

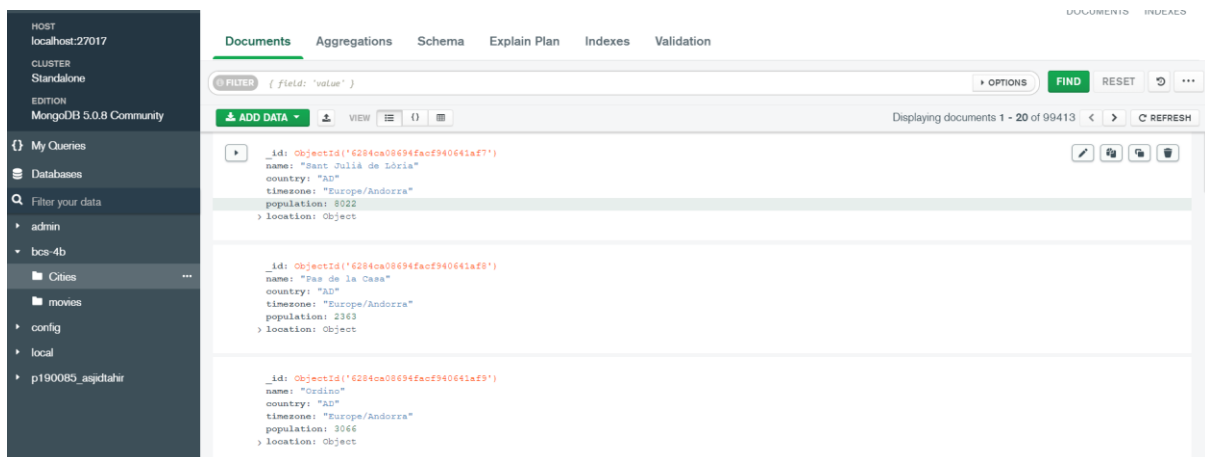
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19p-0085

DATABASE SYSTEMS LAB

LAB # 13:

```
to permanently disable t
---
> show dbs
admin                0.000GB
bcs-4b               0.007GB
config               0.000GB
local                0.000GB
p190085_asjdtahir    0.000GB
> use bcs-4b
switched to db bcs-4b
> show tables
Cities
movies
>
```



Exercises:

```
1): db.Cities.find({population:{$lt:30,$ne:0}}).limit(2).pretty()
```

```

>
> db.Cities.find({population:{$lt:30,$ne:0}}).limit(2).pretty()
{
  "_id" : ObjectId("6284ca0c694facf94064c276"),
  "name" : "Tanggul",
  "country" : "ID",
  "timezone" : "Asia/Jakarta",
  "population" : 3,
  "location" : {
    "latitude" : -8.1645,
    "longitude" : 113.4525
  }
}
{
  "_id" : ObjectId("6284ca0d694facf94065000f"),
  "name" : "Ereencav",
  "country" : "MN",
  "timezone" : "Asia/Choibalsan",
  "population" : 23,
  "location" : {
    "longitude" : 49.8807,
    "latitude" : 115.72526
  }
}
>

```

```

2): db.Cities.count({timezone : "Asia/Jakarta"})

```

```

> db.Cities.count({timezone : "Asia/Jakarta"})
1430
>

```

```

3): db.Cities.find({country :
"PK",timezone:"Asia/Karachi"}).sort({population:-1}).forEach(printjson)

```

Note:

It is going to print 423 docs.

```

db.cities.find({country : "PK",timezone:"Asia/Karachi"}).sort({population:-1}).forEach(printjson)

  "_id" : ObjectId("60c46d4a95da44e07b6918a1"),
  "name" : "Karachi",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 11624219,
  "location" : {
    "longitude" : 24.9056,
    "latitude" : 67.0822
  }

  "_id" : ObjectId("60c46d4a95da44e07b691875"),
  "name" : "Lahore",
  "country" : "PK",
  "timezone" : "Asia/Karachi",
  "population" : 6310888,
  "location" : {
    "longitude" : 31.54972,
    "latitude" : 74.34361
  }

  "_id" : ObjectId("60c46d4a95da44e07b6918f2"),

```

4):

```

db.Cities.getIndexes()
db.Cities.createIndex({population:1})
db.Cities.dropIndex({population:1})

```

```

>
>
> db.Cities.getIndexes()
[ { "v" : 2, "key" : { "_id" : 1 }, "name" : "_id_" } ]
> db.Cities.createIndex({population:1})
{
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
> db.Cities.dropIndex({population:1})
{ "nIndexesWas" : 2, "ok" : 1 }
>

```

MongoDB Compass Tasks:

5:

i) {timezone : "Europe/Andorra"}

The screenshot shows the MongoDB Compass interface for a database named 'bcs-4b.Cities'. The 'Documents' tab is active. The search filter is set to '{timezone : "Europe/Andorra"}'. The results show three documents:

```
{ "_id": ObjectId("6284ca08694facf940641af7"),  
  "name": "Sant Julià de Lòria",  
  "country": "AD",  
  "timezone": "Europe/Andorra",  
  "population": 8022,  
  "location": Object }  
  
{ "_id": ObjectId("6284ca08694facf940641af8"),  
  "name": "Fas de la Casa",  
  "country": "AD",  
  "timezone": "Europe/Andorra",  
  "population": 2363,  
  "location": Object }  
  
{ "_id": ObjectId("6284ca08694facf940641af9"),  
  "name": "Ordino",  
  "country": "AD",  
  "timezone": "Europe/Andorra",  
  "population": 3066,  
  "location": Object }
```

ii) {population : {>:12955000} ,  
country : "AR"}

The screenshot shows the MongoDB Compass interface for the same database. The search filter is updated to '{population : {>:12955000} , country : "AR"}'. The results show one document:

```
{ "_id": ObjectId("6284ca08694facf940641dda"),  
  "name": "Buenos Aires",  
  "country": "AR",  
  "timezone": "America/Argentina/Buenos_Aires",  
  "population": 13076300,  
  "location": Object }
```

iii) Filter:

```
{"location.longitude":{$eq:1.6}}
```

Project:

```
{location:1,population:1,_id:0}
```

The screenshot shows the MongoDB Compass interface for a database named 'bcs-4b' and a collection named 'Cities'. The 'Documents' tab is active. The query bar contains the following query:

```
{ "location.longitude": { $eq: 1.6 } }
```

The query is executed, and the results are displayed in a table. The table has two columns: 'location' and 'population'. The first document has a population of 73176 and a location with longitude 1.6 and latitude 103.65. The second document has a population of 75350 and a location with longitude 1.6 and latitude 103.81667.

location	population
<pre>{ "longitude": 1.6, "latitude": 103.65 }</pre>	73176
<pre>{ "longitude": 1.6, "latitude": 103.81667 }</pre>	75350