BIG DATA LAB

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USN: 1NT19IS147

Date:31.05.2022

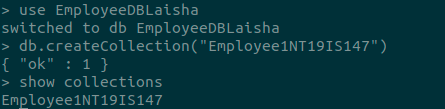
1.Problem Statement & Dataset

Create a collection named "Employee" under the "EmployeeDB" database with each document in the format shown below Table

>use EmployeeDBLaisha

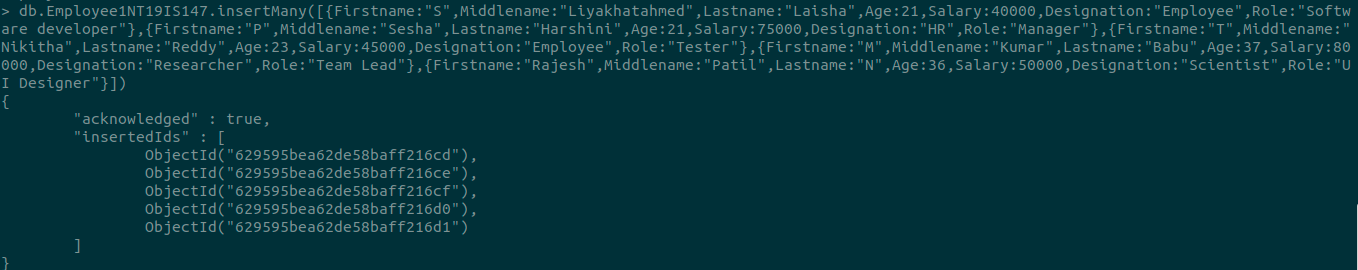
>db.createCollection(“Employee1NT19IS147”)

>show collections

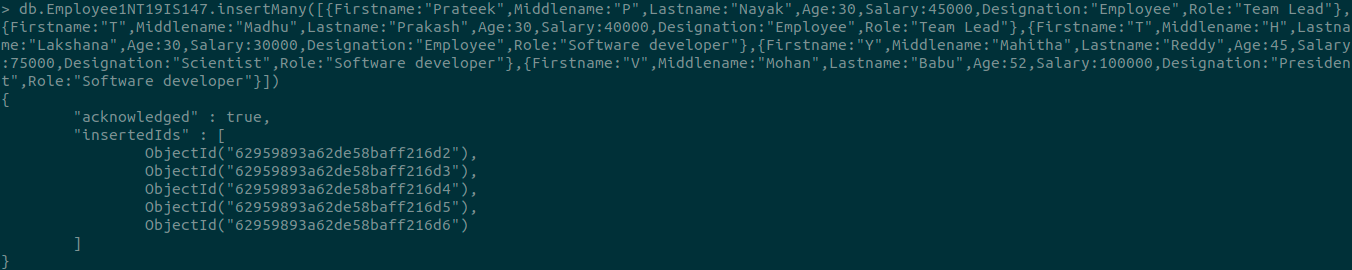


Inserting the values:

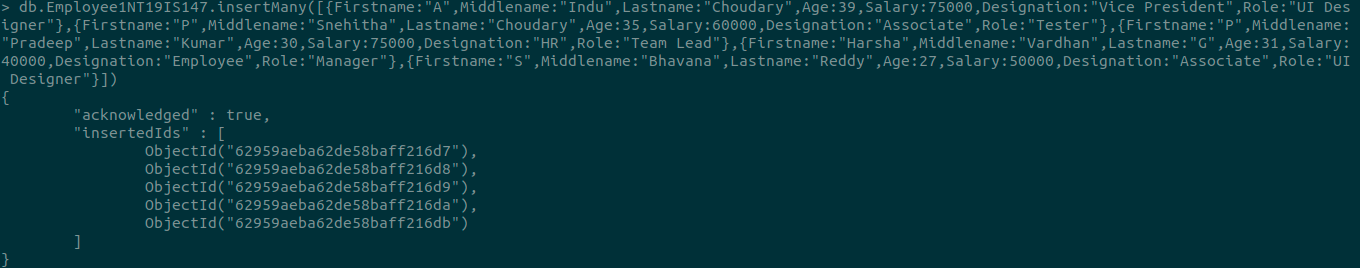
>db.Employee1NT19IS147.insertMany([{Firstname:"S",Middlename:"Liyakhatahmed",Lastname:"Laisha",Age:21,Salary:40000,Designation:"Employee",Role:"Software developer"},{Firstname:"P",Middlename:"Sesha",Lastname:"Harshini",Age:21,Salary:75000,Designation:"HR",Role:"Manager"},{Firstname:"T",Middlename:"Nikitha",Lastname:"Reddy",Age:23,Salary:45000,Designation:"Employee",Role:"Tester"},{Firstname:"M",Middlename:"Kumar",Lastname:"Babu",Age:37,Salary:80000,Designation:"Researcher",Role:"Team Lead"},{Firstname:"Rajesh",Middlename:"Patil",Lastname:"N",Age:36, Salary:50000,Designation:"Scientist",Role:"UI Designer"}])



>db.Employee1NT19IS147.insertMany([{Firstname:"Prateek",Middlename:"P",Lastname:"Nayak",Age:30,Salary:45000,Designation:"Employee",Role:"Team Lead"},{Firstname:"T",Middlename:"Madhu",Lastname:"Prakash",Age:30,Salary:40000,Designation:"Employee",Role:"Team Lead"},{Firstname:"T",Middlename:"H",Lastname:"Lakshana",Age:30,Salary:30000,Designation:"Employee",Role:"Software developer"},{Firstname:"Y",Middlename:"Mahitha",Lastname:"Reddy",Age:45,Salary:75000,Designation:"Scientist",Role:"Software developer"},{Firstname:"V",Middlename:"Mohan",Lastname:"Babu",Age:52,Salary:100000,Designation:"President",Role:"Software developer"}])



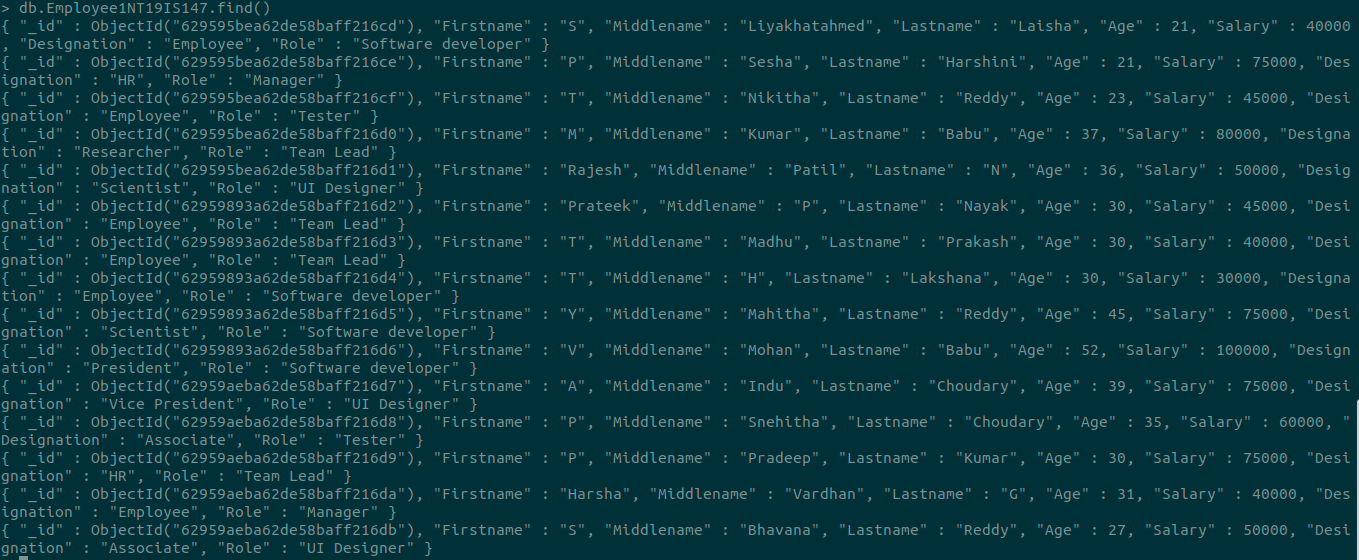
>db.Employee1NT19IS147.insertMany([{Firstname:"A",Middlename:"Indu",Lastname:"Choudary",Age:39,Salary:75000,Designation:"Vice President",Role:"UI Designer"},{Firstname:"P",Middlename:"Snehitha",Lastname:"Choudary",Age:35,Salary:60000,Designation:"Associate",Role:"Tester"},{Firstname:"P",Middlename:"Pradeep",Lastname:"Kumar",Age:30,Salary:75000,Designation:"HR",Role:"Team Lead"},{Firstname:"Harsha",Middlename:"Vardhan",Lastname:"G",Age:31,Salary:40000,Designation:"Employee",Role:"Manager"},{Firstname:"S",Middlename:"Bhavana",Lastname:"Reddy",Age:27,Salary:50000,Designation:"Associate",Role:"UI Designer"}])



