# Data Centric RAD

## Lab 5 MongoDB

### Setup

1. Open the Windows command prompt and navigate to the following folder:

C:\Program Files\MongoDB\Server\3.4\bin

1. Start the mongo daemon as follows:

mongod

1. In a different Windows command prompt window navigate to the following folder:

C:\Program Files\MongoDB\Server\3.4\bin

1. Start mongoDB as follows:

mongo

### Exercises

1. Create a collection called users2 with the following data:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **\_id** | **fname** | **surname** | **age** | **email** | **sex** | **title** | **car** |
| 100 | John | Smith | 35 | jsmith@gmail.com | M | Mr | Reg: 131-G-101  Fuel:petrol |
| 101 | Sean | Murphy | 22 | [seanmurph@yahoo.com](mailto:seanmurph@yahoo.com) | M | Mr | Reg: 172-G-200  Electric:true |
| 102 | Aine | Browne | 23 | abrowne@gmail.com | F | Ms |  |
| 103 | Alan | Murphy | 25 | [murpha@hotmail.com](mailto:murpha@hotmail.com) | M |  |  |
| 104 | Sarah | Doyle | 24 | sarah@gmail.com | F |  | Reg:141-MO-123  Fuel:diesel |
| 105 | Bill | Mulligan | 20 | [billy123@gmail.com](mailto:billy123@gmail.com) | M |  | Reg: 12-RN-445  Fuel:Petrol |
| 106 | Shane | Kelly | 25 | sk998@yahoo.com | M | Mr | Reg: 11-WH-7783  Fuel:petrol |
| 107 | Will | Doyle | 20 | doyler123@yahoo.com | M | Mr |  |

db.users2.save({\_id:100, fname:"John", surname:"Smith", age:35, email:"jsmith@gmail.com", sex:"M", title:"Mr", car:{reg:"131-G-101", fuel:

"petrol"}})

db.users2.save({\_id:101, fname:"Sean", surname:"Murphy", age:22, email:"seanmurph@yahoo.com", sex:"M", title:"Mr", car:{reg:"172-G-200", electric:true}})

db.users2.save({\_id:102, fname:"Aine", surname:"Browne", age:23, email:"abrowne@gmail.com", sex:"F", title:"Ms"})

db.users2.save({\_id:103, fname:"Alan", surname:"Murphy", age:25, email:"murpha@hotmail.com", sex:"M"})

db.users2.save({\_id:104, fname:"Sarah", surname:"Doyle", age:24, email:"sarah@gmail.com", sex:"F", car:{reg:"141-MO-123",fuel:"diesel"}})

db.users2.save({\_id:105, fname:"Bill", surname:"Mulligan", age:20, email:"billy123@gmail.com", sex:"M", car:{reg:"12-RN-445",fuel:"petrol"

}})

db.users2.save({\_id:106, fname:"Shane", surname:"Kelly", age:25, email:"sk998@yahoo.com", sex:"M", title:"Mr", car:{reg:"11-WH-7783",fuel:

"petrol"}})

db.users2.save({\_id:107, fname:"Will", surname:"Doyle", age:20, email:"doyler123@yahoo.com", sex:"M", title:"Mr"})

1. Give the mongodb command to show the indexes on the users2 collection.

db.users2.getIndexes()

1. Give the mongodb command to create an ascending index on the *age* attribute.

db.users2.createIndex({age:1})

1. Give the mongodb command to create a descending index on the *surname* attribute.

db.users2.createIndex({surname:-1})

1. Give the mongodb command to create a descending index on the *age* attribute.

db.users2.createIndex({age:-1})

1. Give the mongodb command to remove the ascending index on the *age* attribute.

db.users2.dropIndex("age\_1")

*or*

db.users2.dropIndex({age:1})

1. Give the mongodb command to show **only** the *fname* and *surname* attributes of users who don’t have a car.

db.users2.find({car:{$exists:false}},{\_id:0,fname:1,surname:1})

1. Give the mongodb command to show **only** the *fname*, *surname, reg* and *fuel* attributes of users who have a car.

db.users2.find({car:{$exists:true}},{\_id:0,fname:1,surname:1, "car.reg":1, "car.fuel":1})

1. Give the mongodb command to list details of all users (except for their car). The list should be in sorted by name.

db.users2.find({},{car:0}).sort({surname:1,fname:1})

1. Give the mongodb command to list **only** details of all cars. The list should be in sorted by car registration.

db.users2.find({car:{$exists:true}},{\_id:0,car:1}).sort({"car.reg":1})

1. Give the mongodb command to list the documents that have an *electric* attribute in the *car* attribute.

db.users2.find({"car.electric":{$exists:true}})

1. Give the mongodb command to list only the *fname* and *surname* attributes of users who have a *petrol car.*

db.users2.find({"car.fuel":"petrol"},{\_id:0, fname:1, surname:1})

1. Give the mongodb command to list/show only the fname and surname attributes of users who have a petrol car.

db.users2.find({"car.fuel":"petrol"},{\_id:0, fname:1, surname:1})

1. Give the mongodb command to delete all females between the ages of 21 and 24 inclusive.

db.users2.deleteMany({$and: [{age:{$gt:20}}, {age:{$lt:25}}, {sex:"F"}]})

1. Give the mongodb command to delete the *fuel* attribute from all documents.

db.users2.update({},{$unset:{"car.fuel":0}},{multi:true})

1. Give the mongodb command to give everyone who owns a car the title of *Owner*.

db.users2.update({car: {$exists:true}},{$set: {title:"Owner"}},{multi:true})

1. Give the mongodb command to increase the age of all Males who own a car by 10 years.

db.users2.update({$and: [{sex:"M"}, {car: {$exists:true}}]},{$inc:{age:10}},{multi:true})