1NT19IS156

Sonal.M

Creating database

> use sonal\_employee  
switched to db sonal\_employee  
> db  
sonal\_employee

Text

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Inserting into the collection Employee  
> db.Employee.insertOne({Name:{Fname:"Soni",Mname:"A",Lname:""},Age:25,Salary:75000,Designation:"Software Developer",Role:["tester" , "UI designer"]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629591d49a8bbb2dcda73e5e")  
}

> show collections  
Employee  
> db.Employee.find().pretty()  
{  
"\_id" : ObjectId("629591d49a8bbb2dcda73e5e"),  
"Name" : {  
"Fname" : "Soni",  
"Mname" : "A",  
"Lname" : ""  
},  
"Age" : 25,  
"Salary" : 75000,  
"Designation" : "Software Developer",  
"Role" : [  
"tester",  
"UI designer"  
]  
}

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> db.Employee.insertOne({Name:{Fname:"Sonal",Mname:"M",Lname:"Shetty"},Age:26,Salary:75000,Designation:"Manager",Role:["team lead" , "Manager"]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("6295938a9a8bbb2dcda73e5f")  
}  
> db.Employee.insertOne({Name:{Fname:"Anuradha",Mname:"M",Lname:"Shetty"},Age:30,Salary:25000,Designation:"tester",Role:["tester" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629593e29a8bbb2dcda73e60")  
}  
> db.Employee.insertOne({Name:{Fname:"Mohan",Mname:"K",Lname:"K"},Age:35,Salary:55000,Designation:"team lead",Role:["UI Designer" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("6295941b9a8bbb2dcda73e61")  
}  
> db.Employee.insertOne({Name:{Fname:"Kirthan",Mname:"M",Lname:"Shetty"},Age:22,Salary:60000,Designation:"team lead",Role:["software developer" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("6295949b9a8bbb2dcda73e62")  
}  
> db.Employee.insertOne({Name:{Fname:"Vennela",Mname:"N"},Age:24,Salary:40000,Designation:"ui designer",Role:["tester" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629594ed9a8bbb2dcda73e63")  
}  
> db.Employee.insertOne({Name:{Fname:"Vinay",Mname:"Reddy",Lname:"P"},Age:30,Salary:20000,Designation:"tester",Role:["tester" ]})  
  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629595679a8bbb2dcda73e64")  
}  
> db.Employee.insertOne({Name:{Fname:"Vignesh",Mname:"M",Lname:"G"},Age:40,Salary:60000,Designation:"software developer",Role:["tester" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629595ce9a8bbb2dcda73e65")  
}  
> db.Employee.insertOne({Name:{Fname:"Punith",Mname:"S"},Age:35,Salary:15000,Designation:"team leader",Role:["software developer" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629596599a8bbb2dcda73e66")  
}  
> db.Employee.insertOne({Name:{Fname:"Anusha",Mname:"Kumar"},Age:39,Salary:21000,Designation:"scientist",Role:["tester" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("6295971a9a8bbb2dcda73e67")  
}  
> db.Employee.insertOne({Name:{Fname:"Rajesh",Mname:"Kumar"},Age:35,Salary:40000,Designation:"scientist",Role:["ui designer" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629597519a8bbb2dcda73e68")  
}  
> db.Employee.insertOne({Name:{Fname:"Rekha",Mname:"S"},Age:33,Salary:55650,Designation:"Engineer",Role:["team leader" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629597de9a8bbb2dcda73e69")  
}  
> db.Employee.insertOne({Name:{Fname:"Jahnavi",Mname:"S"},Age:30,Salary:34450,Designation:"software developer",Role:["team leader" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629598489a8bbb2dcda73e6a")  
}  
> db.Employee.insertOne({Name:{Fname:"Prathap",Mname:"K"},Age:35,Salary:75000,Designation:"Engineer",Role:["Manager" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629598ae9a8bbb2dcda73e6b")  
}

> db.Employee.insertOne({Name:{Fname:"Sonal",Mname:"M"},Age:35,Salary:75000,Designation:"Engineer",Role:["Manager" ]})  
{  
"acknowledged" : true,  
"insertedId" : ObjectId("629599099a8bbb2dcda73e6c")  
}

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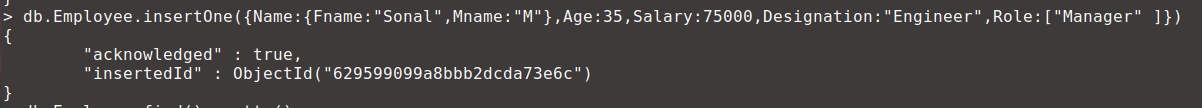
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Displaying the records

> db.Employee.find().pretty()  
{  
"\_id" : ObjectId("629591d49a8bbb2dcda73e5e"),  
"Name" : {  
"Fname" : "Soni",  
"Mname" : "A",  
"Lname" : ""  
},  
"Age" : 25,  
"Salary" : 75000,  
"Designation" : "Software Developer",  
"Role" : [  
"tester",  
"UI designer"  
]  
}  
{  
"\_id" : ObjectId("6295938a9a8bbb2dcda73e5f"),  
"Name" : {  
"Fname" : "Sonal",  
"Mname" : "M",  
"Lname" : "Shetty"  
},  
"Age" : 26,  
"Salary" : 75000,  
"Designation" : "Manager",  
"Role" : [  
"team lead",  
"Manager"  
]  
}  
{  
"\_id" : ObjectId("629593e29a8bbb2dcda73e60"),  
"Name" : {  
"Fname" : "Anuradha",  
"Mname" : "M",  
"Lname" : "Shetty"  
},  
"Age" : 30,  
"Salary" : 25000,  
"Designation" : "tester",  
"Role" : [  
"tester"  
]  
}  
{  
"\_id" : ObjectId("6295941b9a8bbb2dcda73e61"),  
"Name" : {  
"Fname" : "Mohan",  
"Mname" : "K",  
"Lname" : "K"  
},  
"Age" : 35,  
"Salary" : 55000,  
"Designation" : "team lead",  
"Role" : [  
"UI Designer"  
]  
}  
{  
"\_id" : ObjectId("6295949b9a8bbb2dcda73e62"),  
"Name" : {  
"Fname" : "Kirthan",  
"Mname" : "M",  
"Lname" : "Shetty"  
},  
"Age" : 22,  
"Salary" : 60000,  
"Designation" : "team lead",  
"Role" : [  
"software developer"  
]  
}  
{  
"\_id" : ObjectId("629594ed9a8bbb2dcda73e63"),  
"Name" : {  
"Fname" : "Vennela",  
"Mname" : "N"  
},  
"Age" : 24,  
"Salary" : 40000,  
"Designation" : "ui designer",  
"Role" : [  
"tester"  
]  
}  
{  
"\_id" : ObjectId("629595679a8bbb2dcda73e64"),  
"Name" : {  
"Fname" : "Vinay",  
"Mname" : "Reddy",  
"Lname" : "P"  
},  
"Age" : 30,  
"Salary" : 20000,  
"Designation" : "tester",  
"Role" : [  
"tester"  
]  
}  
{  
"\_id" : ObjectId("629595ce9a8bbb2dcda73e65"),  
"Name" : {  
"Fname" : "Vignesh",  
"Mname" : "M",  
"Lname" : "G"  
},  
"Age" : 40,  
"Salary" : 60000,  
"Designation" : "software developer",  
"Role" : [  
"tester"  
]  
}  
{  
"\_id" : ObjectId("629596599a8bbb2dcda73e66"),  
"Name" : {  
"Fname" : "Punith",  
"Mname" : "S"  
},  
"Age" : 35,  
"Salary" : 15000,  
"Designation" : "team leader",  
"Role" : [  
"software developer"  
]  
}  
{  
"\_id" : ObjectId("6295971a9a8bbb2dcda73e67"),  
"Name" : {  
"Fname" : "Anusha",  
"Mname" : "Kumar"  
},  
"Age" : 39,  
"Salary" : 21000,  
"Designation" : "scientist",  
"Role" : [  
"tester"  
]  
}  
{  
"\_id" : ObjectId("629597519a8bbb2dcda73e68"),  
"Name" : {  
"Fname" : "Rajesh",  
"Mname" : "Kumar"  
},  
"Age" : 35,  
"Salary" : 40000,  
"Designation" : "scientist",  
"Role" : [  
"ui designer"  
]  
}  
{  
"\_id" : ObjectId("629597de9a8bbb2dcda73e69"),  
"Name" : {  
"Fname" : "Rekha",  
"Mname" : "S"  
},  
"Age" : 33,  
"Salary" : 55650,  
"Designation" : "Engineer",  
"Role" : [  
"team leader"  
]  
}  
{  
"\_id" : ObjectId("629598489a8bbb2dcda73e6a"),  
"Name" : {  
"Fname" : "Jahnavi",  
"Mname" : "S"  
},  
"Age" : 30,  
"Salary" : 34450,  
"Designation" : "software developer",  
"Role" : [  
"team leader"  
]  
}  
{  
"\_id" : ObjectId("629598ae9a8bbb2dcda73e6b"),  
"Name" : {  
"Fname" : "Prathap",  
"Mname" : "K"  
},  
"Age" : 35,  
"Salary" : 75000,  
"Designation" : "Engineer",  
"Role" : [  
"Manager"  
]  
}  
{  
"\_id" : ObjectId("629599099a8bbb2dcda73e6c"),  
"Name" : {  
"Fname" : "Sonal",  
"Mname" : "M"  
},  
"Age" : 35,  
"Salary" : 75000,  
"Designation" : "Engineer",  
"Role" : [  
"Manager"  
]  
}

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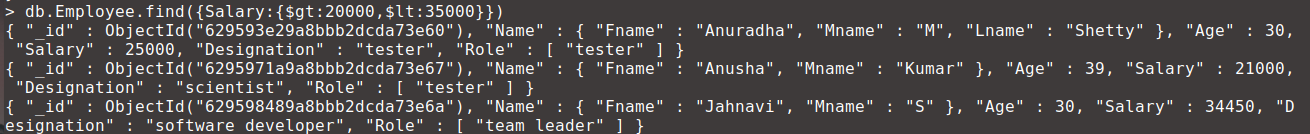
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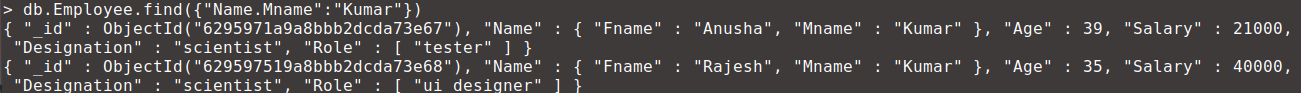
QUERIES

**2. List all the records having salary in the range of 20000 – 35000**

> db.Employee.find({Salary:{$gt:20000,$lt:35000}})  
{ "\_id" : ObjectId("629593e29a8bbb2dcda73e60"), "Name" : { "Fname" : "Anuradha", "Mname" : "M", "Lname" : "Shetty" }, "Age" : 30, "Salary" : 25000, "Designation" : "tester", "Role" : [ "tester" ] }  
{ "\_id" : ObjectId("6295971a9a8bbb2dcda73e67"), "Name" : { "Fname" : "Anusha", "Mname" : "Kumar" }, "Age" : 39, "Salary" : 21000, "Designation" : "scientist", "Role" : [ "tester" ] }  
{ "\_id" : ObjectId("629598489a8bbb2dcda73e6a"), "Name" : { "Fname" : "Jahnavi", "Mname" : "S" }, "Age" : 30, "Salary" : 34450, "Designation" : "software developer", "Role" : [ "team leader" ] }

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

> db.Employee.find({"Name.Mname":"Kumar"})  
{ "\_id" : ObjectId("6295971a9a8bbb2dcda73e67"), "Name" : { "Fname" : "Anusha", "Mname" : "Kumar" }, "Age" : 39, "Salary" : 21000, "Designation" : "scientist", "Role" : [ "tester" ] }  
{ "\_id" : ObjectId("629597519a8bbb2dcda73e68"), "Name" : { "Fname" : "Rajesh", "Mname" : "Kumar" }, "Age" : 35, "Salary" : 40000, "Designation" : "scientist", "Role" : [ "ui designer" ] }



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

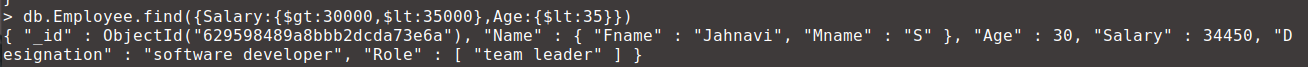
> db.Employee.find({"Role":"Manager"}).count()  
3



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

**30000-35000**

> db.Employee.find({Salary:{$gt:30000,$lt:35000},Age:{$lt:35}})  
{ "\_id" : ObjectId("629598489a8bbb2dcda73e6a"), "Name" : { "Fname" : "Jahnavi", "Mname" : "S" }, "Age" : 30, "Salary" : 34450, "Designation" : "software developer", "Role" : [ "team leader" ] }



**6. Delete an Employee whose "Firstname" is "Rajesh" and having the**

**designation as "Scientist"**

> db.Employee.deleteOne({"Name.Fname":"Rajesh"},{"Designation":"scientist"})  
{ "acknowledged" : true, "deletedCount" : 1 }



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

**55650 INR**

> db.Employee.updateMany({Role:"team leader"},{$set:{Salary:55650}})  
{ "acknowledged" : true, "matchedCount" : 2, "modifiedCount" : 1 }



**8. Group all the Employees by their age(common age should be there)**

**and calculate the average salary obtained in the each group**

> db.Employee.aggregate([{$group:{\_id:"$Age",total:{$avg:"$Salary"}}}])  
{ "\_id" : 35, "total" : 52000 }  
{ "\_id" : 26, "total" : 75000 }  
{ "\_id" : 33, "total" : 55650 }  
{ "\_id" : 30, "total" : 26483.333333333332 }  
{ "\_id" : 22, "total" : 60000 }  
{ "\_id" : 39, "total" : 21000 }  
{ "\_id" : 25, "total" : 75000 }  
{ "\_id" : 24, "total" : 40000 }  
{ "\_id" : 40, "total" : 60000 }

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**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.Employee.mapReduce(mapfunction,reducefunction,{'out':'result'})  
{ "result" : "result", "ok" : 1 }  
> db.result.find()  
{ "\_id" : 40, "value" : 60000 }  
{ "\_id" : 35, "value" : 55000 }  
{ "\_id" : 26, "value" : 75000 }  
{ "\_id" : 33, "value" : 55650 }  
{ "\_id" : 30, "value" : 33550 }  
{ "\_id" : 22, "value" : 60000 }  
{ "\_id" : 39, "value" : 21000 }  
{ "\_id" : 25, "value" : 75000 }  
{ "\_id" : 24, "value" : 40000 }  
Text

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