ASSIGNMENT 5

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PROG8600 Laboratory Exercise 7

In the previous laboratory exercise, we downloaded and installed MongoDB Community Server and worked with data using MongoDB Shell. In this exercise, we will build on the previous work and further operate on data in MongoDB. Navigate to https://www.codewall.co.uk/mongodb-beginner-tutorial-with-compass-gui-the-mongo-shell-cli/ and carefully read and complete the tutorial. As you complete the tutorial, write your own notes on the tasks completed, observations made, difficulties encountered, and any questions. Save your completed work and notes, as they may be required to be formally submitted as part of a future assignment

Solution :

Step 1 :

- Firstly we have downloaded the latest version of MongoDB from https://www.mongodb.com/download-center/community.
- Then follow the steps as per instruction and installed the downloaded file.

- after installation of mongo dB we can check it using Command prompt.
- Enter the following command – cd C:\Program Files\MongoDB\Server\5.0\bin
- Then enter the following command – mongo.

```
Select Command Prompt - mongo                                           —    □    ✕

C:\Program Files\MongoDB\Server\5.0\bin>mongo
MongoDB shell version v5.0.7
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("bf6ce511-4c7d-451f-a8d0-7ea5a16c05cd") }
MongoDB server version: 5.0.7
================
Warning: the "mongo" shell has been superseded by "mongosh",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/
================
---
The server generated these startup warnings when booting:
        2022-04-18T16:54:16.927-04:00: Access control is not enabled for the database. Read and write access to data and
 configuration is unrestricted
---
---
        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()
---
>
```
coon

Step 2 :

- Go to the following download page URL for Compass https://www.mongodb.com/download-center/compass?jmp=docs
- Pick the **Community Edition Stable** version from the drop-down.
- Select Windows 64-bit (7+) from the platforms dropdown.

- Click the download button.
- Wait for the download to complete.

Installing Compass for MongoDB

- Locate and launch the MongoDB Compass installer that was downloaded earlier.
- Read the License Agreement and click agree if you are happy with the conditions.
- Navigate through the series of how-to panes until you reach the privacy setting window and tick/untick to your preference.
- Lastly, click Start Using Compass.
- Now create a new connection
- Hostname: localhost or Remote Server IP
- Port: 27017
- Leave the rest of the fields as their default and press connect.

  Now, generate a CSV file from the website https://generatedata.com. The data consists of people

- Open up MongoDB Compass Community that was installed earlier.
- Connect to the MongoDB Server by specifying parameters as below
    0. Hostname: localhost
    1. Port: 27017
- Click connect.
- From the loaded dashboard click the Create database button.
- The created database helper will be loaded.
- Specify the Database Name as peopledb
- Specify the Collection Name as people
- Click the Create Database button.

Creating documents (data)

- Locate the People Database under the MyCluster Pane located on the left-hand pane and click it.
- After that click on ADD DATA button where we can find two options (Import file , Import document)
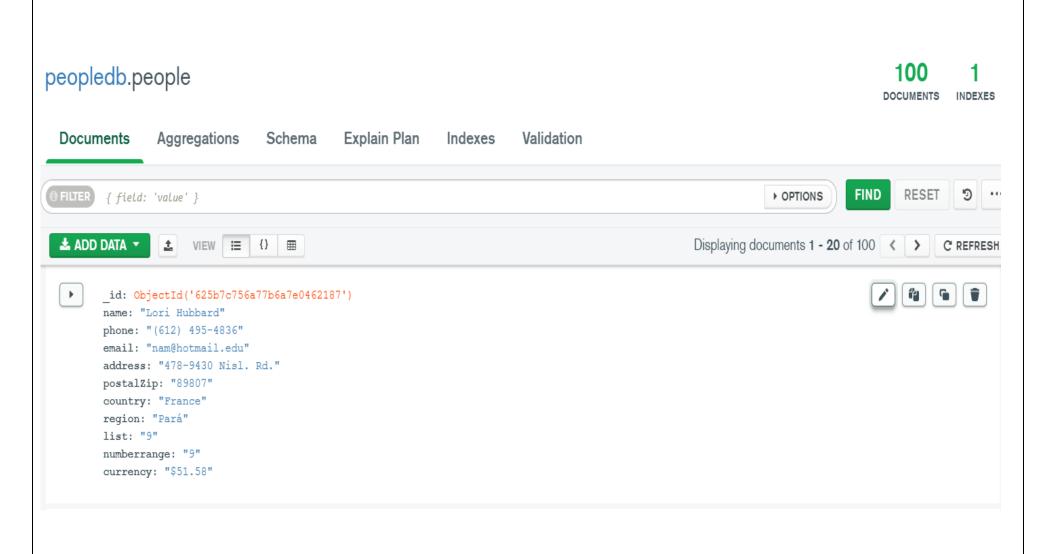- Then we have imported the already downloaded CSV file.

