

CS 5331 Project 2

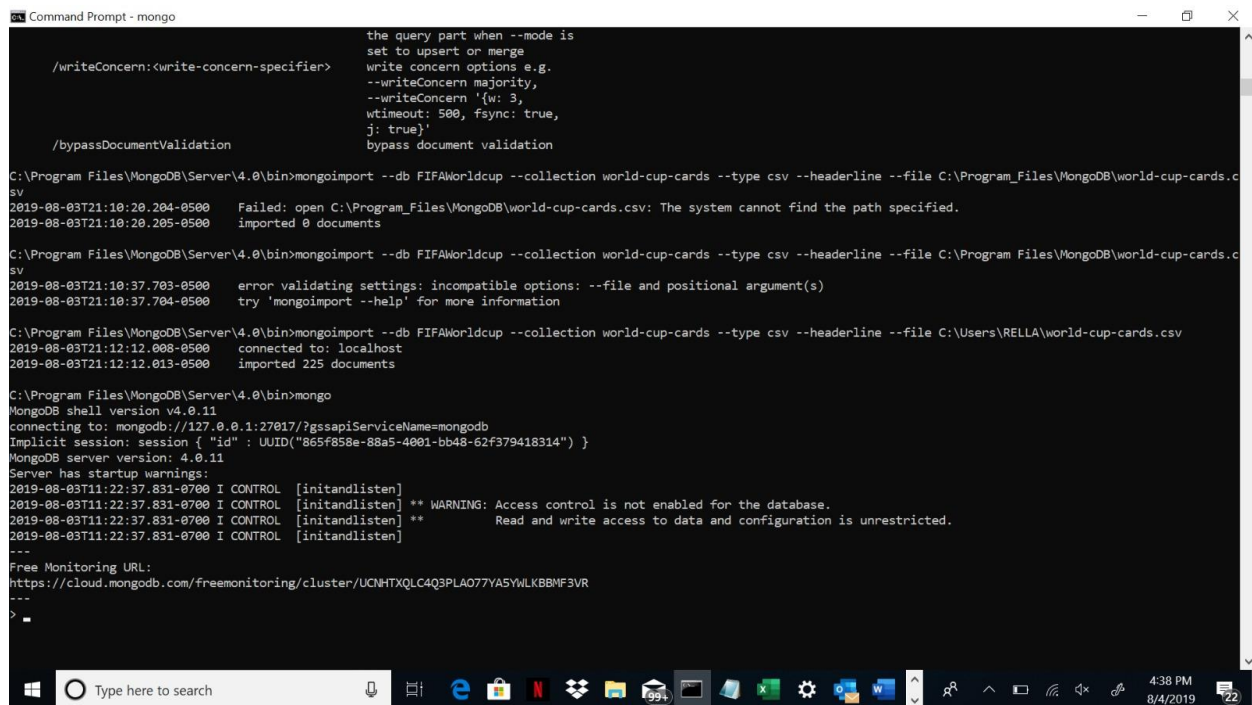
Team members:

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Objective:

Program to learn MongoDB as an example of a document based NOSQL system, and learn how data is stored and queried in such a system.

