



Tugas MongoDB

Big Data

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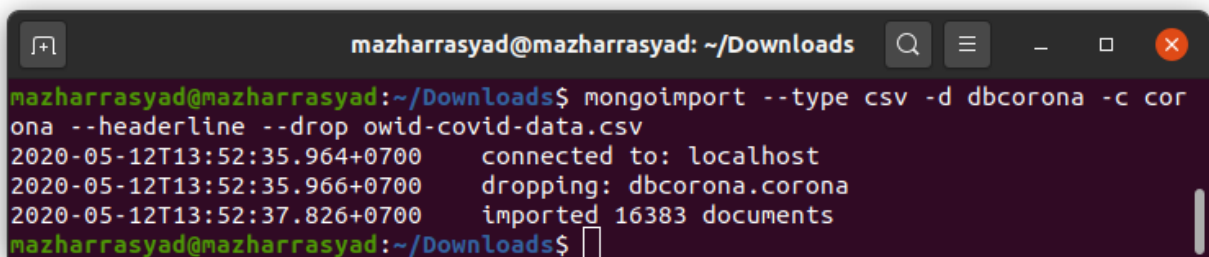
TEKNIK INFORMATIKA – 2017

DEPOK

MEI 2020

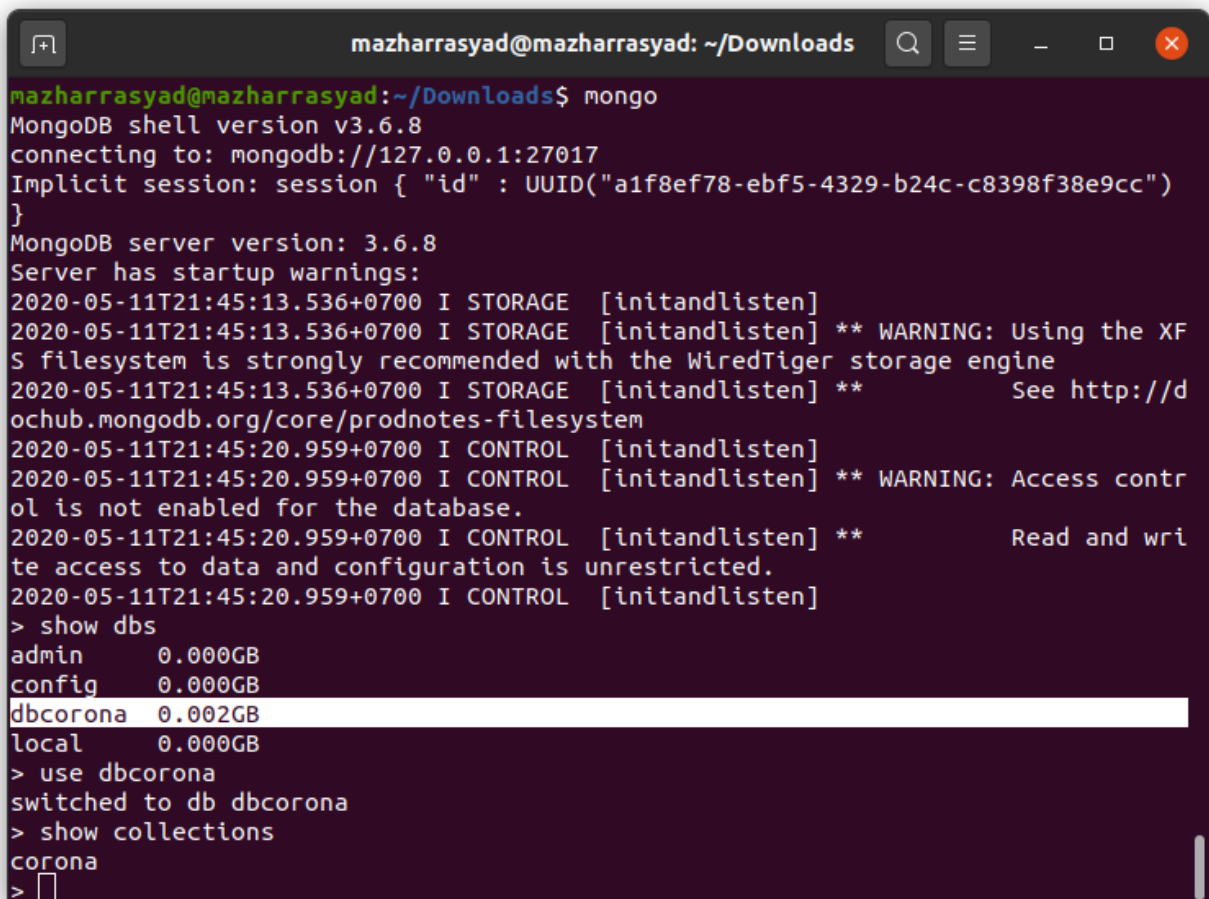
Lakukan aktivitas query berikut ini, dan screenshoot hasil query dan masukan kedalam laporan anda

1. Entry data statistic minimal 5 hari mulai dari tanggal sekarang hingga lima hari kedepan
 - Data corona yang saya gunakan bersumber dari <https://ourworldindata.org/coronavirus-source-data> karena membutuhkan file .csv agar dapat mengentry data secara otomatis dan tidak manual, sebab datanya berjumlah ratusan sehingga akan memakan banyak waktu jika dilakukan secara manual
 - Data tersebut bernama owid-covid-data.csv dengan rentang waktu diambil antara 31 Desember 2019 s.d 10 Mei 2020
 - Berikut tampilan data diimport ke database MongoDB



```
mazharrasyad@mazharrasyad: ~/Downloads
mazharrasyad@mazharrasyad:~/Downloads$ mongoimport --type csv -d dbcorona -c corona --headerline --drop owid-covid-data.csv
2020-05-12T13:52:35.964+0700    connected to: localhost
2020-05-12T13:52:35.966+0700    dropping: dbcorona.corona
2020-05-12T13:52:37.826+0700    imported 16383 documents
mazharrasyad@mazharrasyad:~/Downloads$
```

- Jika telah berhasil maka database akan terbuat beserta dengan collectionnya



```
mazharrasyad@mazharrasyad: ~/Downloads
mazharrasyad@mazharrasyad:~/Downloads$ mongo
MongoDB shell version v3.6.8
connecting to: mongodb://127.0.0.1:27017
Implicit session: session { "id" : UUID("a1f8ef78-ebf5-4329-b24c-c8398f38e9cc") }
MongoDB server version: 3.6.8
Server has startup warnings:
2020-05-11T21:45:13.536+0700 I STORAGE  [initandlisten]
2020-05-11T21:45:13.536+0700 I STORAGE  [initandlisten] ** WARNING: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine
2020-05-11T21:45:13.536+0700 I STORAGE  [initandlisten] **          See http://d
ochub.mongodb.org/core/prodnotes-filesystem
2020-05-11T21:45:20.959+0700 I CONTROL  [initandlisten]
2020-05-11T21:45:20.959+0700 I CONTROL  [initandlisten] ** WARNING: Access control is not enabled for the database.
2020-05-11T21:45:20.959+0700 I CONTROL  [initandlisten] **          Read and write access to data and configuration is unrestricted.
2020-05-11T21:45:20.959+0700 I CONTROL  [initandlisten]
> show dbs
admin      0.000GB
config     0.000GB
dbcorona   0.002GB
local      0.000GB
> use dbcorona
switched to db dbcorona
> show collections
corona
>
```

2. Tampilkan seluruh data statistik corona pada tanggal 6 mei 2020

- Perintah yang digunakan untuk menampilkan data tersebut yaitu:

```
▪ db.corona.aggregate([  
▪   { $match : { date : "2020-05-06" } },  
▪   { $group : {  
▪     _id : null,  
▪     total_cases : { $sum : "$total_cases" },  
▪     new_cases : { $sum : "$new_cases" },  
▪     total_deaths : { $sum : "$total_deaths" },  
▪     new_deaths : { $sum : "$new_deaths" }  
▪   }  
▪ ])
```



A terminal window with a dark background and light text. The title bar shows the user 'mazharrasyad@mazharrasyad: ~'. The command prompt is '>'. The user enters the MongoDB aggregation command: 'db.corona.aggregate([{ \$match : { date : "2020-05-06" } }, { \$group : { _id : null, total_cases : { \$sum : "\$total_cases" }, new_cases : { \$sum : "\$new_cases" }, total_deaths : { \$sum : "\$total_deaths" }, new_deaths : { \$sum : "\$new_deaths" } } }])'. The output is displayed on the next line: '{ "id" : null, "total_cases" : 7248882, "new_cases" : 158606, "total_deaths" : 514221, "new_deaths" : 11904 }'. The prompt returns to '>'.

```
mazharrasyad@mazharrasyad: ~  
> db.corona.aggregate([  
... { $match : { date : "2020-05-06" } },  
... { $group : {  
... _id : null,  
... total_cases : { $sum : "$total_cases" },  
... new_cases : { $sum : "$new_cases" },  
... total_deaths : { $sum : "$total_deaths" },  
... new_deaths : { $sum : "$new_deaths" }  
... }  
... }  
... ] )  
{ "id" : null, "total_cases" : 7248882, "new_cases" : 158606, "total_deaths" : 514221, "new_deaths" : 11904 }  
>
```

- Data di atas hanya mengambil 4 kolom yaitu total_cases, new_cases, total_deaths, dan new deaths. Keempat kolom tersebut merupakan jumlah dari seluruh negara pada tanggal 06 Mei 2020, dapat dilihat id yang digunakan null yang berarti mengambil seluruh data yang ada pada tanggal tersebut.

3. Tampilkan seluruh data statistic corona negara Indonesia

- Perintah yang digunakan untuk menampilkan data tersebut yaitu:

```
▪ db.corona.aggregate([  
▪   { $match : { location : "Indonesia" } },  
▪   { $group : {  
▪     _id : null,  
▪     total_cases : { $sum : "$total_cases" },  
▪     new_cases : { $sum : "$new_cases" },  
▪     total_deaths : { $sum : "$total_deaths" },
```

- new_deaths : { \$sum : "\$new_deaths" }
- }
- }
-])

```
mazharrasyad@mazharrasyad: ~
> db.corona.aggregate([
... { $match : { location : "Indonesia" } },
... { $group : {
... _id : null,
... total_cases : { $sum : "$total_cases" },
... new_cases : { $sum : "$new_cases" },
... total_deaths : { $sum : "$total_deaths" },
... new_deaths : { $sum : "$new_deaths" }
... }
... }
... ])
{ "_id" : null, "total_cases" : 284885, "new_cases" : 13645, "total_deaths" : 22966, "new_deaths" : 959 }
>
```

- Data di atas sama seperti sebelumnya, akan tetapi yang berbeda yaitu hanya mengambil kasus pada negara Indonesia saja.

4. Tampilkan data statistik corona mulai yang jumlah kasus baru (new cases) diatas 300

- Perintah yang digunakan untuk menampilkan data tersebut yaitu:

- db.corona.aggregate([
- { \$match : { new_cases : { \$gt : 300 } } },
- { \$group : {
- _id : "\$location",
- total_cases : { \$sum : "\$total_cases" },
- new_cases : { \$sum : "\$new_cases" },
- total_deaths : { \$sum : "\$total_deaths" },
- new_deaths : { \$sum : "\$new_deaths" }
- }
- }
-])

```
mazharrasyad@mazharrasyad: ~
> db.corona.aggregate([
... { $match : { new_cases : { $gt : 300 } } },
... { $group : {
...   _id : "$location",
...   total_cases : { $sum : "$total_cases" },
...   new_cases : { $sum : "$new_cases" },
...   total_deaths : { $sum : "$total_deaths" },
...   new_deaths : { $sum : "$new_deaths" }
... }
... }
... ])
{ "_id" : "United States", "total_cases" : 31544651, "new_cases" : 1308229, "total_deaths" : 1629396, "new_deaths" : 78764 }
{ "_id" : "Sweden", "total_cases" : 560258, "new_cases" : 22101, "total_deaths" : 60764, "new_deaths" : 3030 }
{ "_id" : "Russia", "total_cases" : 2537044, "new_cases" : 197142, "total_deaths" : 23341, "new_deaths" : 1819 }
{ "_id" : "Romania", "total_cases" : 253351, "new_cases" : 10364, "total_deaths" : 13688, "new_deaths" : 614 }
{ "_id" : "Poland", "total_cases" : 267561, "new_cases" : 10757, "total_deaths" : 11440, "new_deaths" : 606 }
{ "_id" : "Peru", "total_cases" : 860208, "new_cases" : 62989, "total_deaths" : 23607, "new_deaths" : 1732 }
{ "_id" : "Panama", "total_cases" : 7090, "new_cases" : 370, "total_deaths" : 197, "new_deaths" : 5 }
{ "_id" : "Netherlands", "total_cases" : 1142996, "new_cases" : 39786, "total_deaths" : 126419, "new_deaths" : 5206 }
{ "_id" : "World", "total_cases" : 105605778, "new_cases" : 3985222, "total_deaths" : 6989506, "new_deaths" : 278788 }
{ "_id" : "Mexico", "total_cases" : 454485, "new_cases" : 30761, "total_deaths" : 41894, "new_deaths" : 3208 }
{ "_id" : "South Korea", "total_cases" : 50377, "new_cases" : 5988, "total_deaths" : 311, "new_deaths" : 39 }
{ "_id" : "Italy", "total_cases" : 8055666, "new_cases" : 217140, "total_deaths" : 1025246, "new_deaths" : 30366 }
{ "_id" : "Israel", "total_cases" : 168418, "new_cases" : 11401, "total_deaths" : 1322, "new_deaths" : 125 }
{ "_id" : "Switzerland", "total_cases" : 532807, "new_cases" : 25766, "total_deaths" : 14882, "new_deaths" : 1080 }
{ "_id" : "Belgium", "total_cases" : 1429742, "new_cases" : 50596, "total_deaths" : 192516, "new_deaths" : 8152 }
{ "_id" : "Serbia", "total_cases" : 44818, "new_cases" : 3305, "total_deaths" : 894, "new_deaths" : 53 }
{ "_id" : "Philippines", "total_cases" : 37588, "new_cases" : 3141, "total_deaths" : 2155, "new_deaths" : 163 }
{ "_id" : "Nigeria", "total_cases" : 7438, "new_cases" : 767, "total_deaths" : 224, "new_deaths" : 14 }
{ "_id" : "Kuwait", "total_cases" : 36284, "new_cases" : 2784, "total_deaths" : 246, "new_deaths" : 16 }
{ "_id" : "Czech Republic", "total_cases" : 12223, "new_cases" : 1430, "total_deaths" : 104, "new_deaths" : 21 }
Type "it" for more
>
```

- Data di atas juga sama seperti sebelumnya, yang berbeda yaitu hanya menampilkan data yang memiliki kasus baru diatas 300 dari setiap negara.
- 5. Tampilkan data statistic corona (nama negara dan angka total kematian) diurutkan dari yang terbesar kasus kematiannya
 - Perintah yang digunakan untuk menampilkan data tersebut yaitu:
 - db.corona.aggregate([
 - { \$group : {
 - _id : "\$location",
 - total_deaths : { \$sum : "\$total_deaths" }
 - }
 - },
 - { \$sort : { total_deaths : -1 } }
 -])

```
mazharrasyad@mazharrasyad: ~  
> db.corona.aggregate([  
... { $group : {  
... _id : "$location",  
... total_deaths : { $sum : "$total_deaths" }  
... },  
... },  
... { $sort : { total_deaths : -1 } }  
... ])  
{ "_id" : "World", "total_deaths" : 6989590 }  
{ "_id" : "United States", "total_deaths" : 1629573 }  
{ "_id" : "Italy", "total_deaths" : 1025346 }  
{ "_id" : "Spain", "total_deaths" : 807915 }  
{ "_id" : "France", "total_deaths" : 736251 }  
{ "_id" : "United Kingdom", "total_deaths" : 733760 }  
{ "_id" : "China", "total_deaths" : 308702 }  
{ "_id" : "Iran", "total_deaths" : 232660 }  
{ "_id" : "Belgium", "total_deaths" : 208912 }  
{ "_id" : "Germany", "total_deaths" : 176068 }  
{ "_id" : "Netherlands", "total_deaths" : 146819 }  
{ "_id" : "Brazil", "total_deaths" : 140537 }  
{ "_id" : "Turkey", "total_deaths" : 82210 }  
{ "_id" : "Canada", "total_deaths" : 76500 }  
{ "_id" : "Sweden", "total_deaths" : 66187 }  
{ "_id" : "Switzerland", "total_deaths" : 44439 }  
{ "_id" : "Mexico", "total_deaths" : 42666 }  
{ "_id" : "India", "total_deaths" : 29303 }  
{ "_id" : "Ireland", "total_deaths" : 28915 }  
{ "_id" : "Portugal", "total_deaths" : 28631 }  
Type "it" for more  
>
```

- Data di atas menampilkan seluruh negara dengan total kematian yang diurutkan dari terbesar ke terkecil.