- to view data need just click on database from side panel and then click on collection.
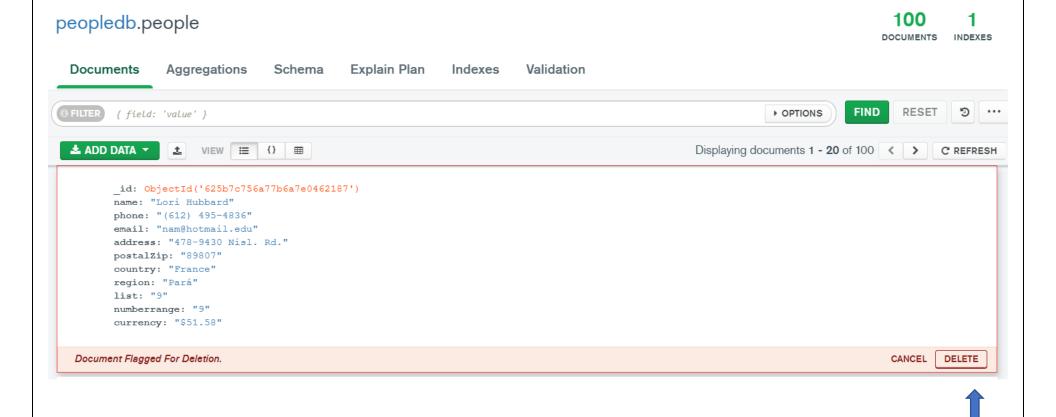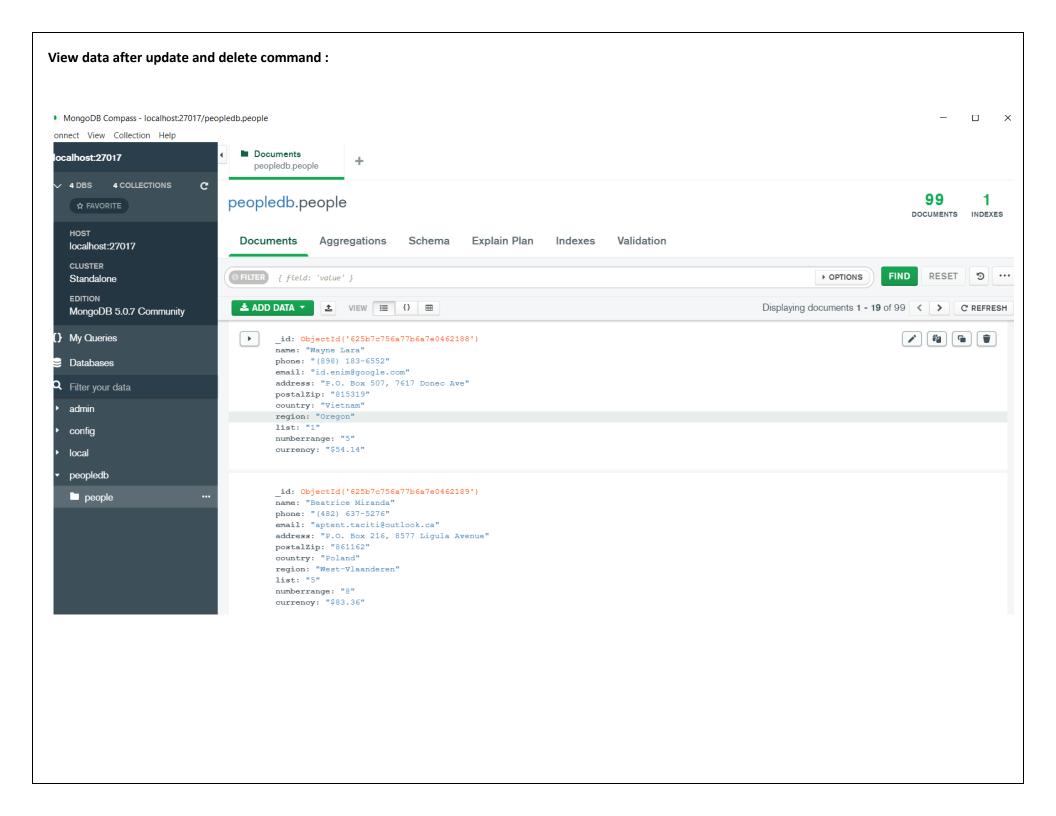
localhost:27017

■ Documents
peopledb.people
+

∨ 4 DBS   4 COLLECTIONS   C

☆ FAVORITE

HOST
localhost:27017

CLUSTER
Standalone

EDITION
MongoDB 5.0.7 Community

{} My Queries

⊜ Databases

Q Filter your data

▸ admin

▸ config

▸ local

▾ peopledb

peopledb.people

Documents   Aggregations   Schema   Explain Plan   Indexe

(ⓘ FILTER) { field: 'value' }

⬇ ADD DATA ▾   ⬆   VIEW ☰ {} ⊞

```
▶    _id: ObjectId('625b7c756a77b6a7e0462188')
     name: "Wayne Lara"
     phone: "(898) 183-6552"
     email: "id.enim@google.com"
     address: "P.O. Box 507, 7617 Donec Ave"
     postalZip: "815319"
     country: "Vietnam"
     region: "Oregon"
     list: "1"
     numberrange: "5"
     currency: "$54.14"
```

Update:

- To update data need click on button as shown in below image.
- Double click the value field of the data you want to update. We can update single or multiple elements values.
- You will notice a Document Modified notification will appear, click the update button on this notification to save changes
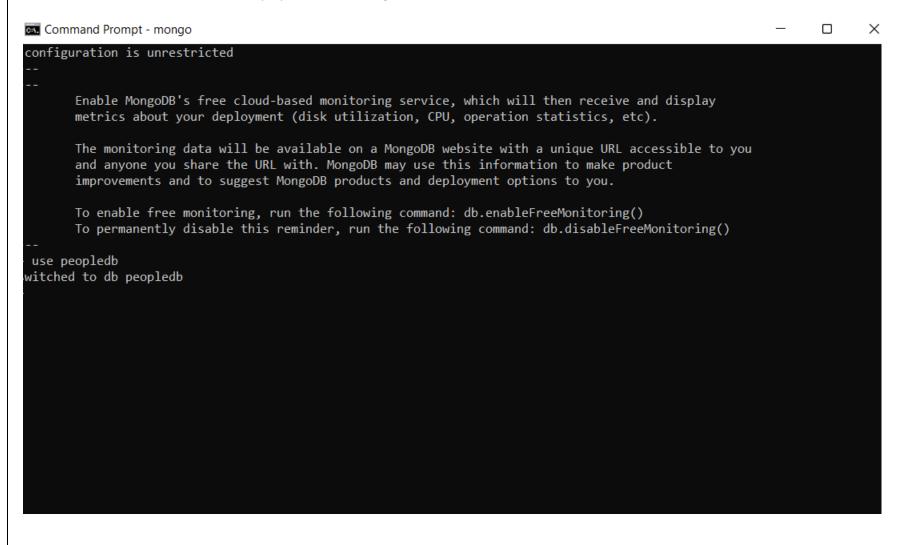
Delete :

- Locate the document you want to update and hover over it until the tooltip pops up.
- Click the delete Trash Can icon as shown in Figure.
- A notification will appear stating the document has been flagged for deletion in red, click the delete button as shown in Figure and the document will be deleted.

peopledb.people

100
DOCUMENTS

1
INDEXES

Documents   Aggregations   Schema   Explain Plan   Indexes   Validation

ⓘ FILTER   { field: 'value' }   ▸ OPTIONS   FIND   RESET   ↺   ⋯

⬇ ADD DATA ▾   ⬆   VIEW ☰ {} ⊞   Displaying documents 1 - 20 of 100   ‹ ›   ↻ REFRESH

```
    _id: ObjectId('625b7c756a77b6a7e0462187')
    name: "Lori Hubbard"
    phone: "(612) 495-4836"
    email: "nam@hotmail.edu"
    address: "478-9430 Nisl. Rd."
    postalZip: "89807"
    country: "France"
    region: "Pará"
    list: "9"
    numberrange: "9"
    currency: "$51.58"
```

Document Flagged For Deletion.   CANCEL   DELETE

View data after update and delete command :

