

MONGODB ASSIGNMENT

LAB DOCUMENT

COMMANDS FOR CONTAINER SETUP:

1) Pulling MongoDB image using docker-compose.yml file: Instructions in docker-compose.yml file will be used to create container when mongo image is run in detach mode.

```
C:\Namra\IBA-Masters\BigDataAnalytics\mongodb>docker-compose -f docker-compose.yml up -d
Pulling mongodb (mongo:...)...
latest: Pulling from library/mongo
7c3b88808835: Already exists
48a403577c28: Pull complete
76bbb7dc9013: Pull complete
e81b1e5a386b: Pull complete
7bdc1db49ec9: Pull complete
7b2f602f894c: Pull complete
627a84bea5f4: Pull complete
fc06fa2a9f52: Pull complete
0133c89ee92b: Pull complete
4e990167b745: Pull complete
Digest: sha256:af367448dfb8761d60aecdc34af5820bb675f90053146eaabf97c8b3e01c3979
Status: Downloaded newer image for mongo:latest
Creating mongodb ... done
```

2) Checking all containers whether running or exited to obtain container id of mongo container:

```
C:\Namra\IBA-Masters\BigDataAnalytics\mongodb>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED          STATUS          PORTS                               NAMES
082e182b4249   mongo     "docker-entrypoint.s..." 13 seconds ago   Up 11 seconds   0.0.0.0:27017->27017/tcp           mongodb
47b196e3b37f   ubuntu    "bash"                   4 days ago      Exited (127) 3 days ago                                beautiful_roentgen
725e7bb4f678   ubuntu    "bash"                   4 days ago      Exited (1) 4 days ago                                clever_brattain
```

3) docker cp command will copy the dataset from pc path to container path that is "home" in data/db: The dataset from path is mapped from pc to container path here. Container id is also mentioned.

```
C:\Namra\IBA-Masters\BigDataAnalytics\mongodb>docker cp C:\Namra\IBA-Masters\BigDataAnalytics\mongodb\database 082e182b4249:home
```

4) Bashing into mongo container using interactive terminal mode: Inside linux mongo container, we are changing directory to home which is containers' path where we copied our dataset. Then checking where our database directory is successfully copied in home:

```
C:\Namra\IBA-Masters\BigDataAnalytics\mongodb>docker exec -it mongodb bash
root@082e182b4249:/# cd home
root@082e182b4249:/home# ls
database
```

5) Changing directory to database and 'ls' to see our json dataset files (collections):

```
root@082e182b4249:/home# cd database
root@082e182b4249:/home/database# ls
WiredTiger      collection-0--4070724485692793250.wt  index-1--4070724485692793250.wt  mongod.lock  trips.json
WiredTiger.lock collection-2--4070724485692793250.wt  index-3--4070724485692793250.wt  posts.json   tweets.json
WiredTiger.turtle collection-4--4070724485692793250.wt  index-5--4070724485692793250.wt  routes.json  zips.json
WiredTiger.wt   companies.json                        index-6--4070724485692793250.wt  sizeStorer.wt
WiredTigerHS.wt diagnostic.data                        inspections.json                    storage.bson
_mdb_catalog.wt grades.json                           journal                           stories.json
```

6) Here we import our dataset using the shown command. For e.g. companies.json is json collection which is mapped to 'companies' file in container. And training is the name I have given to dataset.

```
root@082e182b4249:/home/database# mongoimport companies.json -d training -c companies --drop
2022-03-19T17:04:58.175+0000 connected to: mongodb://localhost/
2022-03-19T17:04:58.176+0000 dropping: training.companies
2022-03-19T17:05:00.778+0000 9500 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport grades.json -d training -c grades --drop
2022-03-19T17:05:54.744+0000 connected to: mongodb://localhost/
2022-03-19T17:05:54.745+0000 dropping: training.grades
2022-03-19T17:05:57.745+0000 [#####] training.grades 26.0MB/36.1MB (72.0%)
2022-03-19T17:05:58.839+0000 [#####] training.grades 36.1MB/36.1MB (100.0%)
2022-03-19T17:05:58.839+0000 100000 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport inspections.json -d training -c inspections --drop
2022-03-19T17:06:52.409+0000 connected to: mongodb://localhost/
2022-03-19T17:06:52.410+0000 dropping: training.inspections
2022-03-19T17:06:55.317+0000 80047 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport posts.json -d training -c posts --drop
2022-03-19T17:08:04.758+0000 connected to: mongodb://localhost/
2022-03-19T17:08:04.758+0000 dropping: training.posts
2022-03-19T17:08:05.268+0000 500 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport routes.json -d training -c routes --drop
2022-03-19T17:08:33.189+0000 connected to: mongodb://localhost/
2022-03-19T17:08:33.190+0000 dropping: training.routes
2022-03-19T17:08:35.325+0000 66985 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport stories.json -d training -c stories --drop
2022-03-19T17:09:11.472+0000 connected to: mongodb://localhost/
2022-03-19T17:09:11.472+0000 dropping: training.stories
2022-03-19T17:09:12.517+0000 9842 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport trips.json -d training -c trips --drop
2022-03-19T17:09:33.167+0000 connected to: mongodb://localhost/
2022-03-19T17:09:33.168+0000 dropping: training.trips
2022-03-19T17:09:33.832+0000 10000 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport tweets.json -d training -c tweets --drop
2022-03-19T17:10:03.658+0000 connected to: mongodb://localhost/
2022-03-19T17:10:03.659+0000 dropping: training.tweets
2022-03-19T17:10:06.659+0000 [#####] training.tweets 40.3MB/47.6MB (84.7%)
2022-03-19T17:10:07.202+0000 [#####] training.tweets 47.6MB/47.6MB (100.0%)
2022-03-19T17:10:07.202+0000 24832 document(s) imported successfully. 0 document(s) failed to import.
root@082e182b4249:/home/database# mongoimport zips.json -d training -c zips --drop
2022-03-19T17:10:31.183+0000 connected to: mongodb://localhost/
2022-03-19T17:10:31.184+0000 dropping: training.zips
2022-03-19T17:10:32.086+0000 29470 document(s) imported successfully. 0 document(s) failed to import.
```

7) Now, we run mongo in order to connect to server using mongo client:

```
root@082e182b4249:/home/database# mongo
MongoDB shell version v5.0.6
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("e18c7607-cb85-4e7a-a7fa-f927a11d2900") }
MongoDB server version: 5.0.6
*****
Warning: the "mongo" shell has been superseded by "mongosh",
which delivers improved usability and compatibility. The "mongo" shell has been deprecated and will be removed in
an upcoming release.
For installation instructions, see
https://docs.mongodb.com/mongodb-shell/install/
*****
Welcome to the MongoDB shell.
For interactive help, type "help".
For more comprehensive documentation, see
https://docs.mongodb.com/
Questions? Try the MongoDB Developer Community Forums
https://community.mongodb.com
---
The server generated these startup warnings when booting:
  2022-03-19T16:58:23.169+00:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
  2022-03-19T16:58:23.169+00:00: /sys/kernel/mm/transparent_hugepage/enabled is 'always'. We suggest setting it to 'never'
---
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
```

8) To see databases in mongo, we use show dbs command. Our training file is present.

```
> show dbs
admin      0.000GB
config     0.000GB
local      0.000GB
training   0.060GB
```

9) We switch to training in order to start querying on collections:

```
> use training
switched to db training
```

10)show collections to see collection names:

```
> show collections
companies
grades
inspections
posts
routes
stories
trips
tweets
zips
```

