MONGO DB TUTORIAL

Hands-on Session

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MONGO DB

- Document Oriented Database.
- Data is stored as documents - JSON like syntax - javascript object notation.
- Database : Physical container for collection.
- Collection: Group of MongoDB documents.
- Document: Set of key-value pairs.
- Dynamic schema.

MONGO DB

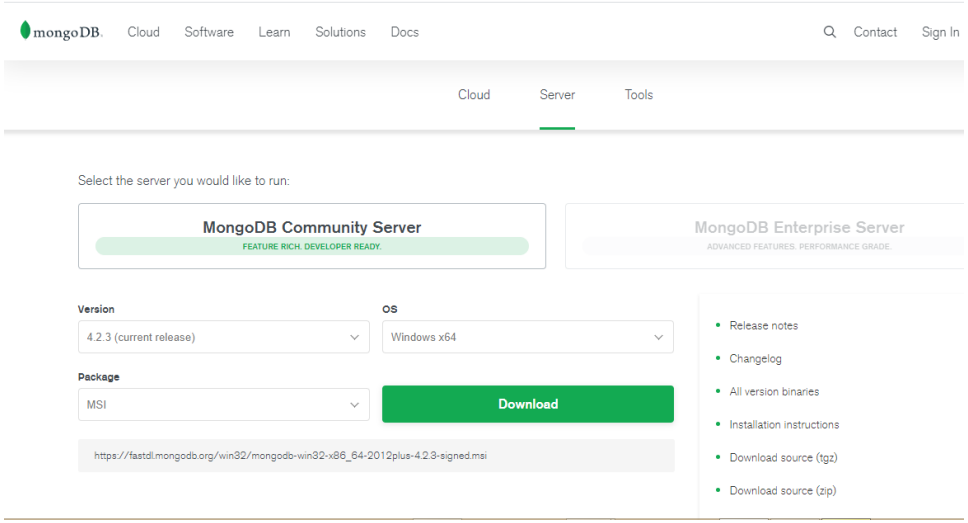
RDBMS	MONGODB
Database	Database
Table	Collection
Row	Document
Column	Field
Primary Key	Default key _id

- **Some advantages :**
  - Schema less.
  - Conversion of application objects to database objects is not required.
  - No complex joins

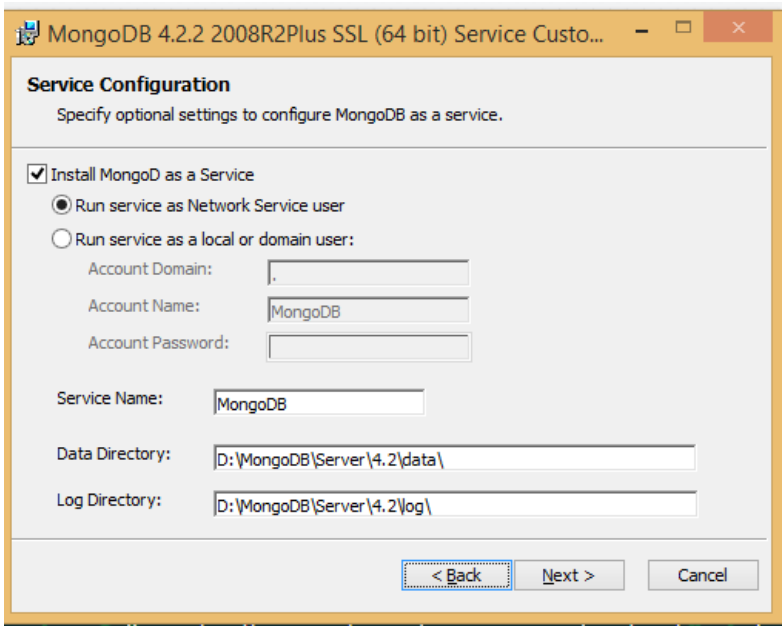
MONGO DB Installation

- Download the latest release of MongoDB from

  https://www.mongodb.com/download-center



- Run installation file
- Select complete install



- Go to " C:\Program Files\MongoDB\Server\4.2\bin“
- Double click on mongo.exe.