MongoDB Compass - localhost:27017/peopledb.people — □ ✕

onnect View Collection Help

localhost:27017

■ **Documents**
peopledb.people +

∨ **4 DBS   4 COLLECTIONS** C

☆ FAVORITE

peopledb.people

HOST
localhost:27017

99 DOCUMENTS   **1** INDEXES

CLUSTER
Standalone

Documents   Aggregations   Schema   Explain Plan   Indexes   Validation

EDITION
MongoDB 5.0.7 Community

⓵ FILTER   { field: 'value' }   ▸ OPTIONS   **FIND**   RESET ↻ ⋯

{} My Queries

📥 **ADD DATA** ▾ ⬆ VIEW ☰ {} ⊞   Displaying documents **1 - 19** of 99 < > C REFRESH

Databases

Q Filter your data

▸ admin

▸ config

▸ local

▾ peopledb

■ people   ⋯

▸   _id: ObjectId('625b7c756a77b6a7e0462188')
name: "Wayne Lara"
phone: "(898) 183-6552"
email: "id.enim@google.com"
address: "P.O. Box 507, 7617 Donec Ave"
postalZip: "815319"
country: "Vietnam"
region: "Oregon"
list: "1"
numberrange: "5"
currency: "$54.14"

✎ ⧉ ⧉ 🗑

_id: ObjectId('625b7c756a77b6a7e0462189')
name: "Beatrice Miranda"
phone: "(482) 637-5276"
email: "aptent.taciti@outlook.ca"
address: "P.O. Box 216, 8577 Ligula Avenue"
postalZip: "861162"
country: "Poland"
region: "West-Vlaanderen"
list: "5"
numberrange: "8"
currency: "$83.36"

Create the DB using cmd command

- Type use peopledb. (This command **creates** the peopledb database)
- Press enter, and it should be displayed as below image

Command Prompt - mongo — ☐ ✕

```
configuration is unrestricted
--
--

        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()
--
 use peopledb
witched to db peopledb
```

Inserting one document

- Make sure you are using the peopledb database
- Using the command db.people.insertOne() will create the People collection automatically if it does not exist. Between the parenthesis is where the JSON data should go.
- Use the *CodeBlock 1* below to insert a row of the CSV file dataset.

```
db.people.insertOne({"Name":"Grace","phone":"120451545","email":"ch@hjnnkk.ca","postalzip":"78684w"})
```

However, this command gives error something like this as shown below figure.

```
---
> use peopledb
switched to db peopledb
> db.people.insertOne({"Name":"Grace","phone":"120451545","email":"ch@hjnnkk.ca","postalzip":"78684w"})
uncaught exception: SyntaxError: "" literal not terminated before end of script :
@(shell):1:100
>
```

Viewing documents (data) :

