

Lab 5: MongoDB

Overview:

1. Setup MongoDB
2. Create a data directory
3. Start MongoDB
4. Import Dataset
5. Connect to MongoDB
6. Lab Assignment

1. Download and install MongoDB

- 1) Go to <https://www.mongodb.com/download-center#community>
- 2) Download MongoDB for Windows 2008 R2 64-bit and Later with SSL support
- 3) Double click the downloaded file (.msi) and proceed with the complete installation.
MongoDB will be installed at C:\Program Files\MongoDB

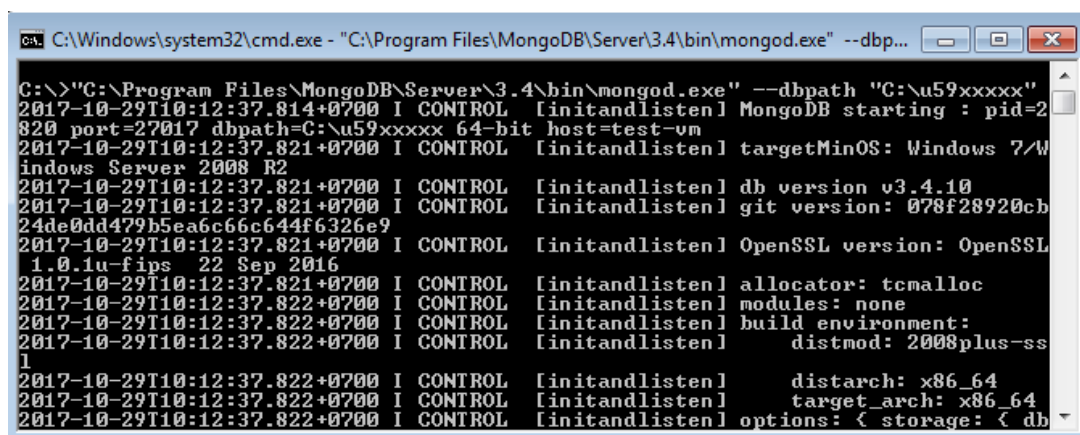
2. Create a data directory with your student ID

Create a new directory, for example C:\u59xxxxx

3. Start MongoDB

- 1) Open a command prompt (Start → Run... → cmd)
- 2) Run mongod.exe in the command prompt with **your ID** as database path (**version may vary**)

```
"C:\Program Files\MongoDB\Server\3.4\bin\mongod.exe" --dbpath "C:\u59xxxxx"
```



- 3) Keep the command prompt window open



4. Import Example Dataset

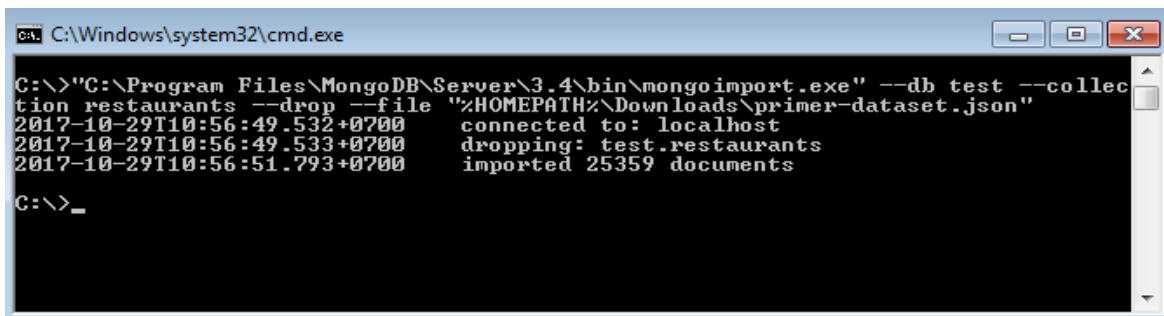
- 1) Download the restaurant sample dataset from e-learning website, or
<https://raw.githubusercontent.com/mongodb/docs-assets/primer-dataset/primer-dataset.json>

The following is a sample document in the restaurants collection.

```
{
  "address": {
    "building": "1007",
    "coord": [ -73.856077, 40.848447 ],
    "street": "Morris Park Ave",
    "zipcode": "10462"
  },
  "borough": "Bronx",
  "cuisine": "Bakery",
  "grades": [
    { "date": { "$date": 1393804800000 }, "grade": "A", "score": 2 },
    { "date": { "$date": 1378857600000 }, "grade": "A", "score": 6 },
    { "date": { "$date": 1358985600000 }, "grade": "A", "score": 10 },
    { "date": { "$date": 1322006400000 }, "grade": "A", "score": 9 },
    { "date": { "$date": 1299715200000 }, "grade": "B", "score": 14 }
  ],
  "name": "Morris Park Bake Shop",
  "restaurant_id": "30075445"
}
```

