Lesson5handson

Alberta "Albi" Kovatcheva

Requirements

For this hands on, you will be working through several real-life scenarios within new collections. This Hands-On is structured into two parts, and each part will ask you to run multiple queries. After each query, please take a screenshot and add it to a text document (or an equivalent) and name this file Lesson5handson. This way, you will be able to submit your answers to each part all at once.

Lesson5handson
Alberta "Albi" Kovatcheva

Part 1

You have just been hired at a startup company. They currently only have ten employees, but they need to be included in the database. So far, they have only been tracked within an excel sheet. Your boss would like you to create a new collection in Atlas named employees. Look at the following data and the notes listed below before inserting any data:

Name	Birthday	Address	City	State	Position Name	Remote	Full Time
Alison Davidson	04/05/75	874 W. Oak Place	Gary	Indiana	Customer Support	Yes	Yes
Henry Chapelton	09/29/80	9324 E. Vista Way	Tempe	Arizona	Customer Support	No	Yes
Alex Miller	11/22/83	244 Price Road	Mesa	Arizona	Customer Support	No	No
Carly Nielson	08/04/87	678 W. Westward Road	Phoenix	Arizona	Office Manager	No	Yes
Tom Talbot	12/30/89	12 Oakland Way	Chandler	Arizona	Inventory Manager	No	Yes
Mary Crawley	07/06/80	1010 Granite Way	Charlotte	North Carolina	Human Resources	Yes	Yes
Daisy Baxter	09/09/87	990 E. 84th St.	Tempe	Arizona	CEO	No	Yes
William Coyle	10/11/91	944 W. 16th St.	Phoenix	Arizona	Intern	No	No
Edith Bates	07/28/90	7 E. 20th Pl.	Chandler	Arizona	Customer Support	No	Yes
Gwen Harding	10/11/86	234 W. 48th. St.	Phoenix	Arizona	Office Assistent	No	Yes

Notes:
- The Birthday field should have a data type of Date.
- The Position Name, Remote, and Full Time fields should be within an embedded document called position.
- Remote and Full Time fields should have boolean values.

Lesson5handson

Alberta "Albi" Kovatcheva

Query:
```
db.employees.insertMany([
  {
    Name: "Alison Davidson",
    Birthday: "04/05/1975",
    Address: "874 W. Oak Place",
    City: "Gary",
    State: "Indiana",
    Position: {PositionName: "Customer Support", Remote: true, FullTime: true}
  },
  {
    Name: "Henry Chapelton",
    Birthday: "09/29/1980",
    Address: "9324 E. Vista Way",
    City: "Tempe",
    State: "Arizona",
    Position: {PositionName: "Customer Support", Remote: false, FullTime: true}
  },
  {
    Name: "Alex Miller",
    Birthday: "11/22/1983",
    Address: "244 Price Road",
    City: "Mesa",
    State: "Arizona",
    Position: {PositionName: "Customer Support", Remote: false, FullTime: false}
  },
  {
    Name: "Carly Nielson",
    Birthday: "08/04/1987",
    Address: "678 W. Westward Road",
    City: "Phoenix",
    State: "Arizona",
    Position: {PositionName: "Office Manager", Remote: false, FullTime: true}
  },
  {
    Name: "Tom Talbot",
    Birthday: "12/30/1989",
    Address: "12 Oakland Way",
    City: "Chandler",
    State: "Arizona",
    Position: {PositionName: "Inventory Manager", Remote: false, FullTime: true}
  },
  {
    Name: "Mary Crawley",
    Birthday: "07/06/1980",
```

```
      Address: "1010 Granite Way",
      City: "Charlotte",
      State: "North Carolina",
      Position: {PositionName: "Human Resources", Remote: true, FullTime: true}
  },
  {
      Name: "Daisy Baxter",
      Birthday: "09/09/1987",
      Address: "990 E. 84th St.",
      City: "Tempe",
      State: "Arizona",
      Position: {PositionName: "CEO", Remote: false, FullTime: true}
  },
  {
      Name: "William Coyle",
      Birthday: "10/11/1991",
      Address: "944 W. 16th St.",
      City: "Phoenix",
      State: "Arizona",
      Position: {PositionName: "Intern", Remote: false, FullTime: false}
  },
  {
      Name: "Edith Bates",
      Birthday: "07/28/1990",
      Address: "7 E. 20th Pl.",
      City: "Chandler",
      State: "Arizona",
      Position: {PositionName: "Customer Support", Remote: false, FullTime: true}
  },
  {
      Name: "Gwen Harding",
      Birthday: "10/11/1986",
      Address: "234 W. 48th. St.",
      City: "Phoenix",
      State: "Arizona",
      Position: {PositionName: "Office Assistant", Remote: false, FullTime: true}
  }
])
```

Results:

```
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("60f3312e9545a764bb42a7a2"),
                ObjectId("60f3312e9545a764bb42a7a3"),
                ObjectId("60f3312e9545a764bb42a7a4"),
                ObjectId("60f3312e9545a764bb42a7a5"),
                ObjectId("60f3312e9545a764bb42a7a6"),
                ObjectId("60f3312e9545a764bb42a7a7"),
                ObjectId("60f3312e9545a764bb42a7a8"),
                ObjectId("60f3312e9545a764bb42a7a9"),
                ObjectId("60f3312e9545a764bb42a7aa"),
                ObjectId("60f3312e9545a764bb42a7ab")
        ]
}
```

It's been about a month since you have inserted all employees into the database. There have been a couple of changes to the company. The CEO decided that he no longer wants remote employees, so they have transferred the remote employees and they are now living in Arizona. Alison Davidson now lives at 777 E. 1st St. # 120 Tempe, AZ and Mary Crawley now lives at 8322 W. Vista Pl. Scottsdale, AZ. Since all employees now all live in Arizona, there is no need to have a field named "state" within this collection, so please remove it. Lastly, they would like very efficient searching using the "position" field (remember that field includes a document with three other fields).

Queries:
Query remote employees:
db.employees.find({'Position.Remote': true}).pretty()

Update Employee Addresses:
db.employees.updateOne(
    {Name: "Alison Davidson"},
    {$set: {Address: "777 E. 1st St. # 120", City: "Tempe", State: "Arizona"}}
)

db.employees.updateOne(
    {Name: "Mary Crawley"},
    {$set: {Address: "8322 W. Vista Pl.", City: " Scottsdale", State: "Arizona"}}
)

Remove the 'State' field:
db.employees.updateMany(
    {},
    {$set: {'Position.Remote': false}}, {$set: {State: ""}}

)

Index:
db.employees.createIndex({Position: 1})

Results:
* Final MongoDB Atlas output in appendix.

```
MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.employees.find({'Position.Remote': true}).pretty()
{
        "_id" : ObjectId("60f324f02e745f0d29fc5424"),
        "Name" : "Alison Davidson",
        "Birthday" : "04/05/1975",
        "Address" : "874 W. Oak Place",
        "City" : "Gary",
        "State" : "Indiana",
        "Position" : {
                "PositionName" : "Customer Support",
                "Remote" : true,
                "FullTime" : true
        }
}
{
        "_id" : ObjectId("60f324f02e745f0d29fc5429"),
        "Name" : "Mary Crawley",
        "Birthday" : "07/06/1980",
        "Address" : "1010 Granite Way",
        "City" : "Charlotte",
        "State" : "North Carolina",
        "Position" : {
                "PositionName" : "Human Resources",
                "Remote" : true,
                "FullTime" : true
        }
}
```

```
MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.employees.updateOne(
...      {Name: "Alison Davidson"},
...      {$set: {Address: "777 E. 1st St. # 120", City: "Tempe", State: "Arizona"}}
...      )
```

```
MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.employees.updateOne(
...      {Name: "Mary Crawley"},
...      {$set: {Address: "8322 W. Vista Pl.", City: " Scottsdale", State: "Arizona"}}
...      )
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
```

```
MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.employees.updateMany(
...      {},
...      {$set: {'Position.Remote': false}}, {$set: {State: ""}}
...      )
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.employees.createIndex({Position: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "commitQuorum" : "votingMembers",
        "ok" : 1,
        "$clusterTime" : {
                "clusterTime" : Timestamp(1626551770, 10),
                "signature" : {
                        "hash" : BinData(0,"wKq5gWsX/pNAFxrYAeb1V40+coQ="),
                        "keyId" : NumberLong("6929556022696607745")
                }
        },
        "operationTime" : Timestamp(1626551770, 10)
}
```

Lesson5handson
Alberta "Albi" Kovatcheva

Part 2

You are currently working for a company who wants to build an app similar to Spotify. Below is a list of data for different songs. Please insert this data into a new collection named songs.

SongId	Title	Artist	Album	ReleaseYear
1	Girls Just Want To Have Fun	Cyndi Lauper	She's So Unusual	1983
2	Hips Don't Lie	Shakira feat. Wyclef Jean	Oral Fixation Vol. 2	2006
3	Poker Face	Lady Gaga	The Fame	2008
4	Wannabe	Spice Girls	Spice	1996
5	California Gurls	Katy Perry feat. Snoop Dogg	Teenage Dream	2010
6	Bye, Bye, Bye	NSYNC	No Strings Attached	2000
7	I Will Always Love You	Whitney Houston	I Will Always Love You: The Best of Whitney Houston	2012
8	Baby One More Time	Britney Spears	Baby One More Time	1999
9	Vogue	Madonna	I'm Breathless	1990
10	Rolling in the Deep	Adele	21	2011
11	1234	Feist	The Reminder	2007
12	Elastic Heart	Sia	The Hunger Games: Catching Fire Soundtrack	2015
13	Oops! I Did It Again	Britney Spears	Oops! I Did It Again	2000
14	Bad Romance	Lady Gaga	The Fame Monster	2009
15	Lose Control	Missy Elliot	The Cookbook	2005
16	U Can't Touch This	MC Hammer	Please Hammer, Don't Hurt 'Em	1990
17	Thriller	Michael Jackson	Thriller	1982
18	Single Ladies	Beyonce	I am... Sasha Fierce	2008
19	Rhythm Nation	Janet Jackson	Janet Jackson's Rhythm Nation 1814	1989

Notes:
- The artist, album, and releaseYear fields should be an embedded document named details.
- Be sure that the songId and releaseYear fields have a type of number.

Alberta "Albi" Kovatcheva

Query:

```
db.songs.insertMany([
    {
        songId: 1,
        title: "Girls Just Want To Have Fun",
        details: {artist: "Cyndi Lauper", album: "She's So Unusual", releaseYear: 1983}

    },
    {
        songId: 2,
        title: "Hips Don't Lie",
        details: {artist: "Shakira feat. Wyclef Jean", album: "Oral Fixation Vol. 2", releaseYear: 2006}
    },
    {
        songId: 3,
        title: "Poker Face",
        details: {artist: "Lady Gaga", album: "The Fame", releaseYear: 2008}
    },
    {
        songId: 4,
        title: "Wannabe",
        details: {artist: "Spice Girls", album: "Spice", releaseYear: 1996}
    },
    {
        songId: 5,
        title: "California Gurls",
        details: {artist: "Katy Perry feat. Snoop Dogg", album: "Teenage Dream", releaseYear: 2010}
    },
    {
        songId: 6,
        title: "Bye, Bye, Bye",
        details: {artist: "NSYNC", album: "No Strings Attached", releaseYear: 2000}
    },
    {
        songId: 7,
        title: "I Will Always Love You",
        details: {artist: "Whitney Houston", album: "I Will Always Love You: The Best of Whitney Houston",
releaseYear: 2012}
    },
    {
        songId: 8,
        title: "Baby One More Time",
        details: {artist: "Britney Spears", album: "Baby One More Time", releaseYear: 1999}
    },
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
{
    songId: 9,
    title: "Vogue",
    details: {artist: "Madonna", album: "I'm Breathless", releaseYear: 1990}
},
{
    songId: 10,
    title: "Rolling in the Deep",
    details: {artist: "Adele", album: "21", releaseYear: 2011}
},
{
    songId: 11,
    title: "1234",
    details: {artist: "Feist", album: "The Reminder", releaseYear: 2007}
},
{
    songId: 12,
    title: "Elastic Heart",
    details: {artist: "Sia", album: "The Hunger Games: Catching Fire Soundtrack", releaseYear: 2015}
},
{
    songId: 13,
    title: "Oops! I Did It Again",
    details: {artist: "Britney Spears", album: "Oops! I Did It Again", releaseYear: 2000}
},
{
    songId: 14,
    title: "Bad Romance",
    details: {artist: "Lady Gaga", album: "The Fame Monster", releaseYear: 2009}
},
{
    songId: 15,
    title: "Lose Control",
    details: {artist: "Missy Elliot", album: "The Cookbook", releaseYear: 2005}
},
{
    songId: 16,
    title: "U Can't Touch This",
    details: {artist: "MC Hammer", album: "Please Hammer, Don't Hurt 'Em", releaseYear: 1990}
},
{
    songId: 17,
    title: "Thriller",
    details: {artist: "Michael Jackson", album: "Thriller", releaseYear: 1982}
},
```

```
    {
      songId: 18,
      title: "Single Ladies",
      details: {artist: "Beyonce", album: "I am... Sasha Fierce", releaseYear: 2008}
    },
    {
      songId: 19,
      title: "Rhythm Nation",
      details: {artist: "Janet Jackson", album: "Janet Jackson's Rhythm Nation 1814", releaseYear: 1989}
    }
])
```

Results:

```
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("60f2fbd37c3bd35308c4936d"),
                ObjectId("60f2fbd37c3bd35308c4936e"),
                ObjectId("60f2fbd37c3bd35308c4936f"),
                ObjectId("60f2fbd37c3bd35308c49370"),
                ObjectId("60f2fbd37c3bd35308c49371"),
                ObjectId("60f2fbd37c3bd35308c49372"),
                ObjectId("60f2fbd37c3bd35308c49373"),
                ObjectId("60f2fbd37c3bd35308c49374"),
                ObjectId("60f2fbd37c3bd35308c49375"),
                ObjectId("60f2fbd37c3bd35308c49376"),
                ObjectId("60f2fbd37c3bd35308c49377"),
                ObjectId("60f2fbd37c3bd35308c49378"),
                ObjectId("60f2fbd37c3bd35308c49379"),
                ObjectId("60f2fbd37c3bd35308c4937a"),
                ObjectId("60f2fbd37c3bd35308c4937b"),
                ObjectId("60f2fbd37c3bd35308c4937c"),
                ObjectId("60f2fbd37c3bd35308c4937d"),
                ObjectId("60f2fbd37c3bd35308c4937e"),
                ObjectId("60f2fbd37c3bd35308c4937f")
        ]
}
```

Next, your company has run into some things they would like to be changed within the database:
- The title field needs to be renamed to songTitle, so it is clearer to the developers working with the data.
- They would like to have the artist field to be outside the details document but the album and releaseYear should stay within that document.

Lesson5handson

Alberta "Albi" Kovatcheva

Queries:

db.songs.updateMany({}, {$rename: {"title": "songTitle"}})
db.songs.updateMany({}, {$rename: {"details.artist": "artist"}})

Results:

* Final MongoDB Atlas output in appendix.

```
MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.songs.updateMany({}, {$rename: {"title": "songTitle"}})
{ "acknowledged" : true, "matchedCount" : 19, "modifiedCount" : 19 }


MongoDB Enterprise atlas-y1r8u5-shard-0:PRIMARY> db.songs.updateMany({}, {$rename: {"details.artist": "artist"}})
{ "acknowledged" : true, "matchedCount" : 19, "modifiedCount" : 19 }
```

Lesson5handson

Alberta "Albi" Kovatcheva

Part 1 Final Output

QUERY RESULTS **1-10 OF 10**

```
_id: ObjectId("60f3312e9545a764bb42a7a2")
Name: "Alison Davidson"
Birthday: "04/05/1975"
Address: "777 E. 1st St. # 120"
City: "Tempe"
Position: Object
    PositionName: "Customer Support"
    Remote: false
    FullTime: true
```

```
_id: ObjectId("60f3312e9545a764bb42a7a3")
Name: "Henry Chapelton"
Birthday: "09/29/1980"
Address: "9324 E. Vista Way"
City: "Tempe"
Position: Object
    PositionName: "Customer Support"
    Remote: false
    FullTime: true
```

```
_id: ObjectId("60f3312e9545a764bb42a7a4")
Name: "Alex Miller"
Birthday: "11/22/1983"
Address: "244 Price Road"
City: "Mesa"
Position: Object
    PositionName: "Customer Support"
    Remote: false
    FullTime: false
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
_id: ObjectId("60f3312e9545a764bb42a7a5")
Name: "Carly Nielson"
Birthday: "08/04/1987"
Address: "678 W. Westward Road"
City: "Phoenix"
∨ Position: Object
    PositionName: "Office Manager"
    Remote: false
    FullTime: true


_id: ObjectId("60f3312e9545a764bb42a7a6")
Name: "Tom Talbot"
Birthday: "12/30/1989"
Address: "12 Oakland Way"
City: "Chandler"
∨ Position: Object
    PositionName: "Inventory Manager"
    Remote: false
    FullTime: true


_id: ObjectId("60f3312e9545a764bb42a7a7")
Name: "Mary Crawley"
Birthday: "07/06/1980"
Address: "8322 W. Vista Pl."
City: " Scottsdale"
∨ Position: Object
    PositionName: "Human Resources"
    Remote: false
    FullTime: true
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
_id: ObjectId("60f3312e9545a764bb42a7a8")
Name: "Daisy Baxter"
Birthday: "09/09/1987"
Address: "990 E. 84th St."
City: "Tempe"
∨ Position: Object
    PositionName: "CEO"
    Remote: false
    FullTime: true


_id: ObjectId("60f3312e9545a764bb42a7a9")
Name: "William Coyle"
Birthday: "10/11/1991"
Address: "944 W. 16th St."
City: "Phoenix"
∨ Position: Object
    PositionName: "Intern"
    Remote: false
    FullTime: false


_id: ObjectId("60f3312e9545a764bb42a7aa")
Name: "Edith Bates"
Birthday: "07/28/1990"
Address: "7 E. 20th Pl."
City: "Chandler"
∨ Position: Object
    PositionName: "Customer Support"
    Remote: false
    FullTime: true


_id: ObjectId("60f3312e9545a764bb42a7ab")
Name: "Gwen Harding"
Birthday: "10/11/1986"
Address: "234 W. 48th. St."
City: "Phoenix"
∨ Position: Object
    PositionName: "Office Assistant"
    Remote: false
    FullTime: true
```

Lesson5handson

Alberta "Albi" Kovatcheva

Part 2 Final Output

```
    _id: ObjectId("60f2fbd37c3bd35308c4936d")
    songId: 1
  v details: Object
      album: "She's So Unusual"
      releaseYear: 1983
    songTitle: "Girls Just Want To Have Fun"
    artist: "Cyndi Lauper"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c4936e")
    songId: 2
  v details: Object
      album: "Oral Fixation Vol. 2"
      releaseYear: 2006
    songTitle: "Hips Don't Lie"
    artist: "Shakira feat. Wyclef Jean"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c4936f")
    songId: 3
  v details: Object
      album: "The Fame"
      releaseYear: 2008
    songTitle: "Poker Face"
    artist: "Lady Gaga"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c49370")
    songId: 4
  v details: Object
      album: "Spice"
      releaseYear: 1996
    songTitle: "Wannabe"
    artist: "Spice Girls"
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
_id: ObjectId("60f2fbd37c3bd35308c49371")
songId: 5
v details: Object
    album: "Teenage Dream"
    releaseYear: 2010
songTitle: "California Gurls"
artist: "Katy Perry feat. Snoop Dogg"


_id: ObjectId("60f2fbd37c3bd35308c49372")
songId: 6
v details: Object
    album: "No Strings Attached"
    releaseYear: 2000
songTitle: "Bye, Bye, Bye"
artist: "NSYNC"


_id: ObjectId("60f2fbd37c3bd35308c49373")
songId: 7
v details: Object
    album: "I Will Always Love You: The Best of Whitney Houston"
    releaseYear: 2012
songTitle: "I Will Always Love You"
artist: "Whitney Houston"


_id: ObjectId("60f2fbd37c3bd35308c49374")
songId: 8
v details: Object
    album: "Baby One More Time"
    releaseYear: 1999
songTitle: "Baby One More Time"
artist: "Britney Spears"


_id: ObjectId("60f2fbd37c3bd35308c49375")
songId: 9
v details: Object
    album: "I'm Breathless"
    releaseYear: 1990
songTitle: "Vogue"
artist: "Madonna"
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
    _id: ObjectId("60f2fbd37c3bd35308c49376")
    songId: 10
v details: Object
        album: "21"
        releaseYear: 2011
    songTitle: "Rolling in the Deep"
    artist: "Adele"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c49377")
    songId: 11
v details: Object
        album: "The Reminder"
        releaseYear: 2007
    songTitle: "1234"
    artist: "Feist"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c49378")
    songId: 12
v details: Object
        album: "The Hunger Games: Catching Fire Soundtrack"
        releaseYear: 2015
    songTitle: "Elastic Heart"
    artist: "Sia"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c49379")
    songId: 13
v details: Object
        album: "Oops! I Did It Again"
        releaseYear: 2000
    songTitle: "Oops! I Did It Again"
    artist: "Britney Spears"
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
    _id: ObjectId("60f2fbd37c3bd35308c4937a")
    songId: 14
  v details: Object
        album: "The Fame Monster"
        releaseYear: 2009
    songTitle: "Bad Romance"
    artist: "Lady Gaga"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c4937b")
    songId: 15
  v details: Object
        album: "The Cookbook"
        releaseYear: 2005
    songTitle: "Lose Control"
    artist: "Missy Elliot"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c4937c")
    songId: 16
  v details: Object
        album: "Please Hammer, Don't Hurt 'Em"
        releaseYear: 1990
    songTitle: "U Can't Touch This"
    artist: "MC Hammer"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c4937d")
    songId: 17
  v details: Object
        album: "Thriller"
        releaseYear: 1982
    songTitle: "Thriller"
    artist: "Michael Jackson"
```

```
    _id: ObjectId("60f2fbd37c3bd35308c4937e")
    songId: 18
  v details: Object
        album: "I am... Sasha Fierce"
        releaseYear: 2008
    songTitle: "Single Ladies"
    artist: "Beyonce"
```

Lesson5handson

Alberta "Albi" Kovatcheva

```
_id: ObjectId("60f2fbd37c3bd35308c4937f")
songId: 19
v details: Object
    album: "Janet Jackson's Rhythm Nation 1814"
    releaseYear: 1989
songTitle: "Rhythm Nation"
artist: "Janet Jackson"
```