MONGO DB COMMANDS

- **Create Database**

use <dbname>

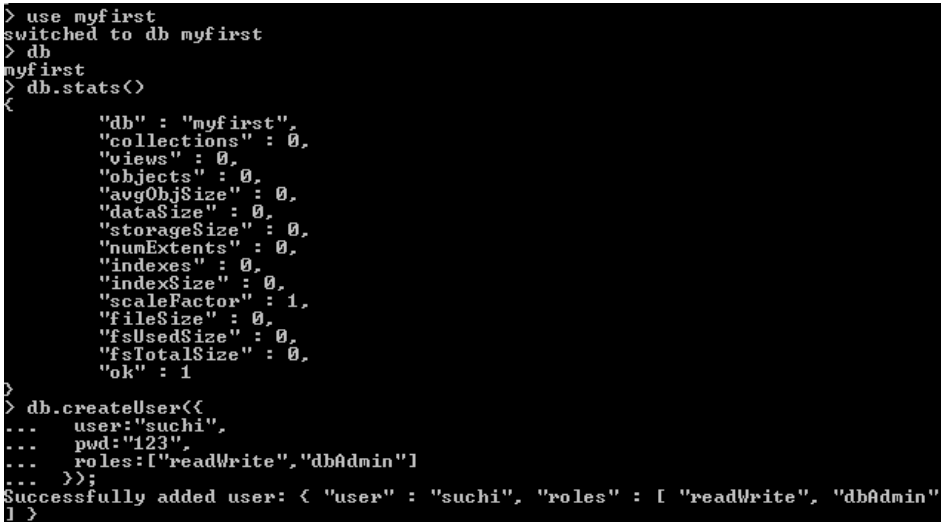
to know current database , type db

db.stats()

shows database metadata

- **Create user**

```
db.createUser({
  user:"suchi",
  pwd:"123",
  roles:["readWrite","dbAdmin"]
 })
```



MONGO DB COMMANDS

- **Create Collections**

```
db.createCollection('students');
```

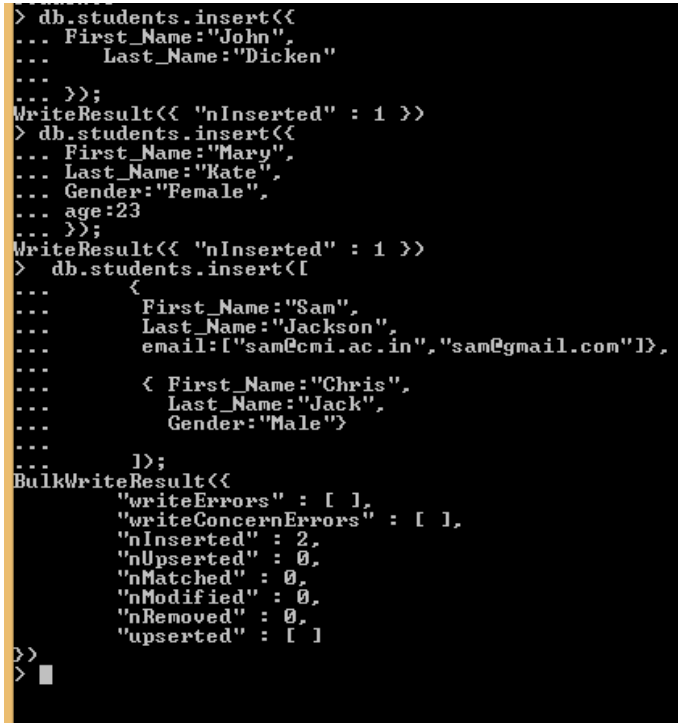
- **Displays all collections**

```
show collections
```

- **Insert Data**

```
db.students.insert({
            First_Name:"John",
            Last_Name:"Dicken“
            })

db.students.insert({
            First_Name:"Mary",
            Last_Name:"Kate",
            Gender:"Female",
            age:23})
```



- **Bulk Insert Data**

```
db.students.insert([
    {
     First_Name:"Sam",
     Last_Name:"Jackson",
     email:["sam@cmi.ac.in","sam@gmail.com"]},

     { First_Name:"Chris",
       Last_Name:"Jack",
       Gender:"Male"}
      ])
```

