

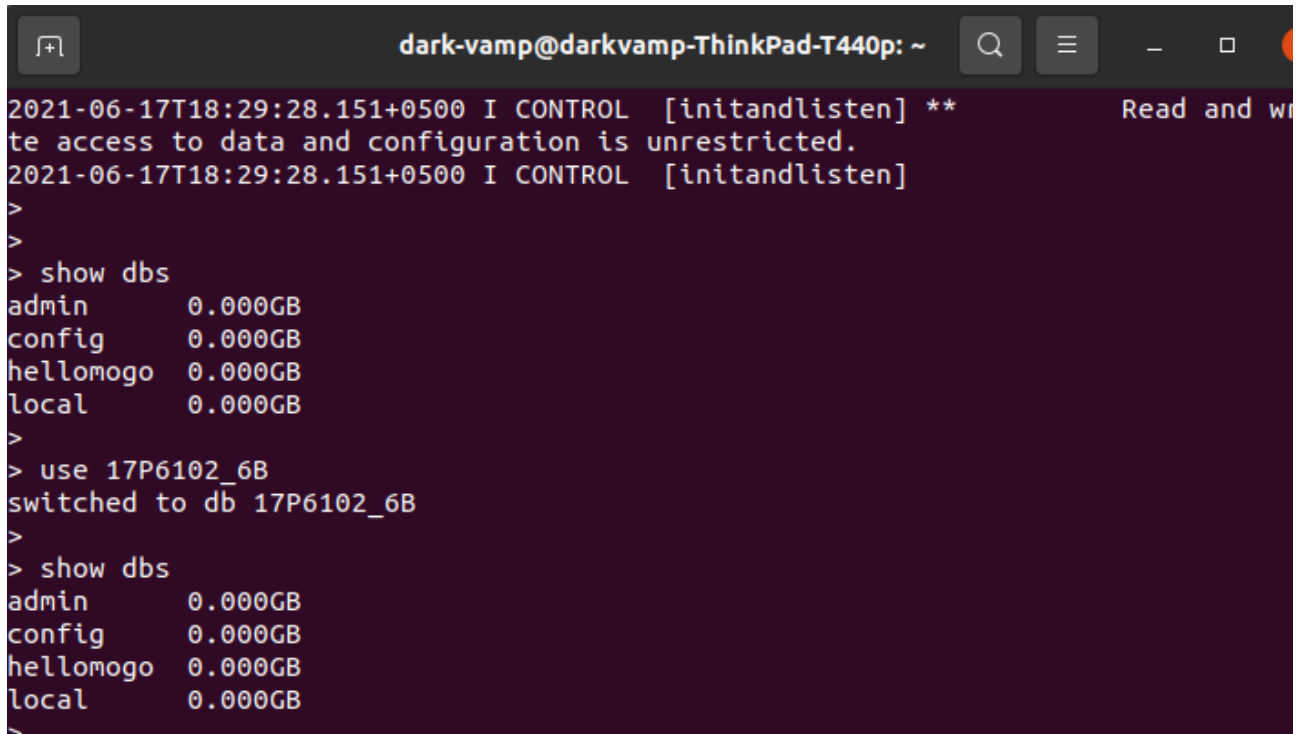
LAB TASK 12

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Roll NO: P17-6102

Lab: Database system

1) Create a database named your rollno_section (i.e. 18P0014_6B).

A screenshot of a terminal window titled 'dark-vamp@darkvamp-ThinkPad-T440p: ~'. The terminal shows the output of MongoDB commands. It starts with system logs, then the user enters '> show dbs' which lists four databases: admin (0.000GB), config (0.000GB), hellomogo (0.000GB), and local (0.000GB). Then the user enters '> use 17P6102_6B' and the terminal responds 'switched to db 17P6102_6B'. Finally, the user enters '> show dbs' again, showing the same four databases as before.

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
2021-06-17T18:29:28.151+0500 I CONTROL [initandlisten] ** Read and write  
te access to data and configuration is unrestricted.  
2021-06-17T18:29:28.151+0500 I CONTROL [initandlisten]  
>  
>  
> show dbs  
admin          0.000GB  
config         0.000GB  
hellomogo     0.000GB  
local          0.000GB  
>  
> use 17P6102_6B  
switched to db 17P6102_6B  
>  
> show dbs  
admin          0.000GB  
config         0.000GB  
hellomogo     0.000GB  
local          0.000GB  
>
```

2) Create collections named cities and moviepeople_1000.

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
admin      0.000GB  
config     0.000GB  
hellomogo  0.000GB  
local      0.000GB  
>  
>  
>  
> db.createCollection("cities")  
{ "ok" : 1 }  
>  
> db.createCollection("moviepeople_1000")  
{ "ok" : 1 }  
>  
> show collection  
2021-06-17T18:44:59.646+0500 E QUERY [thread1] Error: don't know how to show  
[collection] :  
shellHelper.show@src/mongo/shell/utils.js:997:11  
shellHelper@src/mongo/shell/utils.js:750:15  
@(shellhelp2):1:1  
> show collections  
cities  
moviepeople_1000
```