11)To see some stats of training, we use db.stats():

```
> db.stats()
{
  "db" : "training",
  "collections" : 9,
  "views" : 0,
  "objects" : 331176,
  "avgObjSize" : 513.3017368408339,
  "dataSize" : 169993216,
  "storageSize" : 61198336,
  "indexes" : 9,
  "indexSize" : 3547136,
  "totalSize" : 64745472,
  "scaleFactor" : 1,
  "fsUsedSize" : 116897951744,
  "fsTotalSize" : 255412363264,
  "ok" : 1
}
```

12)use this command to see dataset name and collection names.

```
> db.getName()
training
> db.getCollectionNames()
[
  "companies",
  "grades",
  "inspections",
  "posts",
  "routes",
  "stories",
  "trips",
  "tweets",
  "zips"
]
```

13) To see first document of companies collection:

```
> db.companies.findOne();
{
  "_id" : ObjectId("52cdef7c4bab8bd675297d8a"),
  "name" : "Wetpaint",
  "permalink" : "abc2",
  "crunchbase_url" : "http://www.crunchbase.com/company/wetpaint",
  "homepage_url" : "http://wetpaint-inc.com",
  "blog_url" : "http://digitalquarters.net/",
  "blog_feed_url" : "http://digitalquarters.net/feed/",
  "twitter_username" : "BachelrWetpaint",
  "category_code" : "web",
  "number_of_employees" : 47,
  "founded_year" : 2005,
  "founded_month" : 10,
  "founded_day" : 17,
  "deadpooled_year" : 1,
  "tag_list" : "wiki, seattle, elowitz, media-industry, media-platform, social-distribution-system",
  "alias_list" : "",
  "email_address" : "info@wetpaint.com",
  "phone_number" : "206.859.6300",
  "description" : "Technology Platform Company",
  "created_at" : ISODate("2007-05-25T06:51:27Z"),
  "updated_at" : "Sun Dec 08 07:15:44 UTC 2013",
  "overview" : "<p>Wetpaint is a technology platform company that uses its proprietary state-of-the-art technology and ex
size audiences for digital publishers. Wetpaint's own online property, Wetpaint Entertainment, an entertainment news site that
tors monthly and has over 2 million Facebook fans, is a proof point to the company's success in building and engaging audiences
platform which includes a dynamic playbook tailored to their individual needs and comprehensive training. Founded by Internet p
ew York and Seattle, Wetpaint is backed by Accel Partners, the investors behind Facebook.</p>",
  "image" : {
    "available_sizes" : [
      [

```

14) To see documents with student_id=0 and in order to not fetch other fields, we write _id=0:

```
> db.grades.find({}, {student_id:1, _id:0});
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 0 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 1 }
{ "student_id" : 2 }
Type "it" for more
```

15) inserting one document in routes.json

```
> db.routes.insertOne({"airline":{"id":{"$numberInt":"13910"},"name":"Second Fi","alias":"K9","iata":"AXF"},"src_airport":"GHU","d
st_airport":"YFD","codeshare":"","stops":{"$numberInt":"0"},"airplane":"M04"});
{
  "acknowledged" : true,
  "insertedId" : ObjectId("62372193e1713092d609f313")
}
```

16) In order to insert more than 1 document, we use insertMany:

```
> db.zips.insertMany([
... {"city": "RIOS", "zip": "83495", "loc": {"y": {"$numberDouble": "83.456335"}, "x": {"$numberDouble": "45.453783"}}, "pop": {"$numberInt": "8734"}, "state": "AL"},
... {"city": "GHYI", "zip": "84350", "loc": {"y": {"$numberDouble": "98.364653"}, "x": {"$numberDouble": "85.384960"}}, "pop": {"$numberInt": "4598"}, "state": "AL"}]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("62372480e1713092d609f314"),
    ObjectId("62372480e1713092d609f315")
  ]
}
```

17) Inserted data se ISODate() in inspections.json:

```
> db.inspections.insert({"date": ISODate()});
WriteResult({ "nInserted" : 1 })
```

18) To see all documents from trips.json:

```
> db.trips.find();
{ "_id" : ObjectId("572bb8222b288919b68abf5a"), "tripduration" : 379, "start station id" : 476, "start station name" : "E 31 St & 3 Ave", "end station id" : 498, "end station name" : "Broadway & W 32 St", "bikeid" : 17827, "usertype" : "Subscriber", "birth year" : 1969, "gender" : 1, "start station location" : { "type" : "Point", "coordinates" : [ -73.97966069, 40.74394314 ] }, "end station location" : { "type" : "Point", "coordinates" : [ -73.98808416, 40.74854862 ] }, "start time" : ISODate("2016-01-01T00:00:45Z"), "stop time" : ISODate("2016-01-01T00:07:04Z") }
{ "_id" : ObjectId("572bb8222b288919b68abf5d"), "tripduration" : 923, "start station id" : 268, "start station name" : "Howard St & Centre St", "end station id" : 3002, "end station name" : "South End Ave & Liberty St", "bikeid" : 22285, "usertype" : "Subscriber", "birth year" : 1958, "gender" : 1, "start station location" : { "type" : "Point", "coordinates" : [ -73.9997333, 40.72057 ] }, "end station location" : { "type" : "Point", "coordinates" : [ -74.015756, 40.711512 ] }, "start time" : ISODate("2016-01-01T00:00:41Z"), "stop time" : ISODate("2016-01-01T00:16:04Z") }
{ "_id" : ObjectId("572bb8222b288919b68abf5e"), "tripduration" : 332, "start station id" : 3104, "start station name" : "Broadway & N 7 St", "end station id" : 389, "end station name" : "Broadway & Berry St", "bikeid" : 15788, "usertype" : "Subscriber", "birth year" : 1984, "gender" : 1, "start station location" : { "type" : "Point", "coordinates" : [ -73.96150225, 40.72057 ] }, "end station location" : { "type" : "Point", "coordinates" : [ -73.96150225, 40.72057 ] }, "start time" : ISODate("2016-01-01T00:00:41Z"), "stop time" : ISODate("2016-01-01T00:16:04Z") }
```

19) To see result in a nice format, use pretty() with find():

```
> db.trips.find().pretty();
{
  "_id" : ObjectId("572bb8222b288919b68abf5a"),
  "tripduration" : 379,
  "start station id" : 476,
  "start station name" : "E 31 St & 3 Ave",
  "end station id" : 498,
  "end station name" : "Broadway & W 32 St",
  "bikeid" : 17827,
  "usertype" : "Subscriber",
  "birth year" : 1969,
  "gender" : 1,
  "start station location" : {
    "type" : "Point",
    "coordinates" : [
      -73.97966069,
      40.74394314
    ]
  },
  "end station location" : {
    "type" : "Point",
    "coordinates" : [
      -73.98808416,
      40.74854862
    ]
  },
  "start time" : ISODate("2016-01-01T00:00:45Z"),
  "stop time" : ISODate("2016-01-01T00:07:04Z")
}
{
  "_id" : ObjectId("572bb8222b288919b68abf5d"),
  "tripduration" : 923,
  "start station id" : 268,
  "start station name" : "Howard St & Centre St",
  "end station id" : 3002,
  "end station name" : "South End Ave & Liberty St",
  "bikeid" : 22285,
  "usertype" : "Subscriber",
  "birth year" : 1958,
  "gender" : 1,
  "start station location" : {
    "type" : "Point",
    "coordinates" : [
      -73.9997333,
      40.72057
    ]
  },
  "end station location" : {
    "type" : "Point",
    "coordinates" : [
      -74.015756,
      40.711512
    ]
  },
  "start time" : ISODate("2016-01-01T00:00:41Z"),
  "stop time" : ISODate("2016-01-01T00:16:04Z")
}
```

