# MongoDB Practice

MongoDB Exercise in mongo shell

## create database

Connect to a running mongo instance, use a database named `mongo\_practice`.

use mongo\_practice

## Insert Documents

Insert the following documents into a `movies` collection.

```

title : Fight Club

writer : Chuck Palahniuk

year : 1999

actors : [

Brad Pitt

Edward Norton

]

```

```

db.movies.insert({title:"Fight Club", writer: "Chuck Palahniuk", year: "1999", actors:["Brad Pitt", "Edward Norton"]})

```

```

title : Pulp Fiction

writer : Quentin Tarantino

year : 1994

actors : [

John Travolta

Uma Thurman

]

```

```

db.movies.insert({title:"Pulp Fiction", writer:"Quentin Tarantino", year:"2009", actors:["John Travolta", "Uma Thurman"]})

```

```

title : Inglorious Basterds

writer : Quentin Tarantino

year : 2009

actors : [

Brad Pitt

Diane Kruger

Eli Roth

]

```

```

db.movies.insert({title:"Inglorious Basterds", writer:"Quentin Tarantino", year:"2009", actors:["Brad Pitt", "Diane Kruger", "Eli Roth"]})

```

```

title : The Hobbit: An Unexpected Journey

writer : J.R.R. Tolkein

year : 2012

franchise : The Hobbit

```

```

db.movies.insert({title:"The Hobbit: An unexpected Journey", writer:"J.R.R. Tolkein", year:"2012",franchise:"The Hobbit"})

```

```

title : The Hobbit: The Desolation of Smaug

writer : J.R.R. Tolkein

year : 2013

franchise : The Hobbit

```

```

db.movies.insert({title:"The Hobbit: The Desolation of Smaug", writer:"J.R.R Tolkien", year:"2013", franchise:"The Hobbit"})

```

```

title : The Hobbit: The Battle of the Five Armies

writer : J.R.R. Tolkein

year : 2012

franchise : The Hobbit

synopsis : Bilbo and Company are forced to engage in a war against an array of combatants and keep the Lonely Mountain from falling into the hands of a rising darkness.

```

```

db.movies.insert({title:"The Hobbit: The Battle of the Five Armies", writer:"J.R.R Tolkien", year:"2002", franchise:"The Hobbit", synopsis:"Bilbo and Company are forced to engage in a war against an array of combatants and keep the Lonely Mountain from falling into the hands of a rising darkness."})

```

```

title : Pee Wee Herman's Big Adventure

```

```

db.movies.insert({title:"Pee Wee Herman's Big Adventures"})

```

```

title : Avatar

```

db.movies.insert({title:"Avatar"})

## Query / Find Documents

query the `movies` collection to

1. get all documents

```

db.movies.find()

```

2. get all documents with `writer` set to "Quentin Tarantino"

```

db.movies.find({writer:"Quentin Tarantino"})

```

3. get all documents where `actors` include "Brad Pitt"

```

db.movies.find({actors:"Brad Pitt"})

```

4. get all documents with `franchise` set to "The Hobbit"

```

db.movies.find({franchise:"The Hobbit"})

```

5. get all movies released in the 90s

```

db.movies.find({year:{$gt:"1990", $lt:"2000"}})

```

6. get all movies released before the year 2000 or after 2010

```

db.movies.find({$or:[{year:{$gt:"2010"}},{year: {$lt:"2000"}}]})

```

## Update Documents

1. add a synopsis to "The Hobbit: An Unexpected Journey" : "A reluctant hobbit, Bilbo Baggins, sets out to the Lonely Mountain with a spirited group of dwarves to reclaim their mountain home - and the gold within it - from the dragon Smaug."

```

db.movies.update({\_id:ObjectId("5c9f98e5e5c2dfe9b3729bfe")}, {$set:{synopsis:"A reluctant hobbit, Bilbo Baggins, sets out to the Lonely Mountain with a spirited group of dwarves to reclaim their mountain home - and the gold within it - from the dragon Smaug."}})

```

2. add a synopsis to "The Hobbit: The Desolation of Smaug" : "The dwarves, along with Bilbo Baggins and Gandalf the Grey, continue their quest to reclaim Erebor, their homeland, from Smaug. Bilbo Baggins is in possession of a mysterious and magical ring."

```

db.movies.update({\_id:ObjectId("5c9fa42ae5c2dfe9b3729c03")}, {$set:{synopsis:"The dwarves, along with Bilbo Baggins and Gandalf the Grey, continue their quest to reclaim Erebor, their homeland, from Smaug. Bilbo Baggins is in possession of a mysterious and magical ring."}})

```

3. add an actor named "Samuel L. Jackson" to the movie "Pulp Fiction"

```

db.movies.update({\_id:ObjectId("5c9f983ce5c2dfe9b3729bfc")}, {$push:{actors:"Samuel L. Jackson"}})