3) Import the documents cities.jsonl and moviepeople-1000.jsonl into the cities and moviepeople collection respectively by issuing the following command. (download the datasets from google class room in Datasets directory)

```
mongoimport --db 17P6102_6B --collection cities --file  
cities.jsonl
```

```
dark-vamp@darkvamp-ThinkPad-T440p: ~/Downloads/Lab12 Datasets  
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$ mongoimport --db 17P6102_6B --collection cities --file cities.jsonl  
2021-06-17T19:01:47.882+0500 connected to: localhost  
2021-06-17T19:01:48.802+0500 imported 99838 documents  
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$ mongoimport --db 17P6102_6B --collection moviepeople_1000 --file moviepeople-1000.jsonl
```

```
mongoimport --db 17P6102_6B --collection moviepeople_1000 --file  
movie-1000.jsonl
```

```
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$  
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$ mongoimport --db 17P6102_6B --collecti  
on moviepeople_1000 --file moviepeople-1000.jsonl  
2021-06-17T19:04:16.964+0500    connected to: localhost  
2021-06-17T19:04:17.070+0500    imported 1000 documents  
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$  
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$  
dark-vamp@darkvamp-ThinkPad-T440p:~/Downloads/Lab12 Datasets$
```

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
>  
>  
>  
> db.cities.find();  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9ed5"), "name" : "Pas de la Casa", "coun  
try" : "AD", "timezone" : "Europe/Andorra", "population" : 2363, "location" : {  
  "longitude" : 42.54277, "latitude" : 1.73361 } }  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9ed6"), "name" : "Ordino", "country" : "  
AD", "timezone" : "Europe/Andorra", "population" : 3066, "location" : { "longitu  
de" : 42.55623, "latitude" : 1.53319 } }  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9ed7"), "name" : "Sant Julià de Lòria",  
"country" : "AD", "timezone" : "Europe/Andorra", "population" : 8022, "location"  
: { "longitude" : 42.46372, "latitude" : 1.49129 } }  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9ed8"), "name" : "la Massana", "country"  
: "AD", "timezone" : "Europe/Andorra", "population" : 7211, "location" : { "lon  
gitude" : 42.54499, "latitude" : 1.51483 } }  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9ed9"), "name" : "les Escaldes", "countr  
y" : "AD", "timezone" : "Europe/Andorra", "population" : 15853, "location" : { "  
longitude" : 42.50729, "latitude" : 1.53414 } }  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9eda"), "name" : "Encamp", "country" : "  
AD", "timezone" : "Europe/Andorra", "population" : 11223, "location" : { "longit  
ude" : 42.53333, "latitude" : 1.58333 } }  
{ "_id" : ObjectId("60cb55cb48c4e6688b5c9edb"), "name" : "Arinsal", "country" :  
"AD", "timezone" : "Europe/Andorra", "population" : 1419, "location" : { "longit  
population" : 3066,
```

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
>  
>  
> db.moviepeople_1000.find();  
{ "_id" : ObjectId("60cb566148c4e6688b5e253b"), "person-name" : "Bell, Lee Phillip", "info" : { "trivia" : [ "Mother-in-law of 'Colleen Bell (II)' (qv) and 'Maria Arena Bell' (qv).", "Mother of actress 'Lauralee Bell' (qv), writer/producer 'Bradley Bell (I)' (qv) and TV executive 'William J. Bell Jr.' (qv).", ], "birthnotes" : [ "Chicago, Illinois, USA" ], "spouse" : [ "'William J. Bell' (qv) (October 1954 - 29 April 2005) (his death); 3 children" ], "birthname" : [ "Phillip, Lee" ] } }  
{ "_id" : ObjectId("60cb566148c4e6688b5e253c"), "person-name" : "Bell, William J.", "info" : { "quotes" : [ "My wife, 'Lee Phillip Bell' (qv) had her own television show in Chicago when I started doing serials. We both knew there were problems with security in the television business, so we promised each other that if one of us got fired, the other would quit his job and we'd go live in Europe for a year. Neither one of us were ever fired, and we've been working ever since.", "On 'Irna Phillips' (qv): I used to come home for lunch in grammar school and listen to [error] on the radio. After the title the announcer would say 'created by Irna Phillips'. Her name was ingrained in my mind. I met Irna in 1954 and I asked I could try writing for her. She let me write a week of sample scripts.", "In 1992: I imagine the day will come when _The Bold and the Beautiful (1987)_ (qv) becomes an hour show and I'd like to create another soap. It would be fun to do a play, but I don't know if I'll ever get around to it. Scripting daytime is very consuming. But it's exciting to see what you write come to life every day." ] } }
```

