

## 1. Use Database

```
> use NithinR
switched to db NithinR
> db.createCollection("products")
{ "ok" : 1 }
```

```
> db.products.insertMany( [
... { _id: 10, item: "large box", qty: 50 },
... { _id: 11, item: "medium box", qty: 30 },
... { _id: 12, item: "envelope", qty: 100},
... { _id: 13, item: "tape", qty: 20},
... { _id: 14, item: "bubble wrap", qty: 70}
... ])
{ "acknowledged" : true, "insertedIds" : [ 10, 11, 12, 13, 14 ] }
> db.products.find().pretty()
{ "_id" : 10, "item" : "large box", "qty" : 50 }
{ "_id" : 11, "item" : "medium box", "qty" : 30 }
{ "_id" : 12, "item" : "envelope", "qty" : 100 }
{ "_id" : 13, "item" : "tape", "qty" : 20 }
{ "_id" : 14, "item" : "bubble wrap", "qty" : 70 }
```

```
> db.collection.createIndex( { item: 1 } )
{
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "createdCollectionAutomatically" : true,
  "ok" : 1
}
```

```
> db.products.createIndex(
... { item: 1, quantity: -1 } ,
... { name: "query for inventory" }
... )
{
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
```

```
> db.products.getIndexes()
[
  {
    "v" : 2,
    "key" : {
      "_id" : 1
    },
    "name" : "_id_"
  },
  {
    "v" : 2,
    "key" : {
      "item" : 1,
      "quantity" : -1
    },
    "name" : "query for inventory"
  }
]
```

```
f
> db.products.dropIndex(
... { item: 1, quantity: -1 }
... )
{ "nIndexesWas" : 2, "ok" : 1 }
>
```

```
> db.products.dropIndex( "query for inventory")
{
  "ok" : 0,
  "errmsg" : "index not found with name [query for inventory]",
  "code" : 27,
  "codeName" : "IndexNotFound"
}
```

```
> db.records.insertOne({ "_id": ObjectId("570c04a4ad233577f97dc459"), "score": 1034, "location": { state: "NV", city: "New York" } })
{
  "acknowledged" : true,
  "insertedId" : ObjectId("570c04a4ad233577f97dc459")
}
```

```
> db.records.createIndex( { score: 1 } )
{
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
```

```
> db.records.find( { score: 2 } )
> db.records.find( { score: { $gt: 10 } } )
{ "_id" : ObjectId("570c04a4ad233577f97dc459"), "score" : 1034, "location" : { "state" : "NV", "city" : "New York" } }
>
```

```
> db.records.createIndex( { "location.state": -1 } )
{
  "numIndexesBefore" : 2,
  "numIndexesAfter" : 3,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
```

```
> db.records.find( { "location.state": "CA" } )
> db.records.find( { "location.city": "Albany", "location.state": "NY" } )
```

```
> db.records.createIndex( { location: 1 } )
{
  "numIndexesBefore" : 3,
  "numIndexesAfter" : 4,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
```

```
> db.records.find( { location: { city: "New York", state: "NY" } } )
```

2.

```
> db.createCollection("actors")
{ "ok" : 1 }
```

```
> db.actors.insertMany([
... { _id: "trojan",
... name: "Ivan Trojan", year: 1964, movies: [ "samotari", "medvidek" ] },
... { _id: "machacek", name: "Jiri Machacek", year: 1966, movies: [ "medvidek", "vratnelahve", "samotari" ] },
... { _id: "schneiderova", name: "Jitka Schneiderova", year: 1973, movies: [ "samotari" ] },
... { _id: "sverak", name: "Zdenek Sverak", year: 1936, movies: [ "vratnelahve" ] },
... { _id: "geislerova", name: "Anna Geislerova", year: 1976 }
... ])
{
  "acknowledged" : true,
  "insertedIds" : [
    "trojan",
    "machacek",
    "schneiderova",
    "sverak",
    "geislerova"
  ]
}
```

1. db.actors.find()

```
> db.actors.find()
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973, "movies" : [ "samotari" ] }
{ "_id" : "sverak", "name" : "Zdenek Sverak", "year" : 1936, "movies" : [ "vratnelahve" ] }
{ "_id" : "geislerova", "name" : "Anna Geislerova", "year" : 1976 }
>
```

2. db.actors.find({ })

```
> db.actors.find({ })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973, "movies" : [ "samotari" ] }
{ "_id" : "sverak", "name" : "Zdenek Sverak", "year" : 1936, "movies" : [ "vratnelahve" ] }
{ "_id" : "geislerova", "name" : "Anna Geislerova", "year" : 1976 }
```

