

## Lab 7 – Designing a Non-Relational Database Application

- Part 1

The screenshot shows the MongoDB Atlas web interface. On the left sidebar, under the 'Namespaces' section, the 'sample\_airbnb' namespace is expanded, showing the 'listingsAndReviews' collection. The main panel displays the 'sample\_airbnb.listingsAndReviews' collection with a size of 89.99MB, 5555 documents, and 476KB of indexes. A filter bar is present with the text 'FILTER {"filter": "example"}'. Below this, the 'QUERY RESULTS 1-20 OF MANY' are shown. The first document is displayed in a code block, showing fields like '\_id', 'listing\_url', 'name', 'summary', 'space', 'description', 'neighborhood\_overview', 'notes', 'transit', 'access', 'interaction', 'house\_rules', 'property\_type', 'room\_type', 'bed\_type', 'minimum\_nights', 'maximum\_nights', 'cancellation\_policy', 'last\_scraped', 'calendar\_last\_scraped', 'first\_review', 'last\_review', 'accommodates', 'bedrooms', and 'beds'. A button 'SHOW 14 MORE FIELDS' is visible below the document. The second document is partially visible at the bottom.

```
{
  "_id": "10006546",
  "listing_url": "https://www.airbnb.com/rooms/10006546",
  "name": "Ribeira Charming Duplex",
  "summary": "Fantastic duplex apartment with three bedrooms, located in the histori...",
  "space": "Privileged views of the Douro River and Ribeira square, our apartment ...",
  "description": "Fantastic duplex apartment with three bedrooms, located in the histori...",
  "neighborhood_overview": "In the neighborhood of the river, you can find several restaurants as ...",
  "notes": "Lose yourself in the narrow streets and staircases zone, have lunch in...",
  "transit": "Transport: • Metro station and S. Bento railway 5min; • Bus stop a 50 ...",
  "access": "We are always available to help guests. The house is fully available t...",
  "interaction": "Cot - 10 € / night Dog - € 7,5 / night",
  "house_rules": "Make the house your home...",
  "property_type": "House",
  "room_type": "Entire home/apt",
  "bed_type": "Real Bed",
  "minimum_nights": "2",
  "maximum_nights": "30",
  "cancellation_policy": "moderate",
  "last_scraped": "2019-02-16T05:00:00.000+00:00",
  "calendar_last_scraped": "2019-02-16T05:00:00.000+00:00",
  "first_review": "2016-01-03T05:00:00.000+00:00",
  "last_review": "2019-01-20T05:00:00.000+00:00",
  "accommodates": 8,
  "bedrooms": 3,
  "beds": 5
}
```

This screenshot shows that the cluster has been successfully populated with the sample datasets.

- Part 2

```
Connection x
INFO: Monitor thread successfully connected to server with description ServerDescription{address=cluster0-shard-00-02.clix9.mong
Nov 03, 2020 2:56:15 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Monitor thread successfully connected to server with description ServerDescription{address=cluster0-shard-00-01.clix9.mong
Nov 03, 2020 2:56:15 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Setting max election id to 7fffffff0000000000000002 from replica set primary cluster0-shard-00-01.clix9.mongodb.net:27017
Nov 03, 2020 2:56:15 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Setting max set version to 1 from replica set primary cluster0-shard-00-01.clix9.mongodb.net:27017
Nov 03, 2020 2:56:15 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Discovered replica set primary cluster0-shard-00-01.clix9.mongodb.net:27017
Nov 03, 2020 2:56:15 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Opened connection [connectionId{localValue:4, serverValue:9073}] to cluster0-shard-00-01.clix9.mongodb.net:27017
{"name": "sample_airbnb", "sizeOnDisk": 5.4960128E7, "empty": false}
{"name": "sample_analytics", "sizeOnDisk": 9125888.0, "empty": false}
{"name": "sample_geospatial", "sizeOnDisk": 983040.0, "empty": false}
{"name": "sample_mflix", "sizeOnDisk": 4.3741184E7, "empty": false}
{"name": "sample_restaurants", "sizeOnDisk": 6193152.0, "empty": false}
{"name": "sample_supplies", "sizeOnDisk": 983040.0, "empty": false}
{"name": "sample_training", "sizeOnDisk": 4.2999808E7, "empty": false}
{"name": "sample_weatherdata", "sizeOnDisk": 2543616.0, "empty": false}
{"name": "admin", "sizeOnDisk": 270336.0, "empty": false}
{"name": "local", "sizeOnDisk": 4.711395328E9, "empty": false}
Nov 03, 2020 2:56:16 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Closed connection [connectionId{localValue:4, serverValue:9073}] to cluster0-shard-00-01.clix9.mongodb.net:27017 because t
Process finished with exit code 0
```