- Make sure you are using the peopledb database
- Type the command `db.people.find()` and press enter. The documents in the collection will be returned to the console. See Figure .

```
(shell):1:1
  db.people.find()
  "_id" : ObjectId("625b7c756a77b6a7e0462188"), "name" : "Wayne Lara", "phone" : "(898) 183-6552", "email" : "id.enim@google.com", "address" : "P.O. Box 507, 7617 Donec Ave", "postalZip" : "815319", "country"
Vietnam", "region" : "Oregon", "list" : "1", "numberrange" : "5", "currency" : "$54.14" }
  "_id" : ObjectId("625b7c756a77b6a7e0462189"), "name" : "Beatrice Miranda", "phone" : "(482) 637-5276", "email" : "aptent.taciti@outlook.ca", "address" : "P.O. Box 216, 8577 Ligula Avenue", "postalZip" : "8611
", "country" : "Poland", "region" : "West-Vlaanderen", "list" : "5", "numberrange" : "8", "currency" : "$83.36" }
  "_id" : ObjectId("625b7c756a77b6a7e046218a"), "name" : "Dexter Kirk", "phone" : "(564) 551-4583", "email" : "vel.faucibus.id@protonmail.net", "address" : "751-7918 Tortor, Rd.", "postalZip" : "83171-733", "co
try" : "Ireland", "region" : "Cartago", "list" : "17", "numberrange" : "8", "currency" : "$44.15" }
  "_id" : ObjectId("625b7c756a77b6a7e046218b"), "name" : "Fuller Golden", "phone" : "(439) 876-8986", "email" : "lectus.a@google.ca", "address" : "Ap #149-4072 At Rd.", "postalZip" : "2389-8418", "country" : "P
lippines", "region" : "North Jeolla", "list" : "15", "numberrange" : "5", "currency" : "$45.15" }
  "_id" : ObjectId("625b7c756a77b6a7e046218c"), "name" : "Ursula Curry", "phone" : "1-223-269-1923", "email" : "cursus.et@aol.ca", "address" : "Ap #818-6298 Molestie Avenue", "postalZip" : "6759", "country" :
eden", "region" : "Zeeland", "list" : "19", "numberrange" : "2", "currency" : "$84.02" }
  "_id" : ObjectId("625b7c756a77b6a7e046218d"), "name" : "Buffy Barnett", "phone" : "(271) 384-3893", "email" : "a.magna@outlook.com", "address" : "4614 Nam Avenue", "postalZip" : "115302", "country" : "France"
region" : "São Paulo", "list" : "11", "numberrange" : "5", "currency" : "$44.85" }
  "_id" : ObjectId("625b7c756a77b6a7e046218e"), "name" : "Angelica Caldwell", "phone" : "1-411-391-3606", "email" : "pharetra.ut@google.edu", "address" : "4963 Blandit. St.", "postalZip" : "878879", "country" :
Spain", "region" : "Henegouwen", "list" : "9", "numberrange" : "7", "currency" : "$10.08" }
  "_id" : ObjectId("625b7c756a77b6a7e046218f"), "name" : "Laith Stewart", "phone" : "1-944-876-8065", "email" : "faucibus.id@protonmail.org", "address" : "P.O. Box 277, 4628 Tristique Avenue", "postalZip" : "84
", "country" : "Pakistan", "region" : "Hà Giang", "list" : "15", "numberrange" : "10", "currency" : "$87.69" }
  "_id" : ObjectId("625b7c756a77b6a7e0462190"), "name" : "Florence Bradford", "phone" : "1-834-989-4952", "email" : "enim.sed@aol.couk", "address" : "P.O. Box 347, 8422 Odio. Rd.", "postalZip" : "884295", "coun
y" : "Belgium", "region" : "Noord Holland", "list" : "13", "numberrange" : "4", "currency" : "$40.38" }
  "_id" : ObjectId("625b7c756a77b6a7e0462191"), "name" : "Gail Morse", "phone" : "(306) 242-7533", "email" : "orci.phasellus@hotmail.net", "address" : "343-2163 Fames Street", "postalZip" : "77187", "country" :
Vietnam", "region" : "Delhi", "list" : "3", "numberrange" : "3", "currency" : "$59.10" }
  "_id" : ObjectId("625b7c756a77b6a7e0462192"), "name" : "Logan Freeman", "phone" : "1-944-930-2841", "email" : "pretium.et@outlook.net", "address" : "828-5371 Ut Avenue", "postalZip" : "16534", "country" : "Ch
a", "region" : "Victoria", "list" : "11", "numberrange" : "7", "currency" : "$7.57" }
  "_id" : ObjectId("625b7c756a77b6a7e0462193"), "name" : "Cody Pruitt", "phone" : "(742) 467-6413", "email" : "amet.dapibus.id@google.com", "address" : "579-8756 Penatibus Road", "postalZip" : "13840", "country
: "Poland", "region" : "Utrecht", "list" : "3", "numberrange" : "6", "currency" : "$39.62" }
  "_id" : ObjectId("625b7c756a77b6a7e0462194"), "name" : "Gay Cardenas", "phone" : "(815) 602-5875", "email" : "sit.amet.luctus@protonmail.couk", "address" : "279-5315 Sodales. St.", "postalZip" : "18813-66434"
"country" : "Spain", "region" : "Araucanía", "list" : "13", "numberrange" : "5", "currency" : "$89.08" }
  "_id" : ObjectId("625b7c756a77b6a7e0462195"), "name" : "Chelsea Mckinney", "phone" : "(430) 435-5370", "email" : "volutpat.nulla@yahoo.couk", "address" : "Ap #891-5283 Fringilla, Ave", "postalZip" : "6873 MI"
"country" : "Turkey", "region" : "Central Luzon", "list" : "7", "numberrange" : "6", "currency" : "$16.48" }
  "_id" : ObjectId("625b7c756a77b6a7e0462196"), "name" : "Ulric Foreman", "phone" : "(287) 221-4726", "email" : "eros.nec@google.com", "address" : "3623 Consequat Avenue", "postalZip" : "344781", "country" : "I
onesia", "region" : "Penza Oblast", "list" : "7", "numberrange" : "7", "currency" : "$86.77" }
  "_id" : ObjectId("625b7c756a77b6a7e0462197"), "name" : "Arthur Merrill", "phone" : "(824) 260-7276", "email" : "pede.nec@icloud.ca", "address" : "Ap #341-4030 Tellus Street", "postalZip" : "52608", "country"
"Norway", "region" : "North Island", "list" : "1", "numberrange" : "5", "currency" : "$20.05" }
  "_id" : ObjectId("625b7c756a77b6a7e0462198"), "name" : "Magee Bowers", "phone" : "1-581-762-7771", "email" : "elit.fermentum@aol.edu", "address" : "460 Quis Ave", "postalZip" : "23505", "country" : "Poland",
egion" : "Araucanía", "list" : "9", "numberrange" : "8", "currency" : "$67.42" }
  "_id" : ObjectId("625b7c756a77b6a7e0462199"), "name" : "Marny Thornton", "phone" : "(232) 372-5255", "email" : "in.tempus@yahoo.org", "address" : "150-1186 Nec Rd.", "postalZip" : "308246", "country" : "Canad
, "region" : "Friesland", "list" : "9", "numberrange" : "5", "currency" : "$56.11" }
  "_id" : ObjectId("625b7c756a77b6a7e046219a"), "name" : "Dawn Lang", "phone" : "1-678-855-2242", "email" : "integer.id@aol.ca", "address" : "Ap #956-2309 Augue St.", "postalZip" : "91343", "country" : "Mexico"
region" : "Toscana", "list" : "17", "numberrange" : "2", "currency" : "$54.72" }
  "_id" : ObjectId("625b7c756a77b6a7e046219b"), "name" : "Porter Hardin", "phone" : "(436) 585-8315", "email" : "nec.ligula@google.couk", "address" : "467-725 In Avenue", "postalZip" : "47376", "country" : "Can
a", "region" : "South Island", "list" : "19", "numberrange" : "7", "currency" : "$8.70" }
ype "it" for more
  -
```
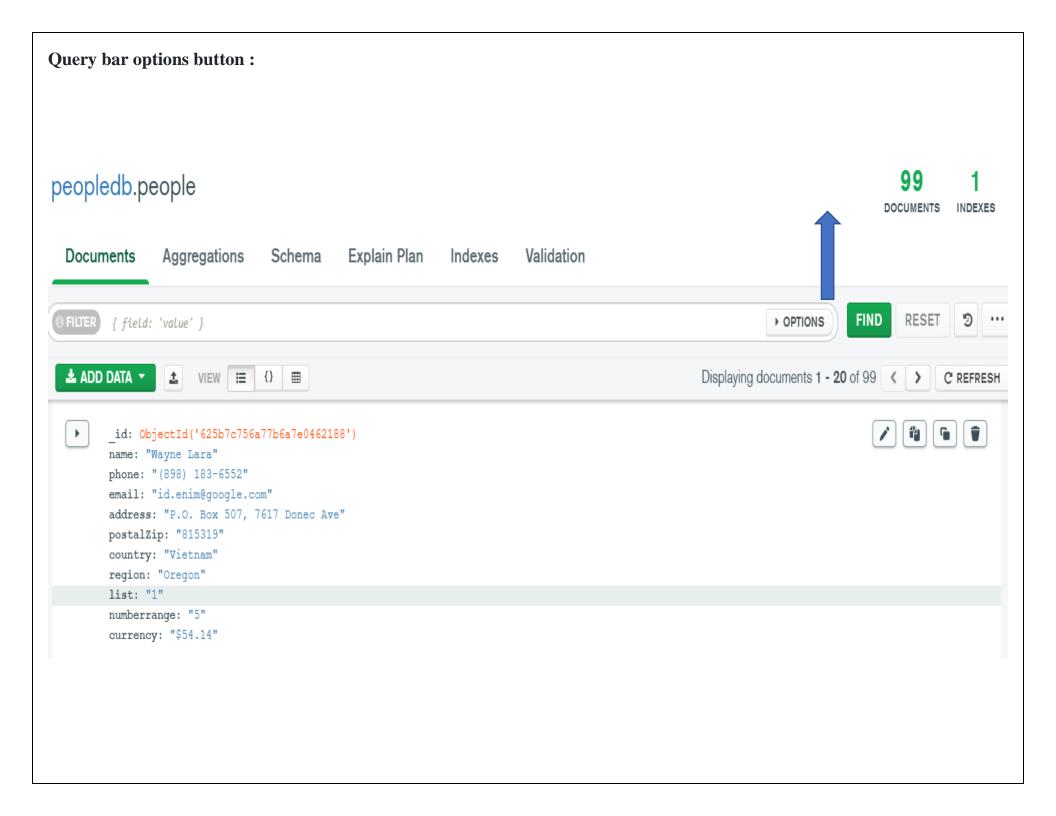
Update operation:

```
db.people.update(
{" name" : "Wayne Lara"},
{$set: { " country" : "Canada"}})
```
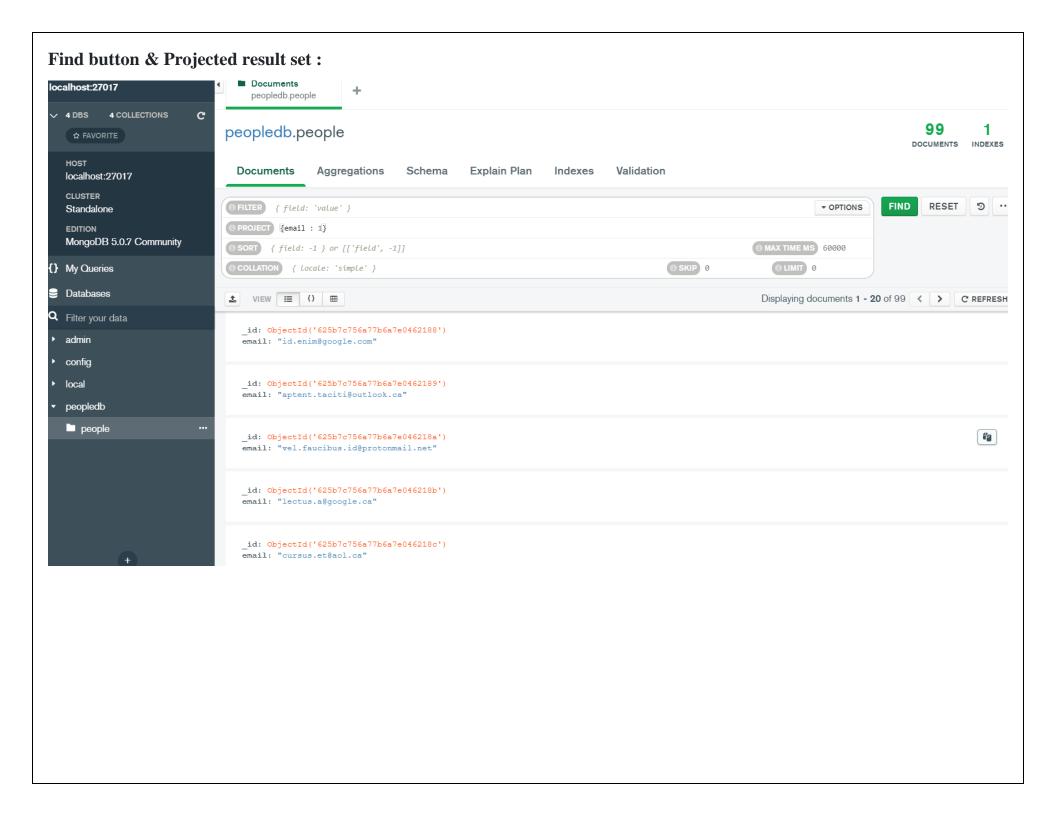
```
> use peopledb
switched to db peopledb
> db.people.insertOne({"Name":"Grace","phone":"120451545","email":"ch@hjnnkk.ca","postalzip":"78684w})
uncaught exception: SyntaxError: "" literal not terminated before end of script :
@(shell):1:100
> db.people.update(
... {" name" : "Wayne Lara"},
... {$set: { " country" : "Canada"}})
uncaught exception: SyntaxError: illegal character :
@(shell):2:11
>
```

