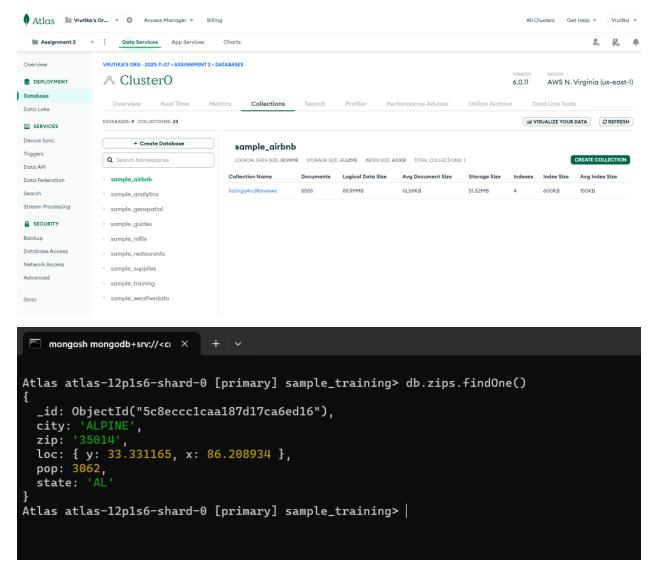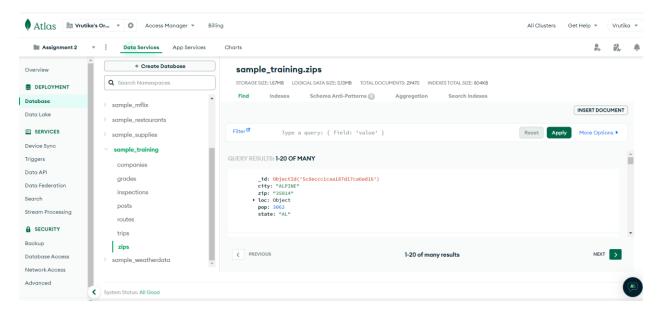# CDBM 603 Major Assignment 2

## Task 1:

Create a MongoDB Atlas account and successfully connect to MongoDB Atlas cluster.

   a. Snapshot of your cluster dashboard with all the sample databases.
      One document from the "zips" collection of the "sample_training" database.
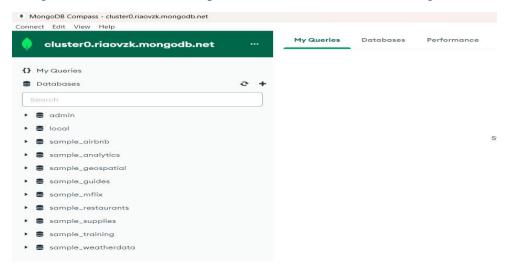
b. MongoDB shell successful connection using Connection URL.



c. MongoDB Compass successful connection using Connection URL. **Connection URI:** mongodb+srv://ervrutikas21:<password>@cluster0.riaovzk.mongodb.net/
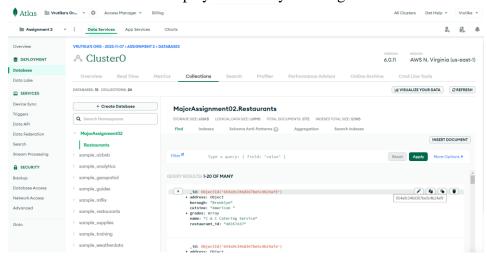
## Task 2:

Using the **'mongoimport'** command, import the "restaurants.json" file to MongoDB cluster

- Windows Command Prompt output the 'mongoimport' command was successfully used to import the JSON file MongoDB Cluster.



Database and collection are displayed correctly in MongoDB Atlas.



- One document from the Restaurants collection on the MongoDB Shell.

## Task 3:

a.  Display the fields restaurant_id, name, borough and cuisine, but exclude the field _id for all the documents in the collection restaurant.

```
Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02> db.Restaurants.find({}, { restaurant_id:1, name:1, borough:1, cucuisine:1, _id:0 })
[
  {
    borough: 'Brooklyn',
    cuisine: 'American ',
    name: 'C & C Catering Service',
    restaurant_id: '40357437'
  },
  {
    borough: 'Brooklyn',
    cuisine: 'Hamburgers',
    name: "Wendy'S",
    restaurant_id: '30112340'
  },
```

b.  Display the number of restaurants in the borough of Bronx.

```
Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02> db.Restaurants.find({borough: 'Bronx'}).count()
309
Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02>
```

c.  Query to find the restaurants that scored more than 90.

```
Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02> db.Restaurants.find({ "grades.score" : {$gt : 90}})
[
  {
    _id: ObjectId("654a9c346d367be5c4b24c4e"),
    address: {
      building: '65',
      coord: [ -73.9782725, 40.7624022 ],
      street: 'West    54 Street',
      zipcode: '10019'
    },
    borough: 'Manhattan',
    cuisine: 'American ',
    grades: [
      {
        date: ISODate("2014-08-22T00:00:00.000Z"),
        grade: 'A',
        score: 11
      },
      {
        date: ISODate("2014-03-28T00:00:00.000Z"),
        grade: 'C',
        score: 131
      },
      {
        date: ISODate("2013-09-25T00:00:00.000Z"),
        grade: 'A',
        score: 11
      },
      {
        date: ISODate("2013-04-08T00:00:00.000Z"),
        grade: 'B',
        score: 25
      },
      {
        date: ISODate("2012-10-15T00:00:00.000Z"),
        grade: 'A',
        score: 11
      },
      {
        date: ISODate("2011-10-19T00:00:00.000Z"),
        grade: 'A',
        score: 13
      }
    ],
    name: "Murals On 54/Randolphs'S",
    restaurant_id: '40372466'
  },
```

d.  Find the restaurants that do not prepare any cuisine of 'American' and their grade score of more than 70 and latitude less than -65.754168

e. Find the restaurants that do not prepare any cuisine of 'American', achieved a grade A, and are not located in the borough of Brooklyn. Sort the query result in ascending order according to the cuisine.