Mongo DB Installation:



```
Command Prompt - mongo

the query part when --mode is
set to upsert or merge
write concern options e.g.
--writeConcern majority,
--writeConcern '{w: 3,
wtimeout: 500, fsync: true,
j: true}'
bypass document validation

/writeConcern:<write-concern-specifier>

/bypassDocumentValidation

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFAWorldcup --collection world-cup-cards --type csv --headerline --file C:\Program Files\MongoDB\world-cup-cards.csv
2019-08-03T21:10:20.204-0500 Failed: open C:\Program Files\MongoDB\world-cup-cards.csv: The system cannot find the path specified.
2019-08-03T21:10:20.205-0500 imported 0 documents

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFAWorldcup --collection world-cup-cards --type csv --headerline --file C:\Program Files\MongoDB\world-cup-cards.csv
2019-08-03T21:10:37.703-0500 error validating settings: incompatible options: --file and positional argument(s)
2019-08-03T21:10:37.704-0500 try 'mongoimport --help' for more information

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFAWorldcup --collection world-cup-cards --type csv --headerline --file C:\Users\RELLA\world-cup-cards.csv
2019-08-03T21:12:12.008-0500 connected to: localhost
2019-08-03T21:12:12.013-0500 imported 225 documents

C:\Program Files\MongoDB\Server\4.0\bin>mongo
MongoDB shell version v4.0.11
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("865f858e-88a5-4001-bb48-62f379418314") }
MongoDB server version: 4.0.11
Server has startup warnings:
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten]
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten] ** WARNING: Access control is not enabled for the database.
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten] ** Read and write access to data and configuration is unrestricted.
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten]
---
Free Monitoring URL:
https://cloud.mongodb.com/freemonitoring/cluster/UCHHTXQLC4Q3PLA077YA5YWLKBBMF3VR
---
>
```

```
Command Prompt
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten]
---
Free Monitoring URL:
https://cloud.mongodb.com/freemonitoring/cluster/UCNHTXQLC4Q3PLAO77YASYWLKBBMF3VR
---
> show dbs
admin 0.000GB
config 0.000GB
local 0.000GB
> use FIFA
switched to db FIFA
> db
FIFA
> db.createCollection('TEAM')
{ "ok" : 1 }
> db.createCollection('STARTING_LINEUP')
{ "ok" : 1 }
> db.createCollection('GOALS')
{ "ok" : 1 }
> show collections
GOALS
STARTING_LINEUP
TEAM
> exit
bye

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFA --collection TEAM --type csv --headerline --file C:\Users\RELLA\world-cup-teams.csv
2019-08-04T16:53:06.081-0500 connected to: localhost
2019-08-04T16:53:06.084-0500 imported 32 documents

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFA --collection STARTING_LINEUP --type csv --headerline --file C:\Users\RELLA\world-cup-starting-lineups.csv
2019-08-04T16:53:49.502-0500 connected to: localhost
2019-08-04T16:53:49.527-0500 imported 1408 documents

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFA --collection GOALS --type csv --headerline --file C:\Users\RELLA\world-cup-goals.csv
2019-08-04T16:54:36.373-0500 connected to: localhost
2019-08-04T16:54:36.377-0500 imported 157 documents

C:\Program Files\MongoDB\Server\4.0\bin>
```

```
Command Prompt - mongo
bye

C:\Program Files\MongoDB\Server\4.0\bin>mongoimport --db FIFA --collection GAME --type csv --headerline --file C:\Users\RELLA\world-cup-schedule-results.csv
2019-08-04T17:48:29.810-0500 connected to: localhost
2019-08-04T17:48:29.814-0500 imported 64 documents

C:\Program Files\MongoDB\Server\4.0\bin>mongo
'mongo' is not recognized as an internal or external command,
operable program or batch file.

C:\Program Files\MongoDB\Server\4.0\bin>mongo
MongoDB shell version v4.0.11
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("cfb3cf67-9d05-4cd3-a685-55c28ac0ede9") }
MongoDB server version: 4.0.11
Server has startup warnings:
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten]
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten] ** WARNING: Access control is not enabled for the database.
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten] ** Read and write access to data and configuration is unrestricted.
2019-08-03T11:22:37.831-0700 I CONTROL [initandlisten]
---
Free Monitoring URL:
https://cloud.mongodb.com/freemonitoring/cluster/UCNHTXQLC4Q3PLAO77YASYWLKBBMF3VR
---
> show dbs
FIFA 0.000GB
admin 0.000GB
config 0.000GB
local 0.000GB
> use FIFA
switched to db FIFA
> db.GAME.update({}, {$rename: {'GameID': 'Gid', 'Groups': 'GType', 'MatchDate': 'GDate', 'SID': 'Venue', 'TeamID1': 'CIId1', 'Team1_Score': 'Score1', 'TeamID2': 'CIId2', 'Team2_Score': 'Score2'}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.GAME.updateMany({}, {$rename: {'GameID': 'Gid', 'Groups': 'GType', 'MatchDate': 'GDate', 'SID': 'Venue', 'TeamID1': 'CIId1', 'Team1_Score': 'Score1', 'TeamID2': 'CIId2', 'Team2_Score': 'Score2'}})
{ "acknowledged" : true, "matchedCount" : 64, "modifiedCount" : 63 }
>
```

Mongo DB compass community to show created collections and Inserted data:

MongoDB Compass Community - localhost:27017/FIFA.GAME

Connect View Collection Help

My Cluster

localhost:27017 STANDALONE

MongoDB 4.0.11 Community

4 DBS 6 COLLECTIONS

filter

FIFA

GAME

GOALS

PLAYER

STARTING_LINEUP

TEAM

> admin

> config

> local

FIFA.GAME

DOCUMENTS 64 TOTAL SIZE 8.4KB AVG. SIZE 134B INDEXES 1 TOTAL SIZE 16.0KB AVG. SIZE 16.0KB

Documents Aggregations Explain Plan Indexes

FILTER

OPTIONS FIND RESET

INSERT DOCUMENT VIEW LIST TABLE

Displaying documents 1 - 20 of 64

```
{ "_id": ObjectId("5d4760bd6219c84dd7b2463d"),  
  "CI1": "D3",  
  "CI2": "D4",  
  "GDate": "2018-06-16",  
  "GI": "G8",  
  "GType": "D",  
  "Score1": 2,  
  "Score2": 0,  
  "Venue": "S12"  
}
```

```
{ "_id": ObjectId("5d4760bd6219c84dd7b2463e"),  
  "CI1": "C3",  
  "CI2": "C4",  
  "GDate": "2018-06-16",  
  "GI": "G7",  
  "GType": "C",  
  "Score1": 0,  
  "Score2": 1,  
  "Venue": "S9"  
}
```

```
{ "_id": ObjectId("5d4760bd6219c84dd7b2463f"),  
  "CI1": "E3",  
  "CI2": "E4"  
}
```

Type here to search

6:43 PM 8/4/2019

MongoDB Compass Community - localhost:27017/FIFA.GOALS

Connect View Collection Help

My Cluster

localhost:27017 STANDALONE

MongoDB 4.0.11 Community

4 DBS 6 COLLECTIONS

filter

FIFA

GAME

GOALS

PLAYER

STARTING_LINEUP

TEAM

> admin

> config

> local

FIFA.GOALS

DOCUMENTS 157 TOTAL SIZE 13.0KB AVG. SIZE 85B INDEXES 1 TOTAL SIZE 16.0KB AVG. SIZE 16.0KB

Documents Aggregations Explain Plan Indexes

FILTER

OPTIONS FIND RESET

INSERT DOCUMENT VIEW LIST TABLE

Displaying documents 1 - 20 of 157

```
{ "_id": ObjectId("5d47541c6219c84dd7b24312"),  
  "CI": "A1",  
  "GI": "G1",  
  "GoalType": "H",  
  "Minute": "90+1",  
  "PNo": 6  
}
```

```
{ "_id": ObjectId("5d47541c6219c84dd7b24313"),  
  "CI": "B1",  
  "GI": "G4",  
  "GoalType": "H",  
  "Minute": 44,  
  "PNo": 7  
}
```

```
{ "_id": ObjectId("5d47541c6219c84dd7b24314"),  
  "CI": "B1",  
  "GI": "G4",  
  "GoalType": "H",  
  "Minute": 88,  
  "PNo": 7  
}
```

Type here to search

6:43 PM 8/4/2019

MongoDB Compass Community - localhost:27017/FIFA.PLAYER

Connect View Collection Help

My Cluster

localhost:27017 STANDALONE

MongoDB 4.0.11 Community

FIFA.PLAYER

DOCUMENTS 736 TOTAL SIZE 130.2KB AVG. SIZE 181B INDEXES 1 TOTAL SIZE 20.0KB AVG. SIZE 20.0KB

Documents Aggregations Explain Plan Indexes

FILTER

INSERT DOCUMENT VIEW LIST TABLE

Displaying documents 1 - 20 of 736

```
{ "_id": ObjectId("5d4769306219c84dd7b24be2"),
  "Position": "DF",
  "Club": "Tigres UANL (MEX)",
  "Height": 192,
  "Weight": 90,
  "CID": "D1",
  "DOB": "10.02.1986",
  "PName": "GUZMAN Nahuel",
  "PNo": 1 }
```

```
{ "_id": ObjectId("5d4769306219c84dd7b24be3"),
  "Position": "DF",
  "Club": "Sevilla FC (ESP)",
  "Height": 181,
  "Weight": 81,
  "CID": "D1",
  "DOB": "18.03.1987",
  "PName": "MERCADO Gabriel",
  "PNo": 2 }
```

Type here to search

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MongoDB Compass Community - localhost:27017/FIFA.STARTING_LINEUP

Connect View Collection Help

My Cluster

localhost:27017 STANDALONE

MongoDB 4.0.11 Community

FIFA.STARTING_LINEUP

DOCUMENTS 1.4k TOTAL SIZE 76.8KB AVG. SIZE 56B INDEXES 1 TOTAL SIZE 24.0KB AVG. SIZE 24.0KB

Documents Aggregations Explain Plan Indexes

FILTER

INSERT DOCUMENT VIEW LIST TABLE

Displaying documents 1 - 20 of 1408

```
{ "_id": ObjectId("5d4753ed6219c84dd7b23d84"),
  "CID": "A1",
  "GID": "G1",
  "PNo": 1 }
```

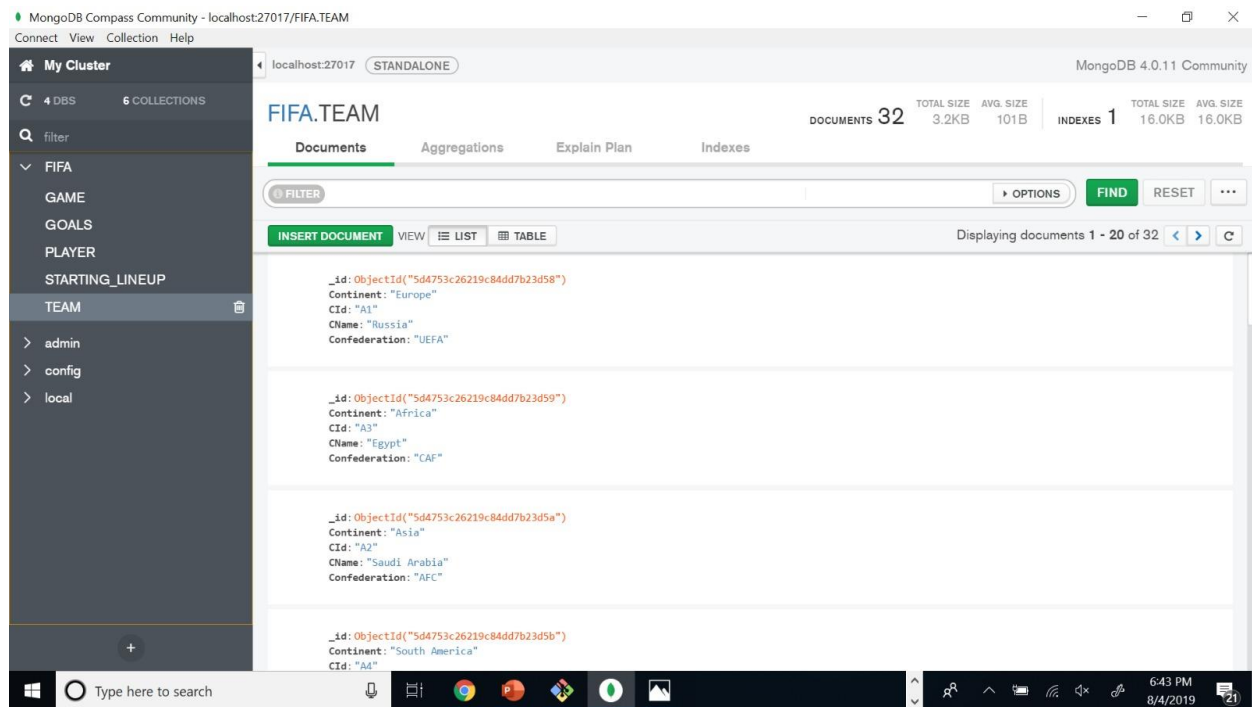
```
{ "_id": ObjectId("5d4753ed6219c84dd7b23d85"),
  "CID": "A1",
  "GID": "G1",
  "PNo": 2 }
```

```
{ "_id": ObjectId("5d4753ed6219c84dd7b23d86"),
  "CID": "A1",
  "GID": "G1",
  "PNo": 4 }
```

```
{ "_id": ObjectId("5d4753ed6219c84dd7b23d87"),
  "CID": "A1",
  "GID": "G1",
  "PNo": 8 }
```

