- MongoDB is the leading NOSQL Database today. It stores the data in the flexible JSON line documents unlike the data which is stored by RDBMS into rows and column. It is very simple to install, store and manage data. It automatically high performance, high availability and automatic scaling.
- MONGODB Atlas is a cloud platform which provides MongoDB as a service. So we can directly use MongoDB cluster which is hosted on cloud by MongoDB Atlas. And important thing is that it is available at free of cost.

Steps:

1. Create a MongoDB account with MongoDB Atlas.
2. Build a Cluster on AWS
3. In Security – Add a Database user. (MongoDB needs a database user from which we can interact with MongoDB database.)
   Username : test
   Password : test

   A database user is a user through which we can take an action with database.
4. IP Whitelist – Is a list of IP addresses y which we can interact with database cluster.
   Add IP Address: 0.0.0.0/0   -   Any kind of IP address to access my database.
   Check whether Cluster is completed or not.

   To get IP address of your machine: http://httpbin.org/ip

5. Collections : In a MongoDB database there are various collections which are like Tables. First we need to create Database.
   Database Name: student_db
   Collection Name : student_records

   Click on Create.

   Currently there is **zero Document in a student_records collection**. A Document is like a row of a table. Table has multiple rows similarly a collection has a multiple documents.

   Click on student_records – click on insert document.

   The document is like in JSON format. It is in key-value pair.
   Default ID is an identifier of a document (We cannot change it.)

Name: "Nikhil"	string
Roll_no: 123	Int32
Branch: "cse"	string

   Click on insert

   Install PYMONGO package in Python (pip install pymongo)
   PYMONGO is a library which will help us to interact with any kind of MongoDB database.

From pymongo import MongoCLient

Mongoclient is a class which will create a Client object for us.
Lets create client object.

Client = Mongoclient (pass connection string)

Go to overview – connect – connect your application – driver (Python) – version (3.6 or later)
Lets copy connection string.

Lets change password in the connection string.

Through the client we need to get a Database object.
db = client.get_database(pass the name of your database-------------'student_db')

Now, we need to get collection object in the database (student_db)

records = db.student_records   -   In this way we will be able to get our collection object

Lets do the first operation with Mongodb Collection.

COUNT
Lets count the total number of documents in our collections.

records.count_documents ({})   -   pass empty dictionary in count_documents

It will search all the documents available in collection **(student_records)**

INSERT

We know that document in a collection is JSON like objects. Which is similar to dictionary. So, dictionary can be used to insert a document in a collection.

TO insert a document, we need to create a dictionary.

```
new_student = {
    'name': 'ram',
    'roll_no': 321,
    'branch': 'it'
}
```

Records.insert_one (pass dictionary)   -   Records.insert_one (new_student)

Lets check whether a new document is inserted or not.

Also, we can add a multiple documents in a single call.

```
new_students = [
    {
        'name': 'alex',
        'roll_no': 320,
        'branch': 'it'
    },
    {
        'name': 'john',
        'roll_no': 30,
        'branch': 'ece'
    }
]
```

Here a dictionary contains multiple documents. So, a separate document will be created in collection.

FIND Document

TO get all the documents, lets use a find function. If we typecaste our find function with list function, it will display all the available documents in our collection.

List typecasting will give all the data we need.

If we want to find one document then put a dictionary in a find function in a key value pair.

```
records.find_one({'roll_no': 123})
```

UPDATE:

Delete: