Enterprise movies-db> db.movies.find({genre:{$nin:['Action','Crime']}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  }
]
Enterprise movies-db>

```

## Nested Document

```

Enterprise movies-db> db.movies.find({'ratings.audience':{$gte:9}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'superMan',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
Enterprise movies-db>

```

## \$ and \$or \$not

```

Enterprise movies-db> db.movies.find({$and:[{year:{$gt:2000}},{ratings.audience:{$gte:8}]}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  }
]

```



```

]
Enterprise movies-db> db.movies.find({$or:[{year:{$gt:2000}},{'ratings.audience':{$gt:9}}]})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  }
]
Enterprise movies-db> db.movies.find({$not:{year:{$gt:2000}}})

```

```

Enterprise movies-db> db.movies.find({year:{$not:{$gt:2000}}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'superMan',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]
Enterprise movies-db>

```

## Arrays \$all \$size

```

]
Enterprise movies-db> db.movies.find({actors:{$all:['James Caan']}})
[
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),
    title: 'superMan',
    year: 1972,
    genre: [ 'Crime', 'Drama' ],
    director: 'Francis Ford Coppola',
    actors: [ 'Marlon Brando', 'Al Pacino', 'James Caan' ],
    ratings: { critics: 8.2, audience: 9 }
  }
]

```

```
Enterprise movies-db> db.movies.find({actors:{{$size:3}}})
[
  {
    _id: ObjectId("64a67e981416c958f68064bd"),
    title: 'The Lord of the Rings: The Return of the King',
    year: 2003,
    genre: [ 'Action', 'Adventure', 'Drama' ],
    director: 'Peter Jackson',
    actors: [ 'Elijah Wood', 'Viggo Mortensen', 'Ian McKellen' ],
    ratings: { critics: 9.2, audience: 6 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064be"),
    title: 'Forrest Gump',
    year: 1994,
    genre: [ 'Drama', 'Romance' ],
    director: 'Robert Zemeckis',
    actors: [ 'Tom Hanks', 'Robin Wright', 'Gary Sinise' ],
    ratings: { critics: 9, audience: 9 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064bf"),
    title: 'The Dark Knight',
    year: 2008,
    genre: [ 'Action', 'Crime', 'Drama' ],
    director: 'Christopher Nolan',
    actors: [ 'Christian Bale', 'Heath Ledger', 'Aaron Eckhart' ],
    ratings: { critics: 9.2, audience: 8 }
  },
  {
    _id: ObjectId("64a6801c1416c958f68064c0"),

```

## Update()

```
Enterprise movies-db> db.movies.update({_id: ObjectId("64a6801c1416c958f68064c0")},{$set:{title:"superMan"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```