f. Find the restaurant Id, name, borough and cuisine for those restaurants containing 'Wil' as the first three letters of their names.

```
mongosh mongodb+srv://<c  X    +  ∨

Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02> db.Restaurants.find({"name" : {"$regex" : /^(Wil|wil)/}},{restaurant_id:1, name:1, borough:1, cuisine:1,_id:0})
[
  {
    borough: 'Bronx',
    cuisine: 'American ',
    name: 'Wild Asia',
    restaurant_id: '40357217'
  },
  {
    borough: 'Brooklyn',
    cuisine: 'Delicatessen',
    name: "Wilken'S Fine Food",
    restaurant_id: '40356483'
  },
  {
    borough: 'Bronx',
    cuisine: 'Pizza',
    name: 'Wilbel Pizza',
    restaurant_id: '40871979'
  }
]
```

g. Find the restaurant Id, name, borough and cuisine for those restaurants which belong to the borough Staten Island or Queens or Bronx or Brooklyn.

```
mongosh mongodb+srv://<c  X    +  ∨

Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02> db.Restaurants.find( {"borough" : { "$in" : ["Staten Island","Queens","Bronx","Brooklyn"]}},
...                                   {restaurant_id:1, name:1, borough:1, cuisine:1, _id:0})
[
  {
    borough: 'Brooklyn',
    cuisine: 'American ',
    name: 'C & C Catering Service',
    restaurant_id: '40357437'
  },
  {
    borough: 'Brooklyn',
    cuisine: 'Hamburgers',
    name: "Wendy'S",
    restaurant_id: '30112340'
  },
  {
    borough: 'Bronx',
    cuisine: 'American ',
    name: 'Wild Asia',
    restaurant_id: '40357217'
  },
  {
    borough: 'Queens',
    cuisine: 'American ',
    name: 'Brunos On The Boulevard',
    restaurant_id: '40356151'
  },
  {
    borough: 'Brooklyn',
    cuisine: 'Jewish/Kosher',
    name: 'Seuda Foods',
    restaurant_id: '40360045'
  },
  {
    borough: 'Brooklyn',
    cuisine: 'Chinese',
    name: 'May May Kitchen',
    restaurant_id: '40358429'
  },
  {
    borough: 'Brooklyn',
    cuisine: 'Delicatessen',
    name: 'Nordic Delicacies',
    restaurant_id: '40361390'
  },
```

h. Find the restaurant Id, name, borough and cuisine for those restaurants which prepared dishes except 'American' and 'Chinees' or the restaurant's name begins with the letter 'Wil'.

i.  Find the restaurant Id, name and grades for those restaurants where the 2nd element of the grades array contains a grade of "A" and score 9 on an ISODate "2014-08-11T00:00:00Z"



j.  Find all the cuisine names (no duplicates) in the restaurants located in the borough of Staten Island.

```
mongosh mongodb+srv://<c   ×   +   ∨

Atlas atlas-12p1s6-shard-0 [primary] MajorAssignment02> db.Restaurants.distinct("cuisine",{"borough" : "Staten Island"})
[
  'American ',
  'Bagels/Pretzels',
  'Bakery',
  'Café/Coffee/Tea',
  'Chicken',
  'Chinese',
  'Delicatessen',
  'Donuts',
  'German',
  'Hamburgers',
  'Ice Cream, Gelato, Yogurt, Ices',
  'Indian',
  'Italian',
  'Japanese',
  'Jewish/Kosher',
  'Mexican',
  'Pizza',
  'Pizza/Italian',
  'Spanish'
]
```
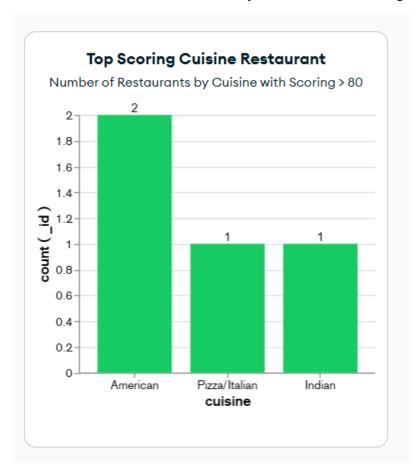
## Task 4:

Two graphs from the Restaurants collection

1. **borough wise Restaurants** (Total number of Restaurants based on borough) (Donut Chart):
   a. Chart displays the number of total restaurants based on borough(district)
   b. Categories are boroughs where the number displays the count of Restaurants in that district.



c. From the Donut chart, we can say that Manhattan has the highest number of restaurants, and Staten Island has the least number of restaurants.

2. **Top scoring Cuisine** (List of Cuisine with Scoring more than 80) (Grouped Column Chart):

    a. X-axis: Cuisines name

    b. Y-axis: Number of Restaurants by Cuisine whose scoring > 80



    c. From the chart, it can be observed that American cuisine highest restaurant with a score of more than 80 which is 2, whereas Pizza/Italian and Indian both have only one restaurant with a good scoring.

Dashboard Link: [Vrutika's Dashboard - MongoDB Charts](#)