- 2) Open another command prompt (cmd)
- 3) Run the following command to import data. There are 25,359 documents.

```
"C:\Program Files\MongoDB\Server\3.4\bin\mongoimport.exe" --db test
--collection restaurants --drop --file "%HOMEPATH%\Downloads\primer-
dataset.json"
```



```
C:\Windows\system32\cmd.exe

C:\>"C:\Program Files\MongoDB\Server\3.4\bin\mongoimport.exe" --db test --collec
tion restaurants --drop --file "%HOMEPATH%\Downloads\primer-dataset.json"
2017-10-29T10:56:49.532+0700    connected to: localhost
2017-10-29T10:56:49.533+0700    dropping: test.restaurants
2017-10-29T10:56:51.793+0700    imported 25359 documents

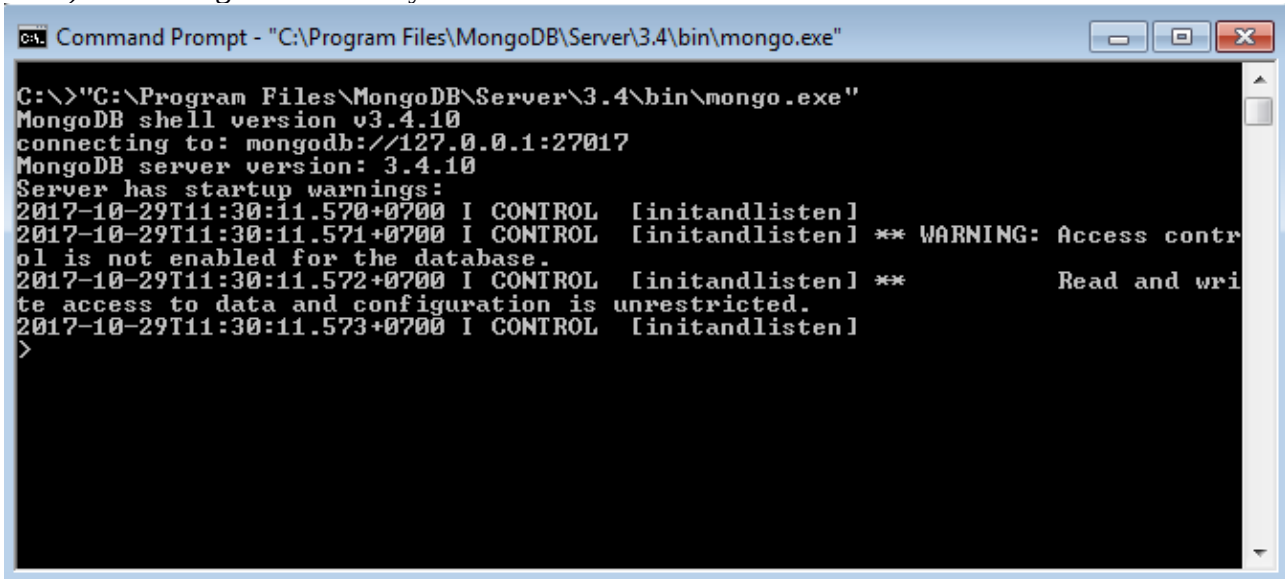
C:\>_
```

Replace “%HOMEPATH%\Downloads\primer-dataset.json” with the path where you store your downloaded dataset file.

5. Connect to MongoDB

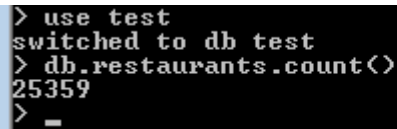
- 1) Run “mongo.exe” in the command prompt
`"C:\Program Files\MongoDB\Server\3.4\bin\mongo.exe"`

- 2) The mongo shell is ready to receive command



```
C:\>"C:\Program Files\MongoDB\Server\3.4\bin\mongo.exe"
MongoDB shell version v3.4.10
connecting to: mongodb://127.0.0.1:27017
MongoDB server version: 3.4.10
Server has startup warnings:
2017-10-29T11:30:11.570+0700 I CONTROL [initandlisten]
2017-10-29T11:30:11.571+0700 I CONTROL [initandlisten] ** WARNING: Access control
ol is not enabled for the database.
2017-10-29T11:30:11.572+0700 I CONTROL [initandlisten] **          Read and wri
te access to data and configuration is unrestricted.
2017-10-29T11:30:11.573+0700 I CONTROL [initandlisten]
>
```

- 3) Type `use test` command to switch to use database named “test”
- 4) Query total number of the documents. There should be 25,359 documents
`db.restaurants.count()`



```
> use test
switched to db test
> db.restaurants.count()
25359
> =
```

Lab Assignment

Write the queries to display these following:

1. Display all distinct cuisines
2. Display only “restaurant_id”, “name”, and “cuisine” fields of all restaurants without the “_id” field
3. Find restaurants (display only “name”) in Manhattan (“borough” field equals “Manhattan”)
4. Find restaurants (display only “name”) in Manhattan which has cuisine “Bakery”
5. Find restaurants (display “name” and “borough”) in Manhattan or in Bronx
6. Find restaurants (display “name”, “borough”, and “cuisine”) in Manhattan or in Bronx which has cuisine “Bakery”
7. Find restaurants (display only “name”) in Bronx, sorted by “name” in descending order
8. Find all restaurant in Bronx with “zipcode” equals 10462

See references on commands to use:

- <http://www.w3resource.com/mongodb-exercises/>
- <https://docs.mongodb.org/getting-started/shell/query/>

Write your answers into a MS Word file as u59xxxxx.docx and submit it to the e-learning website.



Optional Downloads:

- HotFix KB2731284 for running MongoDB in Windows 7
 - <https://support.microsoft.com/en-us/help/2731284/-33-dos-error-code-when-memory-memory-mapped-files-are-cleaned-by-usin>
 - Direct download from http://hotfixv4.microsoft.com/Windows%207/Windows%20Server2008%20R2%20SP1/sp2/Fix405791/7600/free/451413_intl_x64_zip.exe
- Error: missing “api-ms-win-crt-runtime-l1-1-0.dll” → download Universal C Runtime (CRT)
 - <https://support.microsoft.com/en-us/help/2999226/update-for-universal-c-runtime-in-windows>