20) Fetching all distinct names from companies.json:

```
> db.companies.distinct("name");  
"Adjust",  
"Adjustables",  
"Adlib Software",  
"Admeld",  
"Adneuron",  
"AdoTube",  
"Adooga",  
"Adoos",  
"Adoroi",  
"Adreel",  
"Ads by Athena",  
"Adscape",  
"Adteractive",  
"Advaliant",  
"Advameg",  
"Advanced Control Components",  
"Advanced Millennium Technologies",  
"Advanced Power Projects",  
"Advanced Virtual Surveillance",  
"Advanta Bank",  
"Advantia VoIP Systems",  
"Advantiv",  
"Advasense",  
"Advent Software",  
"Adventure Areas",  
"Adventure Engine",  
"AdventureDrop",  
"Adverfix",  
"Advertising Solutions",  
"Advisor",  
"Advisor Marketing ServicesGroup",  
"Adrenal Customer"
```

21) To see src_airport field where dst_airport is "UIO". We write _id:0 to not fetch whole document.

```
> db.routes.find({"dst_airport":"UIO"},{src_airport:1, _id:0});  
{ "src_airport" : "GYE" }  
{ "src_airport" : "BOG" }  
{ "src_airport" : "OCC" }  
{ "src_airport" : "GYE" }  
{ "src_airport" : "MIA" }  
{ "src_airport" : "AMS" }  
{ "src_airport" : "MEX" }  
{ "src_airport" : "BOG" }  
{ "src_airport" : "LIM" }  
{ "src_airport" : "SAL" }  
{ "src_airport" : "BOG" }  
{ "src_airport" : "PTY" }  
{ "src_airport" : "ATL" }  
{ "src_airport" : "BOG" }  
{ "src_airport" : "CUE" }  
{ "src_airport" : "ESM" }  
{ "src_airport" : "ETR" }  
{ "src_airport" : "GRU" }  
{ "src_airport" : "GYE" }  
{ "src_airport" : "HAV" }  
Type "it" for more
```

22)Counting documents in trips.json:

```
> db.trips.estimatedDocumentCount();
10000
```

23)Counting documents where filed usertype has value “subscriber”:

```
> db.trips.count({"usertype":"Subscriber"});
8011
```

Comparison:

24)Fetching “sector” and “result” value where date is 25th feb:

```
> db.inspections.find({"date":"Feb 25 2015"},{sector:1, result:1, _id:0});
{ "result" : "No Violation Issued", "sector" : "Misc Non-Food Retail - 817" }
{ "result" : "No Violation Issued", "sector" : "Salons And Barbershop - 841" }
{ "result" : "No Violation Issued", "sector" : "Cigarette Retail Dealer - 127" }
{ "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881" }
{ "result" : "Pass", "sector" : "Scale Dealer/Repairer - 107" }
{ "result" : "Violation Issued", "sector" : "Tax Preparers - 891" }
{ "result" : "Pass", "sector" : "Pedicab Business - 130" }
{ "result" : "Pass", "sector" : "Mobile Food Vendor - 881" }
{ "result" : "No Violation Issued", "sector" : "Home Improvement Contractor - 100" }
{ "result" : "Violation Issued", "sector" : "Fuel Oil Dealer - 814" }
{ "result" : "Fail", "sector" : "Fuel Oil Dealer - 814" }
{ "result" : "Fail", "sector" : "Fuel Oil Dealer - 814" }
{ "result" : "No Violation Issued", "sector" : "Cigarette Retail Dealer - 127" }
{ "result" : "No Violation Issued", "sector" : "Salons And Barbershop - 841" }
{ "result" : "Pass", "sector" : "Gas Station-Retail - 815" }
{ "result" : "Out of Business", "sector" : "Salons And Barbershop - 841" }
{ "result" : "No Evidence of Activity", "sector" : "Secondhand Dealer [General] - 006" }
{ "result" : "Violation Issued", "sector" : "Cigarette Retail Dealer - 127" }
{ "result" : "Violation Issued", "sector" : "Drug Store Retail - 810" }
{ "result" : "No Violation Issued", "sector" : "Cigarette Retail Dealer - 127" }
Type "it" for more
\
```

25)Fetching “tripduration” where “birth year” is less than 1963:

```
> db.trips.find({"birth year":{$lt:"1963"}},{"tripduration":1, _id:0});
{ "tripduration" : 858 }
{ "tripduration" : 839 }
{ "tripduration" : 110 }
{ "tripduration" : 2023 }
{ "tripduration" : 1236 }
{ "tripduration" : 1684 }
{ "tripduration" : 1167 }
{ "tripduration" : 1169 }
{ "tripduration" : 1485 }
{ "tripduration" : 1488 }
{ "tripduration" : 1364 }
{ "tripduration" : 1358 }
{ "tripduration" : 1325 }
{ "tripduration" : 1315 }
{ "tripduration" : 1475 }
{ "tripduration" : 1474 }
{ "tripduration" : 2426 }
{ "tripduration" : 1437 }
{ "tripduration" : 950 }
{ "tripduration" : 941 }
Type "it" for more
\
```

26) Fetching name where permalink is facebook:

```
> db.companies.find({"permalink":"facebook"}, {name:1, _id:0});
{ "name" : "Facebook" }
\
```

27) Fetching "tripduration" where birth year is not equal to 2004:

```
> db.trips.find({"birth_year":{"$ne":"2004"}}, {"tripduration":1, _id:0});
{ "tripduration" : 379 }
{ "tripduration" : 923 }
{ "tripduration" : 332 }
{ "tripduration" : 2321 }
{ "tripduration" : 889 }
{ "tripduration" : 694 }
{ "tripduration" : 1376 }
{ "tripduration" : 1770 }
{ "tripduration" : 589 }
{ "tripduration" : 1480 }
{ "tripduration" : 525 }
{ "tripduration" : 240 }
{ "tripduration" : 667 }
{ "tripduration" : 539 }
{ "tripduration" : 1245 }
{ "tripduration" : 615 }
{ "tripduration" : 858 }
{ "tripduration" : 479 }
{ "tripduration" : 888 }
{ "tripduration" : 839 }
Type "it" for more
```

28) Fetching gender where birth year is not in the range of 1970 and 1988 inclusive:

```
> db.trips.find({"birth_year":{"$nin":["1970","1988"]}}, {"gender":1, _id:0});
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 2 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 2 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 0 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 0 }
Type "it" for more
>
```


30) Fetching gender where birth year is not in this given range:

```
> db.trips.find({"birth_year":{$nin:["1970","2004"]}}, {"gender":1, _id:0});
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 2 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 2 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 0 }
{ "gender" : 1 }
{ "gender" : 1 }
{ "gender" : 0 }
Type "it" for more
```

31) Fetching documents where name does not equal to "CBS":