```

## Text Search

1. find all movies that have a synopsis that contains the word "Bilbo"

```

db.movies.find({synopsis:{$regex:"Bilbo"}})

```

2. find all movies that have a synopsis that contains the word "Gandalf"

```

db.movies.find({synopsis:{$regex:"Gandalf"}})

```

3. find all movies that have a synopsis that contains the word "Bilbo" and not the word "Gandalf"

```

db.movies.find({$and:[{synopsis:{$regex:"Bilbo"}}, {synopsis:{$not:/Gandalf/}}]})

```

4. find all movies that have a synopsis that contains the word "dwarves" or "hobbit"

```

db.movies.find({$or:[{synopsis:{$regex:"dwarves"}}, {synopsis:{$regex:"hobbit"}}]})

```

5. find all movies that have a synopsis that contains the word "gold" and "dragon"

```

db.movies.find({$and:[{synopsis:{$regex:"gold"}}, {synopsis:{$regex:"dragon"}}]})

```

## Delete Documents

1. delete the movie "Pee Wee Herman's Big Adventure"

```

db.movies.remove({\_id:ObjectId("5c9f992ae5c2dfe9b3729c00")})

```

2. delete the movie "Avatar"

```

db.movies.remove({\_id:ObjectId("5c9f9936e5c2dfe9b3729c01")})

```

## Relationships

### Insert the following documents into a `users` collection

```

username : GoodGuyGreg

first\_name : "Good Guy"

last\_name : "Greg"

```

```

db.users.insert({\_id:1,username:"GoodGuyGreg", first\_name:"Good Guy", last\_name:"Greg"})

```

```

username : ScumbagSteve

full\_name :

first : "Scumbag"

last : "Steve"

```

```

db.users.insert({\_id:2, username:"ScumbagSteve", fullname:{first: "Scumbag", last:"Steve"}})

```

### Insert the following documents into a `posts` collection

```

username : GoodGuyGreg

title : Passes out at party

body : Wakes up early and cleans house

```

```

db.posts.insert({username:"GoodGuyGreg", title:"Passes out at Party", body:"Raises your credit score"})

```

```

username : GoodGuyGreg

title : Steals your identity

body : Raises your credit score

```

```

db.posts.insert({ username:"GoodGuyGreg", title:"Steals your identity", body:"Raises your credit score"})

```

```

username : GoodGuyGreg

title : Reports a bug in your code

body : Sends you a Pull Request

```

```

db.posts.insert({username:"GoodGuyGreg", title:"Reports a bug in your code", body:"Sends you a pull request"})

```

```

username : ScumbagSteve

title : Borrows something

body : Sells it

```

```

db.posts.insert({ username:"ScumbagSteve", title:"Borrows something", body:"Sells it"})

```

```

username : ScumbagSteve

title : Borrows everything

body : The end

```

```

db.posts.insert({ username:"ScumbagSteve", title:"Borrows everything", body:"The end"})

```

```

username : ScumbagSteve

title : Forks your repo on github

body : Sets to private

```

```

db.posts.insert({username:"ScumbagSteve", title:"Forks your repo on github", body:"Sets to private"})

```

### Insert the following documents into a `comments` collection

```

username : GoodGuyGreg

comment : Hope you got a good deal!

post : [post\_obj\_id]

```

where [post\_obj\_id] is the ObjectId of the `posts` document: "Borrows something"

```

db.comments.insert({ username:"GoodGuyGreg", comment:"Hope you got a good deal!", post:ObjectId("5ca0b7e96435f98b5901f463")})

```

```

username : GoodGuyGreg

comment : What's mine is yours!

post : [post\_obj\_id]

```

where [post\_obj\_id] is the ObjectId of the `posts` document: "Borrows everything"

```

db.comments.insert({username:"GoodGuyGreg", comment:"What's mine is yours!", post:ObjectId("5ca0b9706435f98b5901f46a")})

```

```

username : GoodGuyGreg

comment : Don't violate the licensing agreement!

post : [post\_obj\_id]

```

where [post\_obj\_id] is the ObjectId of the `posts` document: "Forks your repo on github

```

db.comments.insert({username:"GoodGuyGreg", comment:"Don't violate the licensing agreement!", post:ObjectId("5ca0b8766435f98b5901f467")})

```

```

username : ScumbagSteve

comment : It still isn't clean

post : [post\_obj\_id]

```

where [post\_obj\_id] is the ObjectId of the `posts` document: "Passes out at party"

```

db.comments.insert({username:"ScumbagSteve", comment:"It still isn't clean", post:ObjectId("5ca0b8546435f98b5901f466")})

```

```

username : ScumbagSteve

comment : Denied your PR cause I found a hack

post : [post\_obj\_id]

