PyMongo

June 30, 2017

In [209]:
```
# Import pymongo Package into python
from pymongo import MongoClient
from bson.objectid import ObjectId
```

In [210]:
```
# Create Connection Client for DB "emr"

# Set Host and Port Number
client = MongoClient('mongodb://decart:uofubmi@ds133582.mlab.com:33582/emr')

# Get DB handle for "emr"
db = client.emr
```

In [211]:
```
# Display Number of Documents in patReg Collection
db.patReg.count()
```

Out[211]: 2

In [212]:
```
# Uncomment these two lines to Delete All Documents
result = db.patReg.delete_many({})
result.deleted_count
```

Out[212]: 2

In [213]:
```
# Query Count
print("Count="+str(db.patReg.count()) )
# List ALL Documents
list(db.patReg.find())
```

```
Count=0
```

Out[213]: []

In [214]:
```
# Insert 3 Seed Patients
db.patReg.insert_many(
[
        {
          "mrn": 123,
```

```
                "name": "John",
                "dob": "2007-01-31",
                "age": 10,
                "gender": "Male",
                "address": {
                        "street": "Sesame Street",
                        "zip": 84112
                }
            }
        ,
            {
                    "mrn": 123,
                    "name": "Mary",
                    "dob": "1962-01-31",
                    "age": 25,
                    "gender": "Female",
                    "address": {
                            "street": "Sesame Street",
                            "zip": 84112
                    }
            }
        ,
            {
                    "mrn": 123,
                    "name": "Pete",
                    "dob": "1976-01-31",
                    "age": 55,
                    "gender": "Male",
                    "address": {
                            "street": "Sesame Street",
                            "zip": 84112
                    }
            }
        ]
        )
```

Out[214]: <pymongo.results.InsertManyResult at 0x7f30c855ac60>

In [215]:
```
# Display Number of Documents in Collection
db.patReg.count()
```

Out[215]: 3

In [216]:
```
# Update one document
result = db.patReg.update_one(
  {"name": "Mary"},
  {
    "$set": {"address.street": "1300 East Street"},
    "$currentDate": {"lastModified": True}
```

```
  }
);
```

In [217]:
```
# Print Number of Updated Documents
result.matched_count
```

Out[217]:
```
1
```

In [218]:
```
# Verify Mary's Record
list(db.patReg.find({"name": "Mary"}))
```

Out[218]:
```
[{'_id': ObjectId('59516eed13e6b8004f011ab6'),
  'address': {'street': '1300 East Street', 'zip': 84112},
  'age': 25,
  'dob': '1962-01-31',
  'gender': 'Female',
  'lastModified': datetime.datetime(2017, 6, 26, 20, 30, 37, 425000),
  'mrn': 123,
  'name': 'Mary'}]
```

In [219]:
```
# Setup the Aggregation Pipeline to get Average Age Across ALL Documents
pipeline = [
  {'$group': {
     '_id': 'null', # Group by Nothing, Since I want Average for ALL Documents
     'ageAvg': {'$avg': '$age'} # Apply Average Function to the age Field
     }
  }
]
```

In [220]:
```
# Run the Aggregation
db.command('aggregate', 'patReg', pipeline=pipeline)
```

Out[220]:
```
{'ok': 1.0, 'result': [{'_id': 'null', 'ageAvg': 30.0}], 'waitedMS': 0}
```

In [221]:
```
# Show Current Document Count
db.patReg.count()
```

Out[221]:
```
3
```

In [222]:
```
# Delete One Document by ObjectId
#result = db.patReg.delete_one({'_id': ObjectId('594d693713e6b8004f011a9f')})
result = db.patReg.delete_one({'name': 'Pete'})
```

In [223]:
```
# Query Count
db.patReg.count()
```

Out[223]:
```
2
```

In [224]:
```
# Display ALL Documents
list(db.patReg.find({}))
```

```
Out[224]: [{'_id': ObjectId('59516eed13e6b8004f011ab5'),
             'address': {'street': 'Sesame Street', 'zip': 84112},
             'age': 10,
             'dob': '2007-01-31',
             'gender': 'Male',
             'mrn': 123,
             'name': 'John'},
            {'_id': ObjectId('59516eed13e6b8004f011ab6'),
             'address': {'street': '1300 East Street', 'zip': 84112},
             'age': 25,
             'dob': '1962-01-31',
             'gender': 'Female',
             'lastModified': datetime.datetime(2017, 6, 26, 20, 30, 37, 425000),
             'mrn': 123,
             'name': 'Mary'}]

In [225]: print("Hooray! We're Done!")

Hooray! We're Done!
```