With Compass

Using the Compass query bar, we can specify projection fields easily. Following the steps below to perform a projection query on the collection.

- Locate the database and collection of documents you want to query in the left-hand pane and click it.
- After the view is loaded locate the query bar and press the options button as shown in Figure and click it.
- Four options will now appear on the left-hand side, one of these is Project.
- Fill out fields that you want to return in the result set in JSON format where the first value in the field and the second is a Boolean 1 or 0 to show the field or not. For example {email : 1}
- After filling out the JSON within the project option, click the find button as shown in Figure
- The result set returned will now be displayed in the list view below the query bar. See Figure for an example.

Query bar options button :

peopledb.people

99   1
DOCUMENTS   INDEXES

Documents   Aggregations   Schema   Explain Plan   Indexes   Validation

FILTER   { field: 'value' }   ▸ OPTIONS   FIND   RESET   ↺   ⋯

⬇ ADD DATA ▾   ⬆   VIEW   ☰   {}   ▦

Displaying documents 1 - 20 of 99   ‹   ›   ↻ REFRESH

▸   _id: ObjectId('625b7c756a77b6a7e0462188')
   name: "Wayne Lara"
   phone: "(898) 183-6552"
   email: "id.enim@google.com"
   address: "P.O. Box 507, 7617 Donec Ave"
   postalZip: "815319"
   country: "Vietnam"
   region: "Oregon"
   list: "1"
   numberrange: "5"
   currency: "$54.14"

Find button & Projected result set :

With MongoDB CLI :

See the following steps –

1. Connect to MongoDB instance with the CLI.
2. Type use peopledb
3. Type db.people.find({}, {email : 1})
4. Notice the first empty object parameter in the method above, as we do not want to specify any criteria, in particular, just simply ask for all results instead.
5. Also, notice the default behavior of the output, the _id field is also included without request.
6. See Figure for the output.


```
Select Command Prompt - mongo                                              —   □   ×

      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()
--
use peopledb
witched to db peopledb
db.people.find({}, {email : 1})
"_id" : ObjectId("625b7c756a77b6a7e0462188"), "email" : "id.enim@google.com" }
"_id" : ObjectId("625b7c756a77b6a7e0462189"), "email" : "aptent.taciti@outlook.ca" }
"_id" : ObjectId("625b7c756a77b6a7e046218a"), "email" : "vel.faucibus.id@protonmail.net" }
"_id" : ObjectId("625b7c756a77b6a7e046218b"), "email" : "lectus.a@google.ca" }
"_id" : ObjectId("625b7c756a77b6a7e046218c"), "email" : "cursus.et@aol.ca" }
"_id" : ObjectId("625b7c756a77b6a7e046218d"), "email" : "a.magna@outlook.com" }
"_id" : ObjectId("625b7c756a77b6a7e046218e"), "email" : "pharetra.ut@google.edu" }
"_id" : ObjectId("625b7c756a77b6a7e046218f"), "email" : "faucibus.id@protonmail.org" }
"_id" : ObjectId("625b7c756a77b6a7e0462190"), "email" : "enim.sed@aol.couk" }
"_id" : ObjectId("625b7c756a77b6a7e0462191"), "email" : "orci.phasellus@hotmail.net" }
"_id" : ObjectId("625b7c756a77b6a7e0462192"), "email" : "pretium.et@outlook.net" }
"_id" : ObjectId("625b7c756a77b6a7e0462193"), "email" : "amet.dapibus.id@google.com" }
"_id" : ObjectId("625b7c756a77b6a7e0462194"), "email" : "sit.amet.luctus@protonmail.couk" }
"_id" : ObjectId("625b7c756a77b6a7e0462195"), "email" : "volutpat.nulla@yahoo.couk" }
"_id" : ObjectId("625b7c756a77b6a7e0462196"), "email" : "eros.nec@google.com" }
"_id" : ObjectId("625b7c756a77b6a7e0462197"), "email" : "pede.nec@icloud.ca" }
"_id" : ObjectId("625b7c756a77b6a7e0462198"), "email" : "elit.fermentum@aol.edu" }
"_id" : ObjectId("625b7c756a77b6a7e0462199"), "email" : "in.tempus@yahoo.org" }
"_id" : ObjectId("625b7c756a77b6a7e046219a"), "email" : "integer.id@aol.ca" }
"_id" : ObjectId("625b7c756a77b6a7e046219b"), "email" : "nec.ligula@google.couk" }
ype "it" for more
```