```

where [post\_obj\_id] is the ObjectId of the `posts` document: "Reports a bug in your code"

```

db.comments.insert({username:"ScumbagSteve", comment:"Denied your PR cause I found a hack", post:ObjectId("5ca0b9256435f98b5901f469")})

```

## Querying related collections

1. find all users

```

db.users.find().pretty()

```

2. find all posts

```

db.posts.find().pretty()

```

3. find all posts that was authored by "GoodGuyGreg"

```

db.posts.find({username:"GoodGuyGreg"})

```

4. find all posts that was authored by "ScumbagSteve"

```

db.posts.find({username:"ScumbagSteve"})

```

5. find all comments

```

db.comments.find().pretty()

```

6. find all comments that was authored by "GoodGuyGreg"

```

db.comments.find({username:"GoodGuyGreg"})

```

7. find all comments that was authored by "ScumbagSteve"

```

db.comments.find({username:"ScumbagSteve"})

```

8. find all comments belonging to the post "Reports a bug in your code"

## Import a csv to mongodb

```

{ "\_id" : "02906", "city" : "PROVIDENCE", "pop" : 31069, "state" : "RI", "capital" : { "name" : "Providence", "electoralCollege" : 4 } }

{ "\_id" : "02108", "city" : "BOSTON", "pop" : 3697, "state" : "MA", "capital" : { "name" : "Boston", "electoralCollege" : 11 } }

{ "\_id" : "10001", "city" : "NEW YORK", "pop" : 18913, "state" : "NY", "capital" : { "name" : "Albany", "electoralCollege" : 29 } }

{ "\_id" : "01012", "city" : "CHESTERFIELD", "pop" : 177, "state" : "MA", "capital" : { "name" : "Boston", "electoralCollege" : 11 } }

{ "\_id" : "32801", "city" : "ORLANDO", "pop" : 9275, "state" : "FL", "capital" : { "name" : "Tallahassee", "electoralCollege" : 29 } }

{ "\_id" : "12966", "city" : "BANGOR", "pop" : 2867, "state" : "NY", "capital" : { "name" : "Albany", "electoralCollege" : 29 } }

{ "\_id" : "32920", "city" : "CAPE CANAVERAL", "pop" : 7655, "state" : "FL", "capital" : { "name" : "Tallahassee", "electoralCollege" : 29 } }

{ "\_id" : "NY", "name" : "New York", "pop" : 28300000, "state" : 1788 }

{ "\_id" : "33125", "city" : "MIAMI", "pop" : 47761, "state" : "FL", "capital" : { "name" : "Tallahassee", "electoralCollege" : 29 } }

{ "\_id" : "RI", "name" : "Rhode Island", "pop" : 1060000, "state" : 1790 }

{ "\_id" : "MA", "name" : "Massachusetts", "pop" : 6868000, "state" : 1790 }

{ "\_id" : "FL", "name" : "Florida", "pop" : 6800000, "state" : 1845 }

{ "\_id" : "1", "name" : "Tom", "addresses" : [ "01001", "12997" ] }

{ "\_id" : "02907", "city" : "CRANSTON", "pop" : 25668, "state" : "RI", "capital" : { "name" : "Providence", "electoralCollege" : 4 } }

{ "\_id" : "2", "name" : "Bill", "addresses" : [ "01001", "12967", "32920" ] }

{ "\_id" : "3", "name" : "Mary", "addresses" : [ "32801", "32920", "33125" ] }

{ "\_id" : "12967", "city" : "NORTH LAWRENCE", "pop" : 943, "state" : "NY", "capital" : { "name" : "Albany", "electoralCollege" : 29 } }

{ "\_id" : "01001", "city" : "AGAWAM", "pop" : 15338, "state" : "MA", "capital" : { "name" : "Boston", "electoralCollege" : 11 } }

{ "\_id" : "12997", "city" : "WILMINGTON", "pop" : 958, "state" : "NY", "capital" : { "name" : "Albany", "electoralCollege" : 29 } }

```

mongoimport --db <database\_name> --collection <collection\_name> --file <drag file here>

1. Show name and population of the cities where the population is over 10000

```

db.docs.find({city:{$exists:true}}, {\_id:0, city:1, pop:1},{ pop:{$gt:10000}})

```

2. Show the name and population of the state based on the cities shown

```

db.docs.aggregate([{$match:{city:{$exists: true}}},{$group:{\_id:"$state", "Total Pop": {$sum:"$pop"}}}])

```

3. Show the total cities in NY as 'Population'

```

db.docs.aggregate([{$match:{state:"NY"}},{$group:{\_id:"$state", "Total Pop": {$sum:"$pop"}}}])

```

4. Show the \_id, city, name of the capital city of each state with a popultaion greater than 20,000.

```

db.docs.find({city:{$exists:true}, pop:{$gt:20000}}, {city:1, "capital.name":1})

```