

NOSQL Basics/Fundamentals

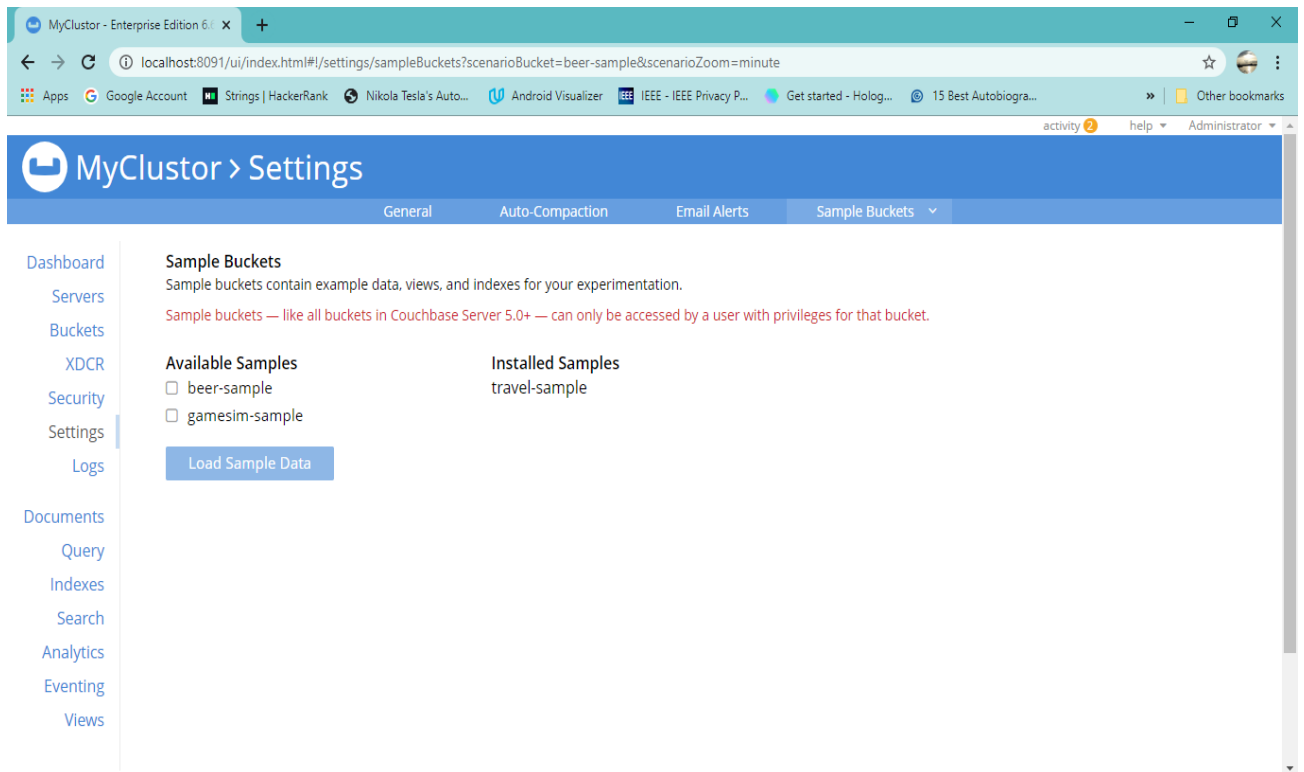
Done by Ravi Theja Kolluru

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Assignment

1. Import `travel-sample` bucket
2. Write a query to get the sum of all distances where type="route" for each airline id.
3. Write queries to join(LEFT,RIGHT,INNER) type="route"&"airline" and fetch the data whose sourceairport="SFO"
4. Write a mapreduce to get the number of all documents based on entities(type).
5. Refer CLI interface & try to export the travel sample data. Below are the steps:
 - a) Go to Couchbase Bin folder - C:\Program Files\Couchbase\Server\bin
 - b) Open Command Prompt from the bin folder
 - c) Run the below command to export the data from travel-sample bucket: `cbexport json -c couchbase://127.0.0.1 -u -p -b travel-sample -o C:/travelSample.json -f lines -t 4`
 - D) Create a new Bucket "NewBucket" & import the data to it: `cbimport json -c couchbase://127.0.0.1 -u -p -b NewBucket -f lines -d file://C:/travelSample.json -t 4 -g %id%`
 - E) Once the data is imported, please attach the screenshot. Note: -u --> UserId which you've created -p --> password -b --> bucket name

Answer 1



The screenshot shows the 'MyCluster > Settings' page in a web browser. The 'Sample Buckets' tab is selected. The page displays information about sample buckets, including a warning that they can only be accessed by a user with privileges for that bucket. It lists available samples (beer-sample, gamesim-sample) and installed samples (travel-sample). A 'Load Sample Data' button is present.

MyCluster > Settings

General Auto-Compaction Email Alerts **Sample Buckets**