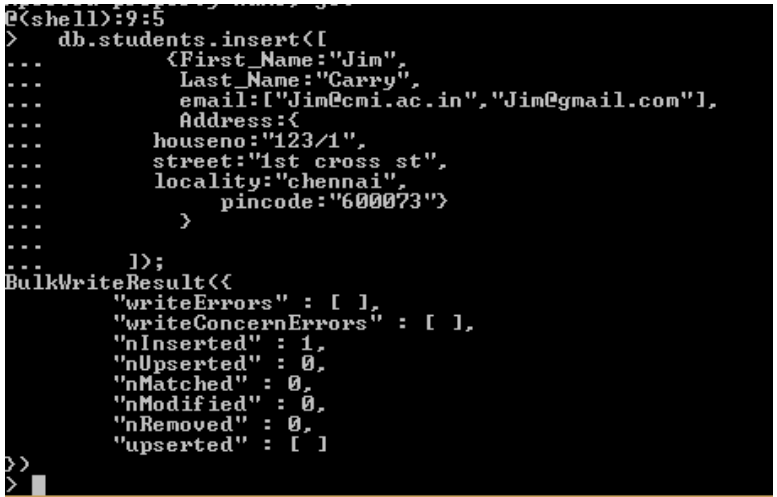
MONGO DB COMMANDS

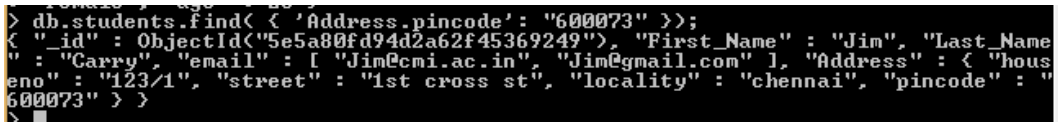
- **List of records:**

```
db.students.find()
db.students.find().pretty()

db.students.insert([
      {First_Name:"Jim",
       Last_Name:"Carry",
       email:["Jim@cmi.ac.in","Jim@gmail.com"],
       Address:{
                houseno:"123/1",
                street:"1st cross st",
                locality:"chennai",
                pincode:"600073"}
       }
   ])

db.students.find( { 'Address.pincode': "600073" })
```





MONGO DB COMMANDS

- **update record**

db.students.update({First_Name:"Sam"},{First_Name:"Samuel",Last_Name:"Jackson"})

db.students.update({First_Name:"Samuel"},{$set:{Gender:"Male"}})

```
> db.students.update({First_Name:"Sam"},{First_Name:"Samuel",Last_Name:"Jackson"
});
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.students.update({First_Name:"Samuel"},{$set:{Gender:"Male"}});
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

db.students.update({First_Name:"Juli"},{$inc:{age:2}})

```
> db.students.update({First_Name:"Juli"},{$inc:{age:2}});
WriteResult({ "nMatched" : 0, "nUpserted" : 0, "nModified" : 0 })
```

db.students.update({First_Name:"Mary"},{$unset:"Last_Name"})

```
> db.students.update({First_Name:"Mary"},{$unset:{Last_Name:""}});
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

MONGO DB COMMANDS

- **Remove record**

db.students.remove({First_Name:"Chris"});

```
> db.students.remove({First_Name:"Chris"});
WriteResult({ "nRemoved" : 1 })
>
```

- **Find record**

db.students.find({First_Name:"Mary"})
db.students.find({$or:[{First_Name:"Samuel"},{First_Name:"Mary"}]})
db.students.find({age:{$gt:12}})

```
> db.students.find({First_Name:"Mary"});
{ "_id" : ObjectId("5e5a7b7594d2a62f45369246"), "First_Name" : "Mary", "Gender"
: "Female", "age" : 25 }
> db.students.find({$or:[{First_Name:"Samuel"},{First_Name:"Mary"}]});
{ "_id" : ObjectId("5e5a7b7594d2a62f45369246"), "First_Name" : "Mary", "Gender"
: "Female", "age" : 25 }
{ "_id" : ObjectId("5e5a7c1a94d2a62f45369247"), "First_Name" : "Samuel", "Last_N
ame" : "Jackson", "Gender" : "Male" }
> db.students.find({age:{$gt:12}});
{ "_id" : ObjectId("5e5a7b7594d2a62f45369246"), "First_Name" : "Mary", "Gender"
: "Female", "age" : 25 }
>
```

MONGO DB COMMANDS

- **Sort**

db.students.find().sort({Last_name:-1}).pretty()

db.students.find().sort({Last_name:1}).pretty()

1 is used for ascending order while -1 is used for descending order.

MONGO DB COMMANDS

- **Aggregation**

db.students.find().count()

```
> db.students.find().count();
4
>
```

db.students.find().forEach(function(doc){print("First Name is "+ doc.First_Name)})

```
> db.students.find().forEach(function(doc){print( "First Name is "+ doc.First_Na
me ))};
First Name is John
First Name is Mary
First Name is Samuel
First Name is Jim
>
```

Reference: https://docs.mongodb.com/manual/crud/

Quiz 6

- Choose the correct answer from the options given below:

- A) In Mongo DB, documents in same collection need not have the same set of fields.

- B) db.students.find({age:{$gt:20, $lt:30}}); returns records having age between 20 & 30

- C) Mongo DB supports nested JSON document

- D) All the above.

THANK YOU