Question 4

i. All those cities whose time zone is Africa/Harare.

```
> db.cities.find( ).pretty()
```

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
>  
>  
> db.cities.find ().pretty();  
{  
  "_id" : ObjectId("60cb55cb48c4e6688b5c9ed5"),  
  "name" : "Pas de la Casa",  
  "country" : "AD",  
  "timezone" : "Europe/Andorra",  
  "population" : 2363,  
  "location" : {  
    "longitude" : 42.54277,  
    "latitude" : 1.73361  
  }  
}  
{  
  "_id" : ObjectId("60cb55cb48c4e6688b5c9ed6"),  
  "name" : "Ordino",  
  "country" : "AD",  
  "timezone" : "Europe/Andorra",  
  "population" : 3066,  
  "location" : {  
    "longitude" : 42.55623,  
    "latitude" : 1.53319  
  }  
}  
{  
  "_id" : ObjectId("60cb55cb48c4e6688b5c9ed7"),  
  "name" : "Sant Julià de Lòria",  
  "country" : "AD",  
  "timezone" : "Europe/Andorra",  
  "population" : 8022,  
  "location" : {  
    "longitude" : 42.46372,  
    "latitude" : 1.49129  
  }  
}  
}
```

> db.cities.find({ "timezone": "Africa/Harare" }).pretty()

```
Activities Terminal 19:47 17 جون  
dark-vamp@darkvamp-ThinkPad-T440p: ~  
>  
>  
> db.cities.find( { "timezone": "Africa/Harare" }).pretty()  
{  
  "_id" : ObjectId("60cb55cc48c4e6688b5e24f6"),  
  "name" : "Zvishavane",  
  "country" : "ZW",  
  "timezone" : "Africa/Harare",  
  "population" : 35896,  
  "location" : {  
    "latitude" : -20.32674,  
    "longitude" : 30.06648  
  }  
}  
{  
  "_id" : ObjectId("60cb55cc48c4e6688b5e24f7"),  
  "name" : "Shamva",  
  "country" : "ZW",  
  "timezone" : "Africa/Harare",  
  "population" : 10317,  
  "location" : {  
    "latitude" : -17.31159,  
    "longitude" : 31.57561  
  }  
}  
{  
  "_id" : ObjectId("60cb55cc48c4e6688b5e24f8"),  
  "name" : "Shangani",  
  "country" : "ZW",  
  "timezone" : "Africa/Harare",  
  "population" : 3835,  
  "location" : {  
    "latitude" : -19.78333,  
    "longitude" : 29.36667  
  }  
}  
{  
  "_id" : ObjectId("60cb55cc48c4e6688b5e24f9"),  
  "name" : "Rusape",  
  "country" : "ZW",  
  "timezone" : "Africa/Harare",  
  "population" : 29292,  
  "location" : {  
    "latitude" : -18.52785,  
    "longitude" : 32.12843  
  }  
}
```

ii. All those cities whose population is greater than 12985000.

```

> db.cities.find({ population: { $gt: 12985000 } }).pretty()
{
  "_id" : ObjectId("60bb7934df3b32784a4e7b50"),
  "name" : "Buenos Aires",
  "country" : "AR",
  "timezone" : "America/Argentina/Buenos_Aires",
  "population" : 13076300,
  "location" : {
    "latitude" : -34.61315,
    "longitude" : -58.37723
  }
}
{
  "_id" : ObjectId("60bb7934df3b32784a4e9f43"),
  "name" : "Shanghai",
  "country" : "CN",
  "timezone" : "Asia/Shanghai",
  "population" : 14608512,
  "location" : {
    "longitude" : 31.22222,
    "latitude" : 121.45806
  }
}

```

iii. A city whose longitude equals to -58.37723. Your query should return location and population fields only. (hint: use projection)