Very Large Output:

```
> db.companies.find((name:$not: {$eq: "CBS"}));
{"_id": ObjectId("52cdef7c4bab8bd675297d8a"), "name": "Wetpaint", "permalink": "abc2", "crunchbase_url": "http://www.crunchbase.com/company/wetpaint", "homepage_url": "http://wetpaint-inc.com", "blog_url": "http://digitalquarters.net/", "blog_feed_url": "http://digitalquarters.net/feed/", "twitter_username": "BachelrWetpaint", "category_code": "web", "number_of_employees": 47, "founded_year": 2005, "founded_month": 10, "founded_day": 17, "deadpooled_year": 1, "tag_list": "wiki, seattle, elowitz, media-industry, media-platform, social-distribution-system", "alias_list": "", "email_address": "info@wetpaint.com", "phone_number": "206.859.6300", "description": "Technology Platform Company", "created_at": ISODate("2007-05-25T06:51:27Z"), "updated_at": "Sun Dec 08 07:15:44 UTC 2013", "overview": "<p>Wetpaint is a technology platform company that uses its proprietary state-of-the-art technology and expertise in social media to build and monetize audiences for digital publishers. Wetpaint's own online property, Wetpaint Entertainment, an entertainment news site that attracts more than 12 million unique visitors monthly and has over 2 million Facebook fans, is a proof point to the company's success in building and engaging audiences. Media companies can license Wetpaint's platform which includes a dynamic playbook tailored to their individual needs and comprehensive training. Founded by Internet pioneer Ben Elowitz, and with offices in New York and Seattle, Wetpaint is backed by Accel Partners, the investors behind Facebook.</p>". "image": { "available_sizes": [ [ [ 150, 75 ], "assets/images/resized/0000/3604/3604v14-max-150x150.jpg" ], [ [ 250, 125 ], "assets/images/resized/0000/3604/3604v14-max-250x250.jpg" ], [ [ 450, 225 ], "assets/images/resized/0000/3604/3604v14-max-450x450.jpg" ] ] }, "products": [ { "name": "Wikison Wetpaint", "permalink": "wetpaint-wiki" }, { "name": "Wetpaint Social Distribution System", "permalink": "wetpaint-social-distribution-system" } ], "relationships": [ { "is_past": false, "title": "Co-Founder and VP, Social and Audience Development", "person": { "first_name": "Michael", "last_name": "Howell", "permalink": "michael-howell" } }, { "is_past": false, "title": "Co-Founder/CEO/Board of Directors", "person": { "first_name": "Ben", "last_name": "Elowitz", "permalink": "ben-elowitz" } }, { "is_past": false, "title": "COO/Board of Directors", "person": { "first_name": "Rob", "last_name": "Grady", "permalink": "rob-grady" } }, { "is_past": false, "title": "SVP, Strategy and Business Development", "person": { "first_name": "Chris", "last_name": "Kollas", "permalink": "chris-kollas" } }, { "is_past": false, "title": "Board", "person": { "first_name": "Theresia", "last_name": "Ranzetta", "permalink": "theresia-ranzetta" } }, { "is_past": false, "title": "Board Member", "person": { "first_name": "Gus", "last_name": "Tai", "permalink": "gus-tai" } }, { "is_past": false, "title": "Board", "person": { "first_name": "Len", "last_name": "Jordan", "permalink": "len-jordan" } }, { "is_past": false, "title": "Board", "person": { "first_name": "Gus", "last_name": "Tai", "permalink": "gus-tai" } } ], "relationships": [ { "is_past": false, "title": "Co-Founder and VP, Social and Audience Development", "person": { "first_name": "Michael", "last_name": "Howell", "permalink": "michael-howell" } }, { "is_past": false, "title": "Co-Founder/CEO/Board of Directors", "person": { "first_name": "Ben", "last_name": "Elowitz", "permalink": "ben-elowitz" } }, { "is_past": false, "title": "COO/Board of Directors", "person": { "first_name": "Rob", "last_name": "Grady", "permalink": "rob-grady" } }, { "is_past": false, "title": "SVP, Strategy and Business Development", "person": { "first_name": "Chris", "last_name": "Kollas", "permalink": "chris-kollas" } }, { "is_past": false, "title": "Board", "person": { "first_name": "Theresia", "last_name": "Ranzetta", "permalink": "theresia-ranzetta" } }, { "is_past": false, "title": "Board Member", "person": { "first_name": "Gus", "last_name": "Tai", "permalink": "gus-tai" } }, { "is_past": false, "title": "Board", "person": { "first_name": "Len", "last_name": "Jordan", "permalink": "len-jordan" } }, { "is_past": false, "title": "Board", "person": { "first_name": "Gus", "last_name": "Tai", "permalink": "gus-tai" } } ] }
```

32) Fetching permalink where name is not equal to Yahoo and is equal to Facebook:

```
> db.companies.find({$or: [{"name":{$eq: "Yahoo!"}}, {"name":{$eq: "Facebook"}}]}, {"permalink":1, _id:0});
{ "permalink" : "facebook" }
{ "permalink" : "yahoo" }
>
```

33) Fetching crunchbase_url where name is not equal to "CBS" and permalink is twitter:

```
> db.companies.find({$and: [{"name":{$not: {$eq: "CBS"}}, {"permalink": "twitter"}]}, {"crunchbase_url":1, _id:0});
{ "crunchbase_url" : "http://www.crunchbase.com/company/twitter" }
```

34) Fetching src_airport where neither airline is 470 nor name is Helvetic Airways:

```
> db.routes.find({$nor: [{"airline": "470"}, {"name": "Helvetic Airways"}]}, {src_airport:1, _id:0});
{ "src_airport" : "DME" }
{ "src_airport" : "CEK" }
{ "src_airport" : "ASF" }
{ "src_airport" : "CEK" }
{ "src_airport" : "DME" }
{ "src_airport" : "ASF" }
{ "src_airport" : "DME" }
{ "src_airport" : "AER" }
{ "src_airport" : "DME" }
{ "src_airport" : "GYD" }
{ "src_airport" : "KGD" }
{ "src_airport" : "EGO" }
{ "src_airport" : "KZN" }
{ "src_airport" : "KZN" }
{ "src_airport" : "KZN" }
{ "src_airport" : "KZN" }
{ "src_airport" : "KZN" }
{ "src_airport" : "LED" }
{ "src_airport" : "LED" }
Type "it" for more
>
```

35) Fetching business_name where we use 2 arrays to be included but within them is a choice:

```
> db.inspections.find($and: [{ $or: [{"result": "No Violation Issued"}, {"result": "Fail"}]}, { $or: [{"date": "Dec 23 2015"}, {"business_name": "BUILDING TO SERVE INC."}]} ]});
{ "id" : ObjectId("56d61033a378eccde8a83560"), "id" : "1044-2016-ENFO", "certificate_number" : 9318079, "business_name" : "AZMY KIROLES", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881", "address" : { "city" : "JERSEY CITY", "zip" : 7306, "street" : "VROOM ST", "number" : 160 } }
{ "id" : ObjectId("56d61033a378eccde8a83565"), "id" : "1048-2016-ENFO", "certificate_number" : 9319054, "business_name" : "QUIRINO MORALES", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881", "address" : { "city" : "EAST ELMHURST", "zip" : 11370, "street" : "80TH ST", "number" : 3216 } }
{ "id" : ObjectId("56d61033a378eccde8a83578"), "id" : "1112-2016-ENFO", "certificate_number" : 9319053, "business_name" : "SAMER EKAD", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881", "address" : { "city" : "BROOKLYN", "zip" : 11209, "street" : "77TH ST", "number" : 571 } }
{ "id" : ObjectId("56d61033a378eccde8a83572"), "id" : "1085-2016-ENFO", "certificate_number" : 9319055, "business_name" : "QADIR AHMAD", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881", "address" : { "city" : "BROOKLYN", "zip" : 11218, "street" : "DORCHESTER RD", "number" : 1107 } }
{ "id" : ObjectId("56d61033a378eccde8a83625"), "id" : "1642-2016-ENFO", "certificate_number" : 9318938, "business_name" : "MOHAMED MOHAMED", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881", "address" : { "city" : "BROOKLYN", "zip" : 11209, "street" : "95TH ST", "number" : 450 } }
{ "id" : ObjectId("56d61033a378eccde8a83db2"), "id" : "648-2016-ENFO", "certificate_number" : 9318937, "business_name" : "ABDELKADER BOUTALHA", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Mobile Food Vendor - 881", "address" : { "city" : "BRONX", "zip" : 10472, "street" : "E 172ND ST", "number" : 1509 } }
{ "id" : ObjectId("56d61033a378eccde8a84033"), "id" : "753-2016-ENFO", "certificate_number" : 9310979, "business_name" : "THE QUEENS WU CORP.", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Laundry - 064", "address" : { "city" : "LITTLE NECK", "zip" : 11362, "street" : "NORTHERN BLVD", "number" : 24825 } }
{ "id" : ObjectId("56d61033a378eccde8a841dc"), "id" : "1287-2016-ENFO", "certificate_number" : 9323992, "business_name" : "C R CHAMBERLAIN INC", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Laundry Jobber - 066", "address" : { "city" : "NEW YORK", "zip" : 10019, "street" : "7TH AVE", "number" : 912 } }
{ "id" : ObjectId("56d61033a378eccde8a843ea"), "id" : "821-2016-ENFO", "certificate_number" : 9311320, "business_name" : "218 BAYSIDE OPERATING, LLC", "date" : "Dec 23 2015", "result" : "No Violation Issued", "sector" : "Cigarette Retail Dealer - 137", "address" : { "city" : "BAYSIDE", "zip" : 11364, "street" : "11364 137TH AVE", "number" : 11364 } }
```