Sort With Compass :

Sorting of data (documents) can be utilized by using the Sort option which takes a field name and the ascending or descending parameter in the format of a number. 1 for Ascending and -1 for descending.

- Locate the database and collection of documents you want to query in the left-hand pane and click it.
- After the view is loaded locate the query bar and press the options button as shown in Figure 21 and click it.
- Four options will now appear on the left-hand side, one of these is Sort.
- In the sort option bar enters the parameters in the format of JSON. For example {name: -1}
- Press the find button and you will see the document view now be ordered by length descending. See figure 31 for the result view.

-1 for descending

1 for Ascending :

With MongoDB CLI :

See the following steps –

- Connect to MongoDB instance with the CLI.
- Type use peopledb
- Type db.people.find({}, {email : 1}).sort({email : -1})for descending result.
- Type db.people.find({}, {email : 1}).sort({email : 1})for ascending result.
- See Figure for results sorted by age.

```
Command Prompt - mongo
{ "_id" : ObjectId("625b7c756a77b6a7e046218f"), "email" : "faucibus.id@protonmail.org" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462190"), "email" : "enim.sed@aol.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462191"), "email" : "orci.phasellus@hotmail.net" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462192"), "email" : "pretium.et@outlook.net" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462193"), "email" : "amet.dapibus.id@google.com" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462194"), "email" : "sit.amet.luctus@protonmail.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462195"), "email" : "volutpat.nulla@yahoo.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462196"), "email" : "eros.nec@google.com" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462197"), "email" : "pede.nec@icloud.ca" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462198"), "email" : "elit.fermentum@aol.edu" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462199"), "email" : "in.tempus@yahoo.org" }
{ "_id" : ObjectId("625b7c756a77b6a7e046219a"), "email" : "integer.id@aol.ca" }
{ "_id" : ObjectId("625b7c756a77b6a7e046219b"), "email" : "nec.ligula@google.couk" }
Type "it" for more
>  db.people.find({}, {email : 1}).sort({email : 1})
{ "_id" : ObjectId("625b7c756a77b6a7e04621a5"), "email" : "a.auctor@protonmail.edu" }
{ "_id" : ObjectId("625b7c756a77b6a7e046218d"), "email" : "a.magna@outlook.com" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621df"), "email" : "ac.libero@protonmail.edu" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621d1"), "email" : "aenean.gravida@google.ca" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621a1"), "email" : "aliquam@aol.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462193"), "email" : "amet.dapibus.id@google.com" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621cb"), "email" : "amet.massa.quisque@outlook.net" }
{ "_id" : ObjectId("625b7c756a77b6a7e0462189"), "email" : "aptent.taciti@outlook.ca" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621e5"), "email" : "arcu@protonmail.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621c1"), "email" : "at.sem@yahoo.org" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621e1"), "email" : "bibendum.sed@hotmail.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621c8"), "email" : "consectetuer@icloud.couk" }
{ "_id" : ObjectId("625b7c756a77b6a7e046219c"), "email" : "consequat.purus.maecenas@hotmail.com" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621e4"), "email" : "convallis.convallis.dolor@aol.edu" }
{ "_id" : ObjectId("625b7c756a77b6a7e046218c"), "email" : "cursus.et@aol.ca" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621d4"), "email" : "cursus.nunc.mauris@icloud.org" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621de"), "email" : "dapibus.gravida@yahoo.com" }
{ "_id" : ObjectId("625b7c756a77b6a7e046219d"), "email" : "dictum.augue.malesuada@protonmail.edu" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621e2"), "email" : "dictum.proin.eget@yahoo.edu" }
{ "_id" : ObjectId("625b7c756a77b6a7e04621d9"), "email" : "donec@outlook.couk" }
Type "it" for more
>
```
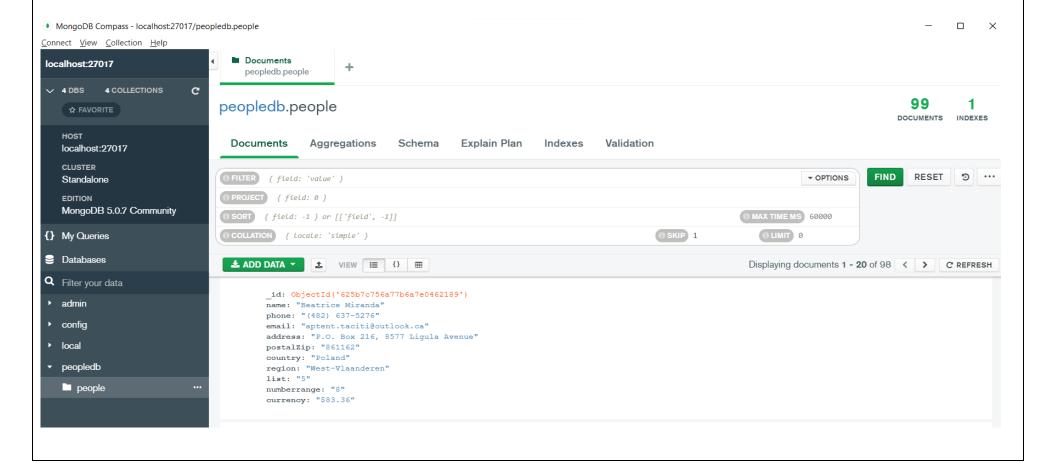
Skip

Skip serves the purpose of skipping x number of documents during a query search, by specifying an integer, the MongoDB will skip this amount and return the results next in the collection.

With Compass

To skip documents when executing a query, use the following steps for Compass.

- Locate the database and collection of documents you want to query in the left-hand pane and click it.
- Click the options button on the query bar and look to the bottom right of the dropped-down box, parallel to collation. Here you will find the Skip option. See Figure.
- Enter an integer, for this tutorial the number 1 will be used.
- Click the find button and you will see the result set with the first two collections missing. See Figure.