2. Queries

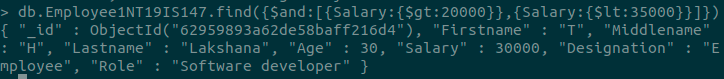
1. Populate the database with atleast 15 documents

>db.Employee1NT19IS147.find()



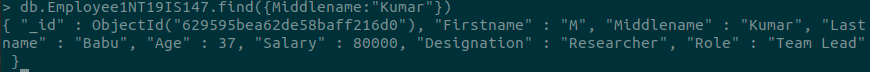
2. List all the records having salary in the range of 20000 - 35000(Exclusive)

>db.Employee1NT19IS147.find({$and:[{Salary:{$gt:20000}},{Salary:{$lt:35000}}]})



3. List all the Employee whose Middle name is "Kumar"

> db.Employee1NT19IS147.find({Middlename:"Kumar"})



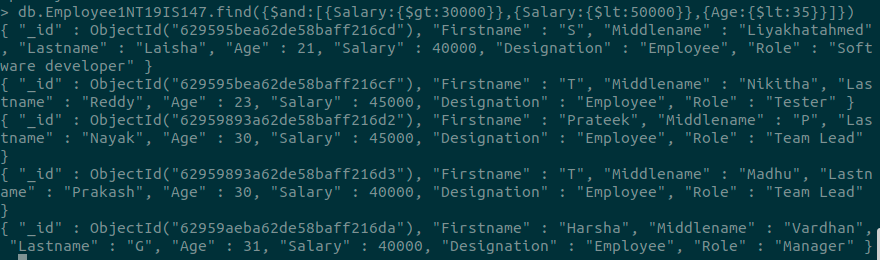
4. Count the number of Employees who has a role "Manager" in the Role field

> db.Employee1NT19IS147.count({Role:"Manager"})



5. Find out all the documents who have age < 35 and salary in the range of 30000-50000

>db.Employee1NT19IS147.find({$and:[{Salary:{$gt:30000}},{Salary:{$lt:50000}},{Age:{$lt:35}}]})

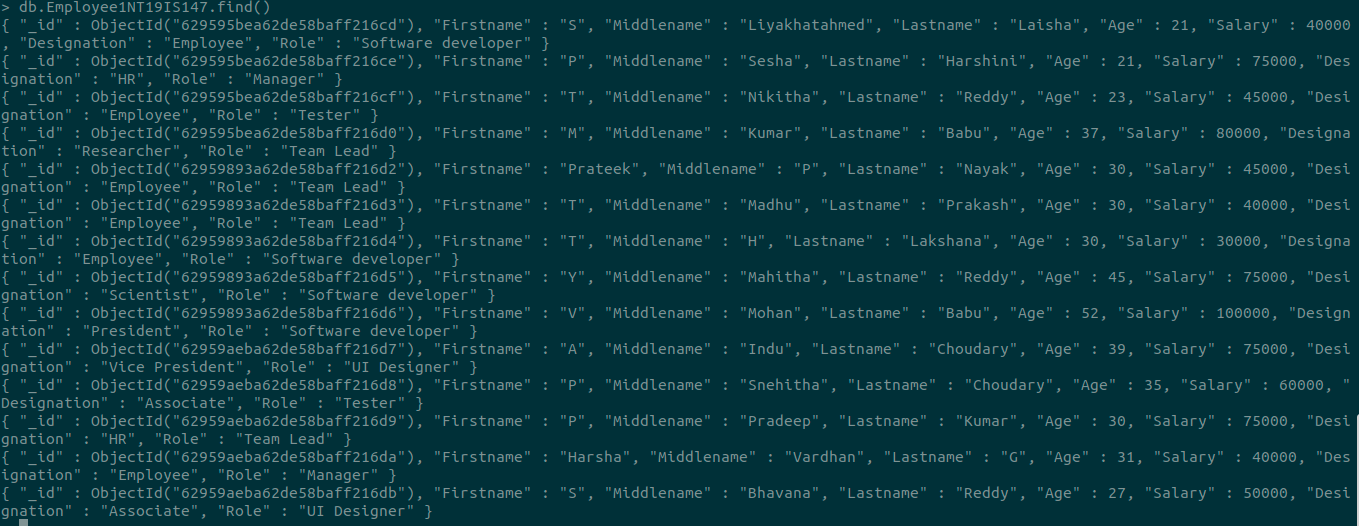


6. Delete an Employee whose "Firstname" is "Rajesh" and having the designation as "Scientist"

>db.Employee1NT19IS147.deleteOne({$and:[{Firstname:"Rajesh"},{Designation:"Scientist"}]})



>db.Employee1NT19IS147.find()

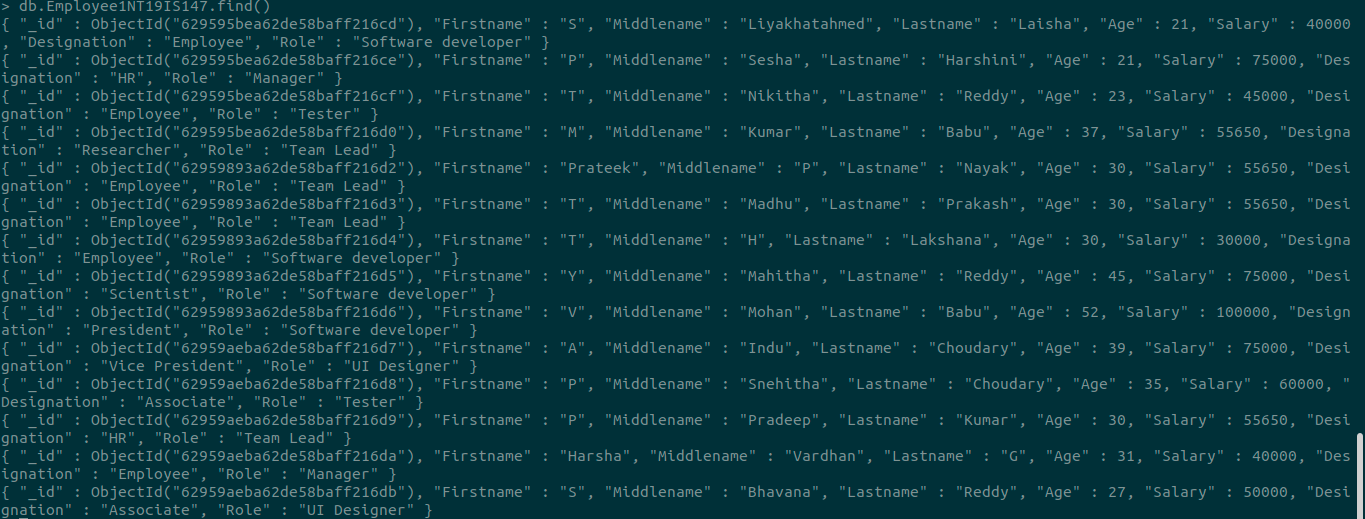


7. Update all the Employees whose role is "Team Lead" with a salary of 55650 INR

> db.Employee1NT19IS147.updateMany({Role:"Team Lead"},{$set:{Salary:55650}})

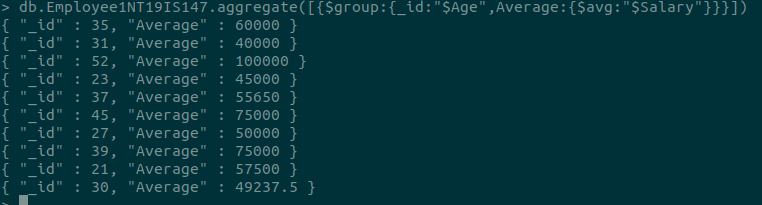


>db.Employee1NT19IS147.find()



8. Group all the Employees by their age(common age should be there) and calculate the average salary obtained in the each group

>db.Employee1NT19IS147.aggregate([{$group:{\_id:"$Age",Average:{$avg:"$Salary"}}}])



9. Apply the map-reduce to perform the above operation and obtain the results

> var mapfunction=function(){emit(this.Age,this.Salary)}

> var reducefunction=function(key,values){return Array.avg(values)}

>db.Employee1NT19IS147.mapReduce(mapfunction,reducefunction,('out':'result'})

>db.Employee1NT19IS147.mapReduce(mapfunction,reducefunction,{'out':'result'})

{ "result" : "result", "ok" : 1 }

> db.result.find()