Type here to search

6:43 PM 8/4/2019



DB queries:

```
db.createUser(
{
  user: "TanveerAhmedShaik",
  pwd: "1234",
  roles:["readWrite", "dbAdmin"]
});
```

```
db.createUser(
{
  user: " Satishrella",
  pwd: "1234",
  roles:["readWrite", "dbAdmin"]
});
```

```
mongoimport --db users --type csv --headerline --file /opt/backups/contacts.csv
```

```
db.GAME.update({}, {$rename:{'GameID':'GId', 'Groups':'GType', 'MatchDate':'GDate',
'SID':'Venue', 'TeamID1':'CId1', 'Team1_Score':'Score1', 'TeamID2':'CId2',
'Team2_Score':'Score2'}})
```

```
show dbs
FIFA  0.000GB
admin 0.000GB
config 0.000GB
local 0.000GB
```

```
> use FIFA
switched to db FIFA
> db.createCollection('PLAYER')
{ "ok" : 1 }
> show collections
GAME
GOALS
PLAYER
STARTING_LINEUP
TEAM
```

```
db.PLAYER.updateMany({}, {$unset: {Team:1}}, {multi: true});
{ "acknowledged" : true, "matchedCount" : 736, "modifiedCount" : 736 }
```

```
db.PLAYER.updateMany({}, {$rename:{'TeamID':'CId', 'PlayerID':'PNo', 'FIFA Popular
Name':'PName', 'Shirt Name':'PJName', 'Birth Date':'DOB'}})
```

```
db.TEAM.updateMany({}, {$rename:{'TeamID':'CId', 'Team':'CName', 'League':'Confederation'}})
{ "acknowledged" : true, "matchedCount" : 32, "modifiedCount" : 32 }
```

```
db.STARTING_LINEUP.updateMany({}, {$rename:{'GameID':'GId', 'TeamID':'CId',
'PlayerID':'PNo'}})
{ "acknowledged" : true, "matchedCount" : 1408, "modifiedCount" : 1408 }
```

```
db.GOALS.updateMany({}, {$rename:{'GameID':'GId', 'TeamID':'CId', 'PlayerID':'PNo',
'Time':'Minute', 'Penalty':'GoalType'}})
{ "acknowledged" : true, "matchedCount" : 157, "modifiedCount" : 157 }
```