With MongoDB CLI

Again, this method can be chained to existing methods already in the command line, for this example we will use the commands for both the Find and Sort tutorials.

- Connect to MongoDB instance with the CLI.
- Type use peopledb
- Type db.people.find({}, {email : 1}).sort({email : -1}).skip(1)
- for descending result that skips the first document, see Figure for an example.
- Alternatively use people.find().skip(1) to request all documents, skipping the first document.


```
Command Prompt                                                              —    □    ✕

        To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
--
 use peopledb
switched to db peopledb
 db.people.find({}, {email : 1}).sort({email : -1}).skip(1)
"_id" : ObjectId("625b7c756a77b6a7e04621b4"), "email" : "volutpat.nunc@icloud.com" }
"_id" : ObjectId("625b7c756a77b6a7e0462195"), "email" : "volutpat.nulla@yahoo.couk" }
"_id" : ObjectId("625b7c756a77b6a7e046219f"), "email" : "vivamus@outlook.ca" }
"_id" : ObjectId("625b7c756a77b6a7e046218a"), "email" : "vel.faucibus.id@protonmail.net" }
"_id" : ObjectId("625b7c756a77b6a7e04621a3"), "email" : "vel.faucibus.id@hotmail.couk" }
"_id" : ObjectId("625b7c756a77b6a7e04621aa"), "email" : "vehicula.pellentesque@google.net" }
"_id" : ObjectId("625b7c756a77b6a7e04621e9"), "email" : "ut@outlook.edu" }
"_id" : ObjectId("625b7c756a77b6a7e04621ce"), "email" : "ut@icloud.net" }
"_id" : ObjectId("625b7c756a77b6a7e04621da"), "email" : "ut.tincidunt@yahoo.com" }
"_id" : ObjectId("625b7c756a77b6a7e04621a9"), "email" : "ultrices.duis@protonmail.edu" }
"_id" : ObjectId("625b7c756a77b6a7e04621dd"), "email" : "tristique.neque@yahoo.com" }
"_id" : ObjectId("625b7c756a77b6a7e04621ca"), "email" : "tortor.nibh.sit@yahoo.ca" }
"_id" : ObjectId("625b7c756a77b6a7e04621e8"), "email" : "suscipit.est@protonmail.couk" }
"_id" : ObjectId("625b7c756a77b6a7e04621c9"), "email" : "sit.amet@aol.org" }
"_id" : ObjectId("625b7c756a77b6a7e0462194"), "email" : "sit.amet.luctus@protonmail.couk" }
"_id" : ObjectId("625b7c756a77b6a7e04621d5"), "email" : "sem.egestas@hotmail.edu" }
"_id" : ObjectId("625b7c756a77b6a7e04621b1"), "email" : "sed.et.libero@hotmail.edu" }
"_id" : ObjectId("625b7c756a77b6a7e04621c3"), "email" : "sed.dictum@aol.couk" }
"_id" : ObjectId("625b7c756a77b6a7e04621dc"), "email" : "sapien@icloud.net" }
"_id" : ObjectId("625b7c756a77b6a7e046219e"), "email" : "sagittis@aol.org" }
```
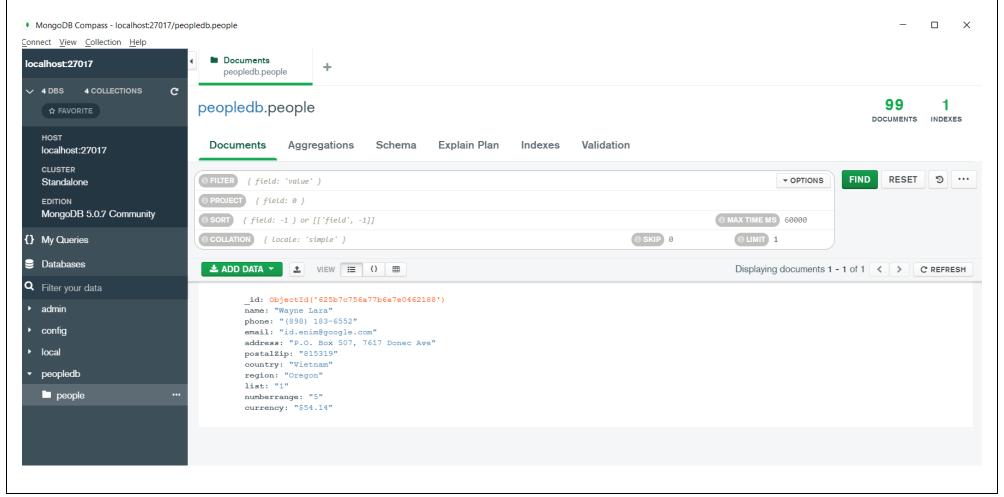
Limit

Limit is a filter to limit the number of results returned, this can be any number you desire and can serve really good purposes in some use cases.

With Compass

To skip documents when executing a query, use the following steps for Compass.
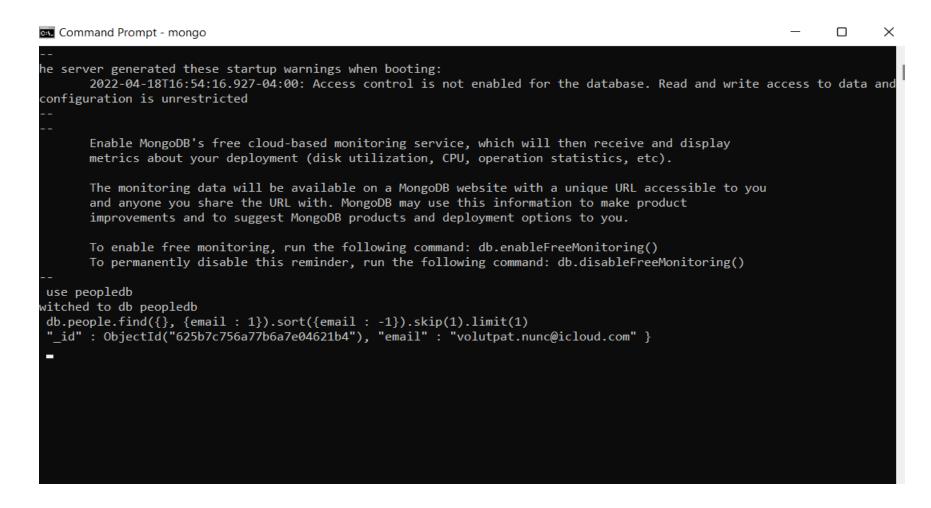
- Locate the database and collection of documents you want to query in the left-hand pane and click it.
- Click the options button on the query bar and look to the bottom right of the dropped-down box, parallel to collation. Here you will find the limit option. See Figure.
- Enter an integer, for this tutorial the number 1 will be used.
- Click the find button and you will only see one document in the result view. See Figure.

With MongoDB CLI

The Limit method is highly similar to the Skip method, it requires a single integer and again, it can be chained, see the following steps.

- Connect to MongoDB instance with the CLI.
- Type use peopledb
- Type db.people.find({}, {email : 1}).sort({email : -1}).skip(1).limit(1) See Figure for an example
- Alternatively, you can use skip without chaining to all the methods above. Use the command people.find().limit(1) to retrieve the first document in the collection.
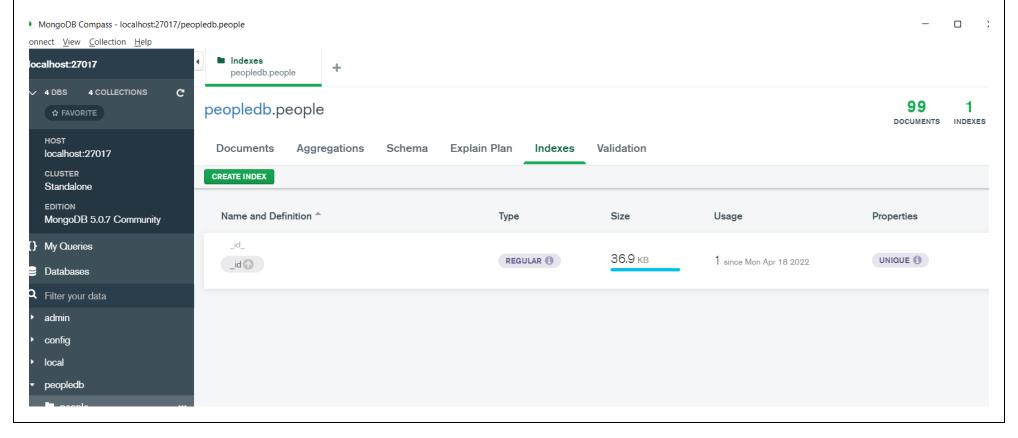
Indexing

Just like in SQL server, MongoDB can place indexes on specific fields too. This helps speed up queries but at the same time can add more hard-disk usage with the more indexes utilized.
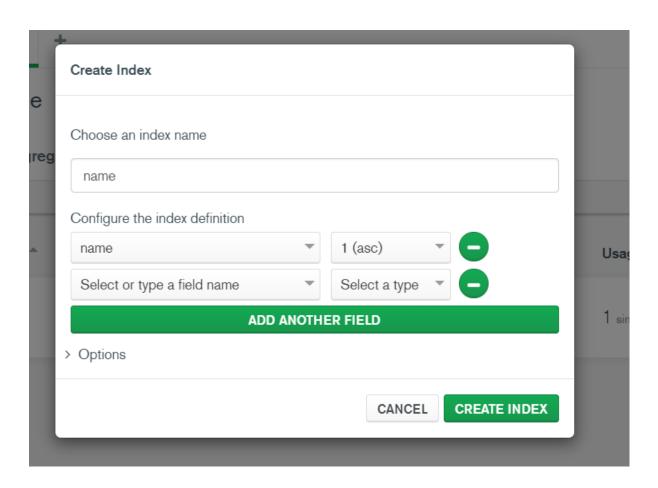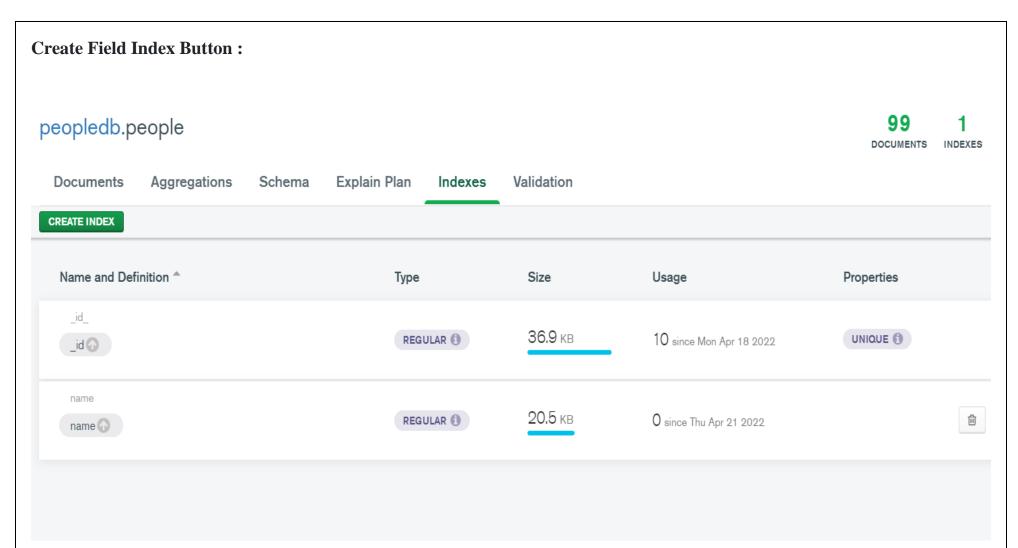
With Compass

By using Compass GUI, indexes can be added to fields in the database's collections. See the following steps to utilize indexing.

1. Locate the database and collection you want to place an index on and click it.
2. From the initial collection dashboard look to the top of the view and find the Indexes tab as shown in Figure 39 and click it.
3. Next, click the green Create Index button, as shown in Figure.
4. From the modal popup, enter an index name, something of descriptive purpose to the field you want to index. For this example, ageIndex.
5. Select the field you want to index, for this example, age was selected.
6. Choose ASC from the index type dropdown. **(MongoDB, Index Types, 2018).**
7. Click the create button, see Figure.
8. You will now be able to see the index within the indexes tab view. See Figure

Index creation :

Create Field Index Button :

peopledb.people

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Documents   Aggregations   Schema   Explain Plan   **Indexes**   Validation

CREATE INDEX

Name and Definition ▲	Type	Size	Usage	Properties	
_id_ _id	REGULAR ⓘ	36.9 KB	10 since Mon Apr 18 2022	UNIQUE ⓘ	
name name	REGULAR ⓘ	20.5 KB	0 since Thu Apr 21 2022		🗑

With MongoDB CLI

Creating an index is executed with the following method createIndex(), it takes two parameters, the first being specifying the fields that you want to index and the second is specifically for index options which you can see more detail in the documentation.

- Connect to MongoDB instance with the CLI.
- Type use peopledb
- Type `people.createIndex({name: 1})` to place an index on the age field.
- See Figure 43 for the successful index creation response.