3. db.actors.find({ \_id: "trojan" })

```
> db.actors.find({ _id: "trojan" })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
```

4. db.actors.find({ name: "Ivan Trojan", year: 1964 })

```
> db.actors.find({ name: "Ivan Trojan", year: 1964 })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
```

5. db.actors.find({ year: { \$gte: 1960, \$lte: 1980 } })

```
> db.actors.find({ year: { $gte: 1960, $lte: 1980 } })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973, "movies" : [ "samotari" ] }
{ "_id" : "geislerova", "name" : "Anna Geislerova", "year" : 1976 }
```

6. db.actors.find({ movies: { \$exists: true } })

```
> db.actors.find({ movies: { $exists: true } })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973, "movies" : [ "samotari" ] }
{ "_id" : "sverak", "name" : "Zdenek Sverak", "year" : 1936, "movies" : [ "vratnelahve" ] }
```

7. db.actors.find({ movies: "medvidek" })

```
> db.actors.find({ movies: "medvidek" })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
```

8. db.actors.find({ movies: { \$in: [ "medvidek", "pelisky" ] } })

```
> db.actors.find({ movies: { $in: [ "medvidek", "pelisky" ] } })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
```

9. db.actors.find({ movies: { \$all: [ "medvidek", "pelisky" ] } })

```
> db.actors.find({ movies: { $all: [ "medvidek", "pelisky" ] } })
```

10. db.actors.find({ \$or: [ { year: 1964 }, { rating: { \$gte: 3 } } ] })

```
> db.actors.find({ $or: [ { year: 1964 }, { rating: { $gte: 3 } } ] })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
```

11. db.actors.find({ rating: { \$not: { \$gte: 3 } } })

```
> db.actors.find({ rating: { $not: { $gte: 3 } } })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973, "movies" : [ "samotari" ] }
{ "_id" : "sverak", "name" : "Zdenek Sverak", "year" : 1936, "movies" : [ "vratnelahve" ] }
{ "_id" : "geislerova", "name" : "Anna Geislerova", "year" : 1976 }
```

12. db.actors.find({}, { name: 1, year: 1 })

```
> db.actors.find({}, { name: 1, year: 1 })
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964 }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966 }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973 }
{ "_id" : "sverak", "name" : "Zdenek Sverak", "year" : 1936 }
{ "_id" : "geislerova", "name" : "Anna Geislerova", "year" : 1976 }
```

13. db.actors.find({}, { movies: 0, \_id: 0 })

```
> db.actors.find({}, { movies: 0, _id: 0 })
{ "name" : "Ivan Trojan", "year" : 1964 }
{ "name" : "Jiri Machacek", "year" : 1966 }
{ "name" : "Jitka Schneiderova", "year" : 1973 }
{ "name" : "Zdenek Sverak", "year" : 1936 }
{ "name" : "Anna Geislerova", "year" : 1976 }
>
```

14. db.actors.find({}, { name: 1, movies: { \$slice: 2 }, \_id: 0 })

```
> db.actors.find({}, { name: 1, movies: { $slice: 2 }, _id: 0 })
{ "name" : "Ivan Trojan", "movies" : [ "samotari", "medvidek" ] }
{ "name" : "Jiri Machacek", "movies" : [ "medvidek", "vratnelahve" ] }
{ "name" : "Jitka Schneiderova", "movies" : [ "samotari" ] }
{ "name" : "Zdenek Sverak", "movies" : [ "vratnelahve" ] }
{ "name" : "Anna Geislerova" }
```

15. db.actors.find().sort({ year: 1, name: -1 })

```
> db.actors.find().sort({ year: 1, name: -1 })
{ "_id" : "sverak", "name" : "Zdenek Sverak", "year" : 1936, "movies" : [ "vratnelahve" ] }
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
{ "_id" : "schneiderova", "name" : "Jitka Schneiderova", "year" : 1973, "movies" : [ "samotari" ] }
{ "_id" : "geislerova", "name" : "Anna Geislerova", "year" : 1976 }
```

16. db.actors.find().sort({ name: 1 }).skip(1).limit(2)

```
> db.actors.find().sort({ name: 1 }).skip(1).limit(2)
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
```

17. db.actors.find().sort({ name: 1 }).limit(2).skip(1)

```
> db.actors.find().sort({ name: 1 }).limit(2).skip(1)
{ "_id" : "trojan", "name" : "Ivan Trojan", "year" : 1964, "movies" : [ "samotari", "medvidek" ] }
{ "_id" : "machacek", "name" : "Jiri Machacek", "year" : 1966, "movies" : [ "medvidek", "vratnelahve", "samotari" ] }
```