```

dark-vamp@darkvamp-ThinkPad-T440p: ~
> db.cities.find({population: {$gt: 12985000}}).pretty()
{
  "_id" : ObjectId("60cb55cb48c4e6688b5ca1b6"),
  "name" : "Buenos Aires",
  "country" : "AR",
  "timezone" : "America/Argentina/Buenos_Aires",
  "population" : 13076300,
  "location" : {
    "latitude" : -34.61315,
    "longitude" : -58.37723
  }
}
{
  "_id" : ObjectId("60cb55cb48c4e6688b5cc5b0"),
  "name" : "Shanghai",
  "country" : "CN",
  "timezone" : "Asia/Shanghai",
  "population" : 14608512,
  "location" : {
    "longitude" : 31.22222,
    "latitude" : 121.45806
  }
}

```

```

> db.cities.find({country: "PK", "location.latitude" : {$eq: 73.2122}, populatio
n : {$eq: 35000}}).pretty()
{
  "_id" : ObjectId("60cb55cc48c4e6688b5da862"),
  "name" : "Malakwal City",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 35000,
  "location" : {
    "longitude" : 32.55492,
    "latitude" : 73.2122
  }
}

```

```

dark-vamp@darkvamp-ThinkPad-T440p: ~
"location" : {
  "longitude" : 32.55492,
  "latitude" : 73.2122
}
}
> db.cities.update({country : "PK", "location.latitude" : {$eq : 73.2122},
.. population : {$eq : 35000}}, {$set : {population:55000}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.cities.find({country: "PK", "location.latitude" : {$eq: 73.2122},
.. population : {$eq: 55000}})
{ "_id" : ObjectId("60cb55cc48c4e6688b5da862"), "name" : "Malakwal City", "country" : "PK",
"timezone" : "Asia/Karachi", "population" : 55000, "location" : { "longitude" : 32.554
92, "latitude" : 73.2122 } }
> db.cities.find({country: "PK", "location.latitude" : {$eq: 73.2122},
.. population : {$eq: 35000}})

```

QUESTION 6

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
>  
>  
> db.cities.find({"timezone": "Asia/Karachi", country: "PK"}).pretty()  
{  
  "_id" : ObjectId("60cb55cc48c4e6688b5da6bf"),  
  "name" : "Chuhar Jamāli",  
  "country" : "PK",  
  "timezone" : "Asia/Karachi",  
  "population" : 15781,  
  "location" : {  
    "longitude" : 24.38889,  
    "latitude" : 67.99306  
  }  
}  
{  
  "_id" : ObjectId("60cb55cc48c4e6688b5da6c0"),  
  "name" : "Khairpur",  
  "country" : "PK",  
  "timezone" : "Asia/Karachi",  
  "population" : 124602,  
  "location" : {  
    "longitude" : 27.53333,  
    "latitude" : 68.76667  
  }  
}
```

```
> db.cities.deleteMany({"timezone": "Asia/Karachi", country: "PK" })
```

```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
>  
>  
> db.cities.deleteMany({"timezone": "Asia/Karachi", country: "PK" })  
{ "acknowledged" : true, "deletedCount" : 424 }  
>  
> db.cities.find({"timezone": "Asia/Karachi", country: "PK"}).pretty()  
>  
>  
>
```

QUESTION 7


```
dark-vamp@darkvamp-ThinkPad-T440p: ~  
db.moviepeople_1000.find({"info.birthname": "Freeman, Crispin McDougal"}).pretty()  
{"_id" : ObjectId("60cb566148c4e6688b5e291d"),  
  "person-name" : "Freeman, Crispin",  
  "info" : {  
    "quotes" : [  
      "On advice to aspiring voice-over actors: For myself, I'm in the  
      favor of the more versatile kind of voice who can do all sorts of roles and transform. Bu  
      t to do that you have to have chops, and the best way to get them is through the classics  
      , especially Shakespeare. It teaches you a lot about breathing, and idea and intention an  
      d rhythm. He's written the characters into the very poetry of the language, and if you tr  
      y to get into and match his poetry it will take you out of your normal language patterns  
      and that's the beginning of creating a character, not playing your mundane, everyday self  
      . It's so verbally based, and in voice-acting, all you've got is your voice."  
    ],  
    "trivia" : [  
      "Said he was a little nervous about taking on the role of Zelgadi  
      s in Slayers because the character had already been voiced by someone else. When it came  
      to reinterpreting the character, he said he thought that Zelgadis had more of an axe to  
      grind.",  
      "Fluent in English and Spanish.",  
      "Is a big fan of authors 'William Shakespeare (I)' (qv), 'J.R.R.  
      Tolkien' (qv), 'Joseph Campbell (III)' (qv), 'Marshall McLuhan' (qv), and 'William Gibson
```