36) same as above

```
> db.inspections.find($and: [{ $or: [{"result": "No Violation Issued"}, {"result": "Fail"}]}, { $or: [{"date": "Dec 23 2015"}, {"business_name": "BUILDING TO SERVE INC."}]} ]}, {"certificate_number":1, _id:0});
{ "certificate_number" : 9318079 }
{ "certificate_number" : 9319054 }
{ "certificate_number" : 9319053 }
{ "certificate_number" : 9319055 }
{ "certificate_number" : 9318938 }
{ "certificate_number" : 9318937 }
{ "certificate_number" : 9310979 }
{ "certificate_number" : 9323992 }
{ "certificate_number" : 9311320 }
{ "certificate_number" : 9319038 }
{ "certificate_number" : 9318143 }
{ "certificate_number" : 9311755 }
{ "certificate_number" : 9317469 }
{ "certificate_number" : 9311751 }
{ "certificate_number" : 50065617 }
{ "certificate_number" : 9322023 }
{ "certificate_number" : 9308442 }
{ "certificate_number" : 50065618 }
{ "certificate_number" : 9311747 }
{ "certificate_number" : 9318144 }
Type "it" for more
>
```

37) Fetching city where zip is of type 2

```
> db.zips.find({"zip":{"$type:2}}, {city:1, _id:0});
{ "city" : "BAILEYTON" }
{ "city" : "HUEYTOWN" }
{ "city" : "ALPINE" }
{ "city" : "BESSEMER" }
{ "city" : "BRIERFIELD" }
{ "city" : "BREMEN" }
{ "city" : "BLOUNTSVILLE" }
{ "city" : "ADGER" }
{ "city" : "CALERA" }
{ "city" : "ACMAR" }
{ "city" : "CENTREVILLE" }
{ "city" : "ARAB" }
{ "city" : "CHELSEA" }
{ "city" : "KEYSTONE" }
{ "city" : "NEW SITE" }
{ "city" : "BRENT" }
{ "city" : "ADAMSVILLE" }
{ "city" : "CRANE HILL" }
{ "city" : "CULLMAN" }
{ "city" : "CLEVELAND" }
Type "it" for more
\
```

38) Fetching city where zip is in given data type

```
> db.zips.find({"zip":{"$type:"string"}}, {city:1, _id:0});
{ "city" : "BAILEYTON" }
{ "city" : "HUEYTOWN" }
{ "city" : "ALPINE" }
{ "city" : "BESSEMER" }
{ "city" : "BRIERFIELD" }
{ "city" : "BREMEN" }
{ "city" : "BLOUNTSVILLE" }
{ "city" : "ADGER" }
{ "city" : "CALERA" }
{ "city" : "ACMAR" }
{ "city" : "CENTREVILLE" }
{ "city" : "ARAB" }
{ "city" : "CHELSEA" }
{ "city" : "KEYSTONE" }
{ "city" : "NEW SITE" }
{ "city" : "BRENT" }
{ "city" : "ADAMSVILLE" }
{ "city" : "CRANE HILL" }
{ "city" : "CULLMAN" }
{ "city" : "CLEVELAND" }
Type "it" for more
\
```

39)Only fetch 1st 2 records

```
> db.grades.find().limit(2);
{ "_id" : ObjectId("56d5f7eb604eb380b0d8d8cf"), "student_id" : 0, "scores" : [ { "type" : "exam", "score" : 91.975200184
39039 }, { "type" : "quiz", "score" : 95.80410375967175 }, { "type" : "homework", "score" : 89.62485475572984 }, { "type
" : "homework", "score" : 51.621532832724846 } ], "class_id" : 350 }
{ "_id" : ObjectId("56d5f7eb604eb380b0d8d8d2"), "student_id" : 0, "scores" : [ { "type" : "exam", "score" : 41.251311995
53351 }, { "type" : "quiz", "score" : 91.7351500084582 }, { "type" : "homework", "score" : 24.198828271948415 }, { "type
" : "homework", "score" : 79.77471812670814 } ], "class_id" : 391 }
>
```

40)using aggregate function. Group by user to get the total sum of followers_count:

```
> db.tweets.aggregate([{$group: {_id:"$user", followers_count:{$sum:1}}});
{ "_id" : { "friends_count" : 214, "profile_sidebar_fill_color" : "7AC3EE", "location" : "Los Angeles", "verified" : false, "follow_request_sent" :
null, "favourites_count" : 1, "profile_sidebar_border_color" : "65B0DA", "profile_image_url" : "http://a0.twimg.com/profile_images/1114154584/butta
normal.jpg", "geo_enabled" : false, "created_at" : "Mon Sep 21 00:24:26 +0000 2009", "description" : "Every1 knows me as Shea/Coach, I'm a High Sch
ool girls Bball & VBall coach @ The very lovely Windward School in LA, CA I love my life & all my kids!", "time_zone" : "Pacific Time (US & Canada)",
"url" : "http://courtcred.com/", "screen_name" : "SheaButtaCoCo", "notifications" : null, "profile_background_color" : "64208B", "listed_count" :
6, "lang" : "en", "profile_background_image_url" : "http://a3.twimg.com/profile_background_images/128565937/courtcred.jpg", "statuses_count" : 5830,
"following" : null, "profile_text_color" : "3D1957", "protected" : false, "show_all_inline_media" : false, "profile_background_tile" : true, "name" :
"Le'SheaLa Dawson", "contributors_enabled" : false, "profile_link_color" : "FF0000", "followers_count" : 380, "id" : 75913689, "profile_use_backgroun
d_image" : true, "utc_offset" : -28800 }, "followers_count" : 2 }
{ "_id" : { "friends_count" : 79, "profile_sidebar_fill_color" : "efefef", "location" : "Em baixo da sua cama.", "verified" : false, "follow_request
_sent" : null, "favourites_count" : 0, "profile_sidebar_border_color" : "eeeeee", "profile_image_url" : "http://a0.twimg.com/profile_images/11135456
32/P1010063xcxc_normal.JPG", "geo_enabled" : false, "created_at" : "Thu Jan 14 22:05:14 +0000 2010", "description" : "Compacto pra que vê. Gigante
pra quem anda.", "time_zone" : "Greenland", "url" : null, "screen_name" : "Iggy_online", "notifications" : null, "profile_background_color" : "13151
6", "listed_count" : 14, "lang" : "en", "profile_background_image_url" : "http://a1.twimg.com/profile_background_images/141029182/img-thing.jpg", "s
tatuses_count" : 7443, "following" : null, "profile_text_color" : "333333", "protected" : false, "show_all_inline_media" : false, "profile_backgroun
d_tile" : true, "name" : "Iggy", "contributors_enabled" : false, "profile_link_color" : "009999", "followers_count" : 443, "id" : 104947670, "profil
e_use_background_image" : true, "utc_offset" : -10800 }, "followers_count" : 1 }
{ "_id" : { "friends_count" : 199, "profile_sidebar_fill_color" : "f6f6d1", "location" : "Provo, Utah", "verified" : false, "follow_request_sent" :
null, "favourites_count" : 4, "profile_sidebar_border_color" : "fff8ad", "profile_image_url" : "http://a2.twimg.com/profile_images/1103300826/ascii:
60_normal.PNG", "geo_enabled" : true, "created_at" : "Wed Oct 15 19:37:17 +0000 2008", "description" : "lists: /politics /local /news /sports /geek
/tech /videogames /music /celebs /humor /wtf", "time_zone" : "Mountain Time (US & Canada)", "url" : null, "screen_name" : "BillBirrell", "notificati
ons" : null, "profile_background_color" : "FFF0AD", "listed_count" : 0, "lang" : "en", "profile_background_image_url" : "http://s.twimg.com/a/12833
3518/images/themes/theme19/bg.gif", "statuses_count" : 171, "following" : null, "profile_text_color" : "333333", "protected" : false, "show_all_inli
```

41)same explanation:

```
> db.tweets.aggregate([{$group: {_id:"$user", retweeted:{$sum:1}}});
{ "_id" : { "friends_count" : 90, "profile_sidebar_fill_color" : "DDEEFF6", "location" : "Minas Gerais :)", "verified" : false, "follow_request_sent" :
null, "favourites_count" : 0, "profile_sidebar_border_color" : "C0DEED", "profile_image_url" : "http://a3.twimg.com/profile_images/1113925879/100
3425-crop_normal.jpg", "geo_enabled" : true, "created_at" : "Sun Jan 24 18:38:42 +0000 2010", "description" : "", "time_zone" : "Greenland", "url" :
"http://www.orkut.com.br/Main#Profile?uid=5624452063611616555", "screen_name" : "naniikaah", "notifications" : null, "profile_background_color" :
"C0DEED", "listed_count" : 0, "lang" : "es", "profile_background_image_url" : "http://a1.twimg.com/profile_background_images/60767650/Naanika_Cunha.
jpg", "statuses_count" : 509, "following" : null, "profile_text_color" : "333333", "protected" : false, "show_all_inline_media" : false, "profile_ba
ckground_tile" : true, "name" : "Caroline Izabele", "contributors_enabled" : false, "profile_link_color" : "008484", "followers_count" : 33, "id" :
108066489, "profile_use_background_image" : true, "utc_offset" : -10800 }, "retweeted" : 1 }
{ "_id" : { "friends_count" : 168, "profile_sidebar_fill_color" : "e0ff92", "location" : "", "verified" : false, "follow_request_sent" : null, "favo
urites_count" : 1, "profile_sidebar_border_color" : "87bc44", "profile_image_url" : "http://a1.twimg.com/profile_images/1088994741/topsteward_normal
.jpg", "geo_enabled" : false, "created_at" : "Sun Oct 25 19:48:45 +0000 2009", "description" : "Luton town fan dad of two lager man ", "time_zone" :
null, "url" : "http://lutontown", "screen_name" : "topsteward", "notifications" : null, "profile_background_color" : "9ae4e8", "listed_count" : 7,
"lang" : "en", "profile_background_image_url" : "http://s.twimg.com/a/1282351897/images/themes/theme1/bg.png", "statuses_count" : 2515, "following" :
null, "profile_text_color" : "000000", "protected" : false, "show_all_inline_media" : false, "profile_background_tile" : false, "name" : "Rob", "c
ontributors_enabled" : false, "profile_link_color" : "0000ff", "followers_count" : 109, "id" : 85150796, "profile_use_background_image" : true, "utc
_offset" : null }, "retweeted" : 1 }
{ "_id" : { "friends_count" : 136, "profile_sidebar_fill_color" : "252429", "location" : "ÜT: 34.138563,-118.268855", "verified" : false, "follow re
quest sent" : null, "favourites_count" : 1, "profile_sidebar_border_color" : "481A1E", "profile_image_url" : "http://a3.twimg.com/profile_images/306
103595/IMG00008-20090604-0118_normal.jpg", "geo_enabled" : true, "created_at" : "Fri Jul 03 15:15:05 +0000 2009", "description" : "in there like swi
m wear ", "time_zone" : "Alaska", "url" : "http://theeproactive.blogspot.com", "screen_name" : "pacmanjoey", "notifications" : null, "profile backgr
ound_color" : "1A181F", "listed_count" : 3, "lang" : "en", "profile_background_image_url" : "http://a1.twimg.com/profile_background_images/135071260
/product_thumb.jpg", "statuses_count" : 391, "following" : null, "profile_text_color" : "666666", "protected" : false, "show_all_inline_media" : fal
se, "profile_background_tile" : true, "name" : "Joseph madison", "contributors_enabled" : false, "profile_link_color" : "2FC2EF", "followers_count" :
43, "id" : 53410218, "profile_use_background_image" : true, "utc_offset" : -32400 }, "retweeted" : 1 }
{ "_id" : { "friends_count" : 99, "profile_sidebar_fill_color" : "e0ff92", "location" : "Bucks County", "verified" : false, "follow_request_sent" :
null, "favourites_count" : 1, "profile_sidebar_border_color" : "87bc44", "profile_image_url" : "http://a2.twimg.com/profile_images/1113990538/ijustd
ontgiveafuckfortwitter_normal.jpg", "geo_enabled" : false, "created_at" : "Fri Sep 18 13:41:54 +0000 2009", "description" : "©Not everybody trusts p
aintings but people believe photographs.©Ansel Adams ©", "time_zone" : null, "url" : "http://www.adrienneparisphotographs.com", "screen_name" : "APA
risPhoto", "notifications" : null, "profile_background_color" : "9ae4e8", "listed_count" : 0, "lang" : "en", "profile_background_image_url" : "http://
```

42)Grouping by id. Summing all ids:

```
> db.tweets.aggregate([{$group: {_id:"$oid", followers_count:{$sum:1}}});
{ "_id" : null, "followers_count" : 24832 }
```

43)Summing all population for all cities:

```
> db.zips.aggregate([{$group: {_id:"city", pop:{$sum:1}}});
{ "_id" : "city", "pop" : 29476 }
```

44)Query an Array: fetching using an array

```
db.companies.find({"products":[{"name":"Slacker Web Player","permalink":"slacker-web-player"}],{"name":"Slacker Desktop Radio","permalink":"slacker-desktop-radio"}],{"name":"Slacker Portable Player","permalink":"slacker-portable-player"}});
{"_id":"ObjectID('52cdef7c4babb6d75297d98)","name":"Slacker","permalink":"slacker","crunchbase_url":"http://www.crunchbase.com/company/slacker","homepage_url":"http://www.slacker.com","blog_url":"","blog_feed_url":"","twitter_username":"SlackerRadio","category_code":"music","number_of_employees":null,"founded_year":2006,"founded_month":null,"founded_day":null,"deadpooled_year":null,"deadpooled_month":null,"deadpooled_day":null,"deadpooled_url":null,"tag_list":"","alias_list":"","email_address":"support@slacker.com","phone_number":"","description":"Music Personalization Suite","created_at":"Mon Jun 04 08:45:22 UTC 2007","updated_at":"Sun Mar 17 08:05:45 UTC 2013","overview":"<p>Slacker is the most complete music service on Earth. The company delivers free and subscription-based access to millions of songs and hundreds of expert-programmed stations, plus news, sports and talk, on the web, mobile devices, in-car infotainment systems and consumer electronics platforms. By blending cutting-edge analytics with a team of expert music curators and content programmers, Slacker delivers a seamless music discovery experience and uniquely personalized entertainment. Slacker was founded in 2006 and is headquartered in San Diego with offices in Palo Alto, CA and New York City. For more information about Slacker, or to listen for free, visit www.slacker.com</p>","image":{"available_sizes":[{"width":150,"height":61,"assets/images/resized/0001/7589/1589v4-max-150x150.jpg"}, {"width":250,"height":101,"assets/images/resized/0001/7589/1589v4-max-250x250.jpg"}, {"width":450,"height":183,"assets/images/resized/0001/7589/1589v4-max-450x450.jpg"}]}, "attribution":null,"products":[{"name":"Slacker Web Player","permalink":"slacker-web-player"}, {"name":"Slacker Desktop Radio","permalink":"slacker-desktop-radio"}, {"name":"Slacker Portable Player","permalink":"slacker-portable-player"}], "relationships":{"is_past":false,"title":"President & CEO","person":{"first_name":"Jim","last_name":"Cady","permalink":"jim-cady"},"is_past":false,"title":"CRO","person":{"first_name":"Craig","last_name":"Carter"},"is_past":false,"title":"VP of Engineering","person":{"first_name":"Brad","last_name":"Rechenmacher"},"permalink":"craig-rechenmacher"},"is_past":false,"title":"SVP Strategic Development","person":{"first_name":"Jack","last_name":"Kindig"},"permalink":"brad-kindig"},"is_past":false,"title":"SVP Strategic Development","person":{"first_name":"Jack","last_name":"Kindig"},"permalink":"brad-kindig"}]}
```

45) Fetching certificate_number and business_name of given city and sorting as per certificate_number then business:

```
> db.inspections.find({address:{city:"BROOKLYN"}},{certificate_number:1, business_name:1, _id:0}).sort({certificate_number:1,business_name:-1});
```

```
> db.trips.aggregate([{$group:{_id:"start station id", avg_trip_duration:{$avg:"$tripduration"}}}]);
{ "_id" : "start station id", "avg_trip_duration" : 1129.9943 }
>
> db.trips.aggregate([{$group:{_id:"start station id", avg_trip_duration:{$avg:"$tripduration"}}},{$project:{avg_trip_duration:1, _id:0}}]);
{ "avg_trip_duration" : 1129.9943 }
>
> db.trips.find({}).sort({"city": 1, "state": -1}).skip(10).limit(3);
{ "_id" : ObjectId("5c8eccc1caa187d17ca75693"), "city" : "23157", "zip" : "23157", "loc" : { "y" : 37.340897, "x" : 76.297135 }, "pop" : 313, "state" : "VA" }
{ "_id" : ObjectId("5c8eccc1caa187d17ca75767"), "city" : "23973", "zip" : "23973", "loc" : { "y" : 36.766267, "x" : 78.219555 }, "pop" : 796, "state" : "VA" }
{ "_id" : ObjectId("5c8eccc1caa187d17ca757f3"), "city" : "24329", "zip" : "24329", "loc" : { "y" : 36.889764, "x" : 80.827174 }, "pop" : 159, "state" : "VA" }
>
```

Very Large Output:

```

db.companies.find().readConcern("majority");
{ "_id": "ObjectId('52cde77c4bab8bd675297d8a')", "name": "Wetpaint", "permalink": "abc2", "crunchbase_url": "http://www.crunchbase.com/company/wetpaint", "homepage_url": "http://wetpaint-inc.com", "blog_url": "http://digitalquarters.net/", "blog_feed_url": "http://digitalquarters.net/feed", "twitter_username": "BachelorWetpaint", "category_code": "web", "number_of_employees": 47, "founded_year": 2005, "founded_month": 10, "founded_day": 17, "deadpooled_year": 1, "tag_list": "wiki, seattle, elowitz, media-industry, media-platform, social-distribution-system", "aliases": "wetpaint", "email_address": "info@wetpaint.com", "phone_number": "206.859.6300", "description": "Technology Platform Company", "created_at": "2007-05-25T06:51:27Z", "updated_at": "Sun Dec 08 07:15:44 UTC 2013", "overview": "<p>Wetpaint is a technology platform company that uses a proprietary state-of-the-art technology and expertise in social media to build and monetize audiences for digital publishers. Wetpaint's own only entry, Wetpaint Entertainment, an entertainment news site that attracts more than 12 million unique visitors monthly and has over 2 million fans, is a proof point to the company's success in building and engaging audiences. Media companies can license Wetpaint's platform which in turn provides a dynamic playback tailored to their individual needs and comprehensive training. Founded by Internet pioneer Ben Elowitz, and with offices in Seattle and San Francisco, Wetpaint is backed by Accel Partners, the investors behind Facebook.</p>", "image": "http://www.wetpaint.com/images/resized/0000/3604/3604v14-max-150x150.jpg", "image_sizes": [ [ 150, 75 ], [ 250, 125 ], [ 450, 225 ], [ 750, 375 ], [ 1500, 750 ], [ 2250, 1125 ], [ 3000, 1500 ], [ 3750, 1875 ], [ 4500, 2250 ], [ 5250, 2625 ], [ 6000, 3000 ], [ 6750, 3375 ], [ 7500, 3750 ], [ 8250, 4125 ], [ 9000, 4500 ], [ 9750, 4875 ], [ 10500, 5250 ], [ 11250, 5625 ], [ 12000, 6000 ], [ 12750, 6375 ], [ 13500, 6750 ], [ 14250, 7125 ], [ 15000, 7500 ], [ 15750, 7875 ], [ 16500, 8250 ], [ 17250, 8625 ], [ 18000, 9000 ], [ 18750, 9375 ], [ 19500, 9750 ], [ 20250, 10125 ], [ 21000, 10500 ], [ 21750, 10875 ], [ 22500, 11250 ], [ 23250, 11625 ], [ 24000, 12000 ], [ 24750, 12375 ], [ 25500, 12750 ], [ 26250, 13125 ], [ 27000, 13500 ], [ 27750, 13875 ], [ 28500, 14250 ], [ 29250, 14625 ], [ 30000, 15000 ], [ 30750, 15375 ], [ 31500, 15750 ], [ 32250, 16125 ], [ 33000, 16500 ], [ 33750, 16875 ], [ 34500, 17250 ], [ 35250, 17625 ], [ 36000, 18000 ], [ 36750, 18375 ], [ 37500, 18750 ], [ 38250, 19125 ], [ 39000, 19500 ], [ 39750, 19875 ], [ 40500, 20250 ], [ 41250, 20625 ], [ 42000, 21000 ], [ 42750, 21375 ], [ 43500, 21750 ], [ 44250, 22125 ], [ 45000, 22500 ], [ 45750, 22875 ], [ 46500, 23250 ], [ 47250, 23625 ], [ 48000, 24000 ], [ 48750, 24375 ], [ 49500, 24750 ], [ 50250, 25125 ], [ 51000, 25500 ], [ 51750, 25875 ], [ 52500, 26250 ], [ 53250, 26625 ], [ 54000, 27000 ], [ 54750, 27375 ], [ 55500, 27750 ], [ 56250, 28125 ], [ 57000, 28500 ], [ 57750, 28875 ], [ 58500, 29250 ], [ 59250, 29625 ], [ 60000, 30000 ], [ 60750, 30375 ], [ 61500, 30750 ], [ 62250, 31125 ], [ 63000, 31500 ], [ 63750, 31875 ], [ 64500, 32250 ], [ 65250, 32625 ], [ 66000, 33000 ], [ 66750, 33375 ], [ 67500, 33750 ], [ 68250, 34125 ], [ 69000, 34500 ], [ 69750, 34875 ], [ 70500, 35250 ], [ 71250, 35625 ], [ 72000, 36000 ], [ 72750, 36375 ], [ 73500, 36750 ], [ 74250, 37125 ], [ 75000, 37500 ], [ 75750, 37875 ], [ 76500, 38250 ], [ 77250, 38625 ], [ 78000, 39000 ], [ 78750, 39375 ], [ 79500, 39750 ], [ 80250, 40125 ], [ 81000, 40500 ], [ 81750, 40875 ], [ 82500, 41250 ], [ 83250, 41625 ], [ 84000, 42000 ], [ 84750, 42375 ], [ 85500, 42750 ], [ 86250, 43125 ], [ 87000, 43500 ], [ 87750, 43875 ], [ 88500, 44250 ], [ 89250, 44625 ], [ 90000, 45000 ], [ 90750, 45375 ], [ 91500, 45750 ], [ 92250, 46125 ], [ 93000, 46500 ], [ 93750, 46875 ], [ 94500, 47250 ], [ 95250, 47625 ], [ 96000, 48000 ], [ 96750, 48375 ], [ 97500, 48750 ], [ 98250, 49125 ], [ 99000, 49500 ], [ 99750, 49875 ], [ 100500, 50250 ], [ 101250, 50625 ], [ 102000, 51000 ], [ 102750, 51375 ], [ 103500, 51750 ], [ 104250, 52125 ], [ 105000, 52500 ], [ 105750, 52875 ], [ 106500, 53250 ], [ 107250, 53625 ], [ 108000, 54000 ], [ 108750, 54375 ], [ 109500, 54750 ], [ 110250, 55125 ], [ 111000, 55500 ], [ 111750, 55875 ], [ 112500, 56250 ], [ 113250, 56625 ], [ 114000, 57000 ], [ 114750, 57375 ], [ 115500, 57750 ], [ 116250, 58125 ], [ 117000, 58500 ], [ 117750, 58875 ], [ 118500, 59250 ], [ 119250, 59625 ], [ 120000, 60000 ], [ 120750, 60375 ], [ 121500, 60750 ], [ 122250, 61125 ], [ 123000, 61500 ], [ 123750, 61875 ], [ 124500, 62250 ], [ 125250, 62625 ], [ 126000, 63000 ], [ 126750, 63375 ], [ 127500, 63750 ], [ 128250, 64125 ], [ 129000, 64500 ], [ 129750, 64875 ], [ 130500, 65250 ], [ 131250, 65625 ], [ 132000, 66000 ], [ 132750, 66375 ], [ 133500, 66750 ], [ 134250, 67125 ], [ 135000, 67500 ], [ 135750, 67875 ], [ 136500, 68250 ], [ 137250, 68625 ], [ 138000, 69000 ], [ 138750, 69375 ], [ 139500, 69750 ], [ 140250, 70125 ], [ 141000, 70500 ], [ 141750, 70875 ], [ 142500, 71250 ], [ 143250, 71625 ], [ 144000, 72000 ], [ 144750, 72375 ], [ 145500, 72750 ], [ 146250, 73125 ], [ 147000, 73500 ], [ 147750, 73875 ], [ 148500, 74250 ], [ 149250, 74625 ], [ 150000, 75000 ], [ 150750, 75375 ], [ 151500, 75750 ], [ 152250, 76125 ], [ 153000, 76500 ], [ 153750, 76875 ], [ 154500, 77250 ], [ 155250, 77625 ], [ 156000, 78000 ], [ 156750, 78375 ], [ 157500, 78750 ], [ 158250, 79125 ], [ 159000, 79500 ], [ 159750, 79875 ], [ 160500, 80250 ], [ 161250, 80625 ], [ 162000, 81000 ], [ 162750, 81375 ], [ 163500, 81750 ], [ 164250, 82125 ], [ 165000, 82500 ], [ 165750, 82875 ], [ 166500, 83250 ], [ 167250, 83625 ], [ 168000, 84000 ], [ 168750, 84375 ], [ 169500, 84750 ], [ 170250, 85125 ], [ 171000, 85500 ], [ 171750, 85875 ], [ 172500, 86250 ], [ 173250, 86625 ], [ 174000, 87000 ], [ 174750, 87375 ], [ 175500, 8775
```

```
> db.stories.update({"_id": 1}, {$pop: {"container": -1});
WriteResult({ "nMatched" : 0, "nUpserted" : 0, "nModified" : 0 })
>
```

Updated trips.json with usertype:local where birth year:1969: Here it has updated 125 document fields(usertype) with “local”:


```
> db.trips.updateMany({"birth year": 1969}, {$set: {"usertype": "local"}});
{ "acknowledged" : true, "matchedCount" : 125, "modifiedCount" : 125 }
>
```

Checking result: Here we can see that usertype is changed to "local" and there are 125 records in total that matched birth year as 1969.

```
> db.trips.find({"birth year": 1969},{usertype:1, _id:0});
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
{ "usertype" : "local" }
Type "it" for more
```

Updates trips.json with bikeid:14566 where birth year:1952:

```
> db.trips.update({"birth year": 1952}, {$set: {"bikeid": "14566"}});
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

Checking the updated change where we can see that first entry is bikeid:14566 as we updated earlier:

```
> db.trips.find({"birth year": 1952}, {bikeid:1, _id:0});
{ "bikeid" : "14566" }
{ "bikeid" : 23643 }
{ "bikeid" : 24072 }
{ "bikeid" : 23961 }
{ "bikeid" : 21037 }
{ "bikeid" : 20379 }
{ "bikeid" : 18662 }
{ "bikeid" : 18331 }
{ "bikeid" : 23469 }
{ "bikeid" : 15828 }
{ "bikeid" : 16649 }
{ "bikeid" : 20541 }
{ "bikeid" : 19153 }
{ "bikeid" : 22964 }
{ "bikeid" : 21481 }
{ "bikeid" : 21481 }
{ "bikeid" : 22979 }
{ "bikeid" : 16743 }
{ "bikeid" : 23590 }
{ "bikeid" : 23063 }
Type "it" for more
```

```
> db.routes.replaceOne({airline: 470}, {name: "Air Sai" , alias: "21"});
{ "acknowledged" : true, "matchedCount" : 0, "modifiedCount" : 0 }
> db.routes.update({"_id": 1}, {$set: {airline: "1338"}, $setOnInsert: {alias: 120}}, {upsert: true});
WriteResult({ "nMatched" : 0, "nUpserted" : 1, "nModified" : 0, "_id" : 1 })
>
> db.routes.find({_id:1}).pretty();
{ "_id" : 1, "airline" : "1338", "alias" : 120 }
>
```

Updating and saving this certificate numbers' business_name as shown:

```
> db.inspections.save({"certificate_number": "3022423", "business_name": "SIXTEENSEVEN"});
WriteResult({ "nInserted" : 1 })
>
```

Checking whether our saved entry actually persists: We can see the result which tells us that business_name is saved and updating successfully.

```
> db.inspections.find({"certificate_number": "3022423"},{business_name:1, _id:0});
{ "business_name" : "SIXTEENSEVEN" }
>
```