This screenshot shows that a connection to the cluster from IntelliJ has been successfully established and it is able to see all of the databases.

```
Read x
INFO: Setting max election id to 7fffffff0000000000000002 from replica set primary cluster0-shard-00-01.clix9.mongodb.net:27017
Nov 03, 2020 3:05:33 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Setting max set version to 1 from replica set primary cluster0-shard-00-01.clix9.mongodb.net:27017
Nov 03, 2020 3:05:33 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Discovered replica set primary cluster0-shard-00-01.clix9.mongodb.net:27017
Nov 03, 2020 3:05:33 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Opened connection [connectionId{localValue:4, serverValue:9068}] to cluster0-shard-00-01.clix9.mongodb.net:27017
Student 1: {"_id": {"$oid": "5fa1c542c717fe4fbd7ab78c"}, "student_id": 10420.0, "class_id": 1.0, "scores": [{"type": "exam", "sc
Nov 03, 2020 3:05:33 PM com.mongodb.diagnostics.logging.JULLogger log
INFO: Closed connection [connectionId{localValue:4, serverValue:9068}] to cluster0-shard-00-01.clix9.mongodb.net:27017 because t
Process finished with exit code 0
```

This screenshot shows that IntelliJ can read specific entries from the cluster defined by the code.

Overview Real Time Metrics Collections Profiler Performance Advisor Online Archive <sup>BETA</sup>

DATABASES: 8 COLLECTIONS: 21

+ Create Database

Q NAMESPACES

- sample\_airbnb
- sample\_analytics
- sample\_geospatial
- sample\_mflix
- sample\_restaurants
- sample\_supplies
- sample\_training
  - companies
  - grades
  - inspections

### sample\_training.grades

COLLECTION SIZE: 22.22MB TOTAL DOCUMENTS: 100002 INDEXES TOTAL SIZE: 912KB

Find Indexes Schema Anti-Patterns 0 Aggregation Search Indexes

**FILTER** {"student\_id":10420}

QUERY RESULTS 1-1 OF 1

```
{
  "_id": ObjectId("5fa1c542c717fe4fbd7ab78c"),
  "student_id": 10420,
  "class_id": 1,
  "scores": Array,
  "comment": "You should learn MongoDB!"
}
```

This screenshot shows proof that the code successfully added a comment to the new student it added previously.

Overview Real Time Metrics Collections Profiler Performance Advisor Online A

DATABASES: 8 COLLECTIONS: 21

+ Create Database

Q NAMESPACES

- sample\_airbnb
- sample\_analytics
- sample\_geospatial
- sample\_mflix
- sample\_restaurants
- sample\_supplies
- sample\_training
  - companies
  - grades
  - inspections

### sample\_training.grades

COLLECTION SIZE: 22.22MB TOTAL DOCUMENTS: 100001 INDEXES TOTAL SIZE: 912KB

Find Indexes Schema Anti-Patterns 0 Aggregation Se

**FILTER** {"student\_id":10420}

QUERY RESULTS 0

This screenshot shows proof that the code successfully deleted the student that was previously added.