PyMongo

July 10, 2017

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In [4]: # Import pymongo Package into python
        from pymongo import MongoClient
        from bson.objectid import ObjectId
```

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In [5]: # Create Connection Client for DB "emr"

        # Set Host and Port Number
        # ***** IMPORTANT NOTE:  Replace with your own connection String from mLab! *****
        client = MongoClient('mongodb://decart:uofubmi@ds133582.mlab.com:33582/emr')

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

```
In [6]: # Display Number of Documents in patReg Collection
        db.patReg.count()
```

```
Out[6]: 2
```

```
In [7]: # Uncomment these two lines to Delete All Documents
        result = db.patReg.delete_many({})
        result.deleted_count
```

```
Out[7]: 2
```

```
In [8]: # Query Count
        print("Count="+str(db.patReg.count()) )
        # List ALL Documents
        list(db.patReg.find())
```

```
Count=0
```

```
Out[8]: []
```

```
In [9]: # 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[9]: <pymongo.results.InsertManyResult at 0x7efd58089480>

In [10]: # Display Number of Documents in Collection
         db.patReg.count()

Out[10]: 3

In [11]: # Update one document
         result = db.patReg.update_one(
           {"name": "Mary"},
           {
             "$set": {"address.street": "1300 East Street"},
             "$currentDate": {"lastModified": True}
           }
         );

In [12]: # Print Number of Updated Documents
         result.matched_count

Out[12]: 1

In [13]: # Verify Mary's Record
         list(db.patReg.find({"name": "Mary"}))

Out[13]: [{'_id': ObjectId('596409c25979620d00398674'),
           'address': {'street': '1300 East Street', 'zip': 84112},
           'age': 25,
           'dob': '1962-01-31',
           'gender': 'Female',
           'lastModified': datetime.datetime(2017, 7, 10, 23, 12, 2, 914000),
           'mrn': 123,
           'name': 'Mary'}]

In [14]: # 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 [15]: # Run the Aggregation
         db.command('aggregate', 'patReg', pipeline=pipeline)

Out[15]: {'ok': 1.0, 'result': [{'_id': 'null', 'ageAvg': 30.0}], 'waitedMS': 0}

In [16]: # Show Current Document Count
         db.patReg.count()

Out[16]: 3

In [17]: # Delete One Document by ObjectId
         #result = db.patReg.delete_one({'_id': ObjectId('594d693713e6b8004f011a9f')})
         result = db.patReg.delete_one({'name': 'Pete'})

In [18]: # Query Count
         db.patReg.count()

Out[18]: 2

In [19]: # Display ALL Documents
         list(db.patReg.find({}))
```

```
Out[19]: [{'_id': ObjectId('596409c25979620d00398673'),
            'address': {'street': 'Sesame Street', 'zip': 84112},
            'age': 10,
            'dob': '2007-01-31',
            'gender': 'Male',
            'mrn': 123,
            'name': 'John'},
           {'_id': ObjectId('596409c25979620d00398674'),
            'address': {'street': '1300 East Street', 'zip': 84112},
            'age': 25,
            'dob': '1962-01-31',
            'gender': 'Female',
            'lastModified': datetime.datetime(2017, 7, 10, 23, 12, 2, 914000),
            'mrn': 123,
            'name': 'Mary'}]
```

```
In [20]: print("Hooray! We're Done!")
```

```
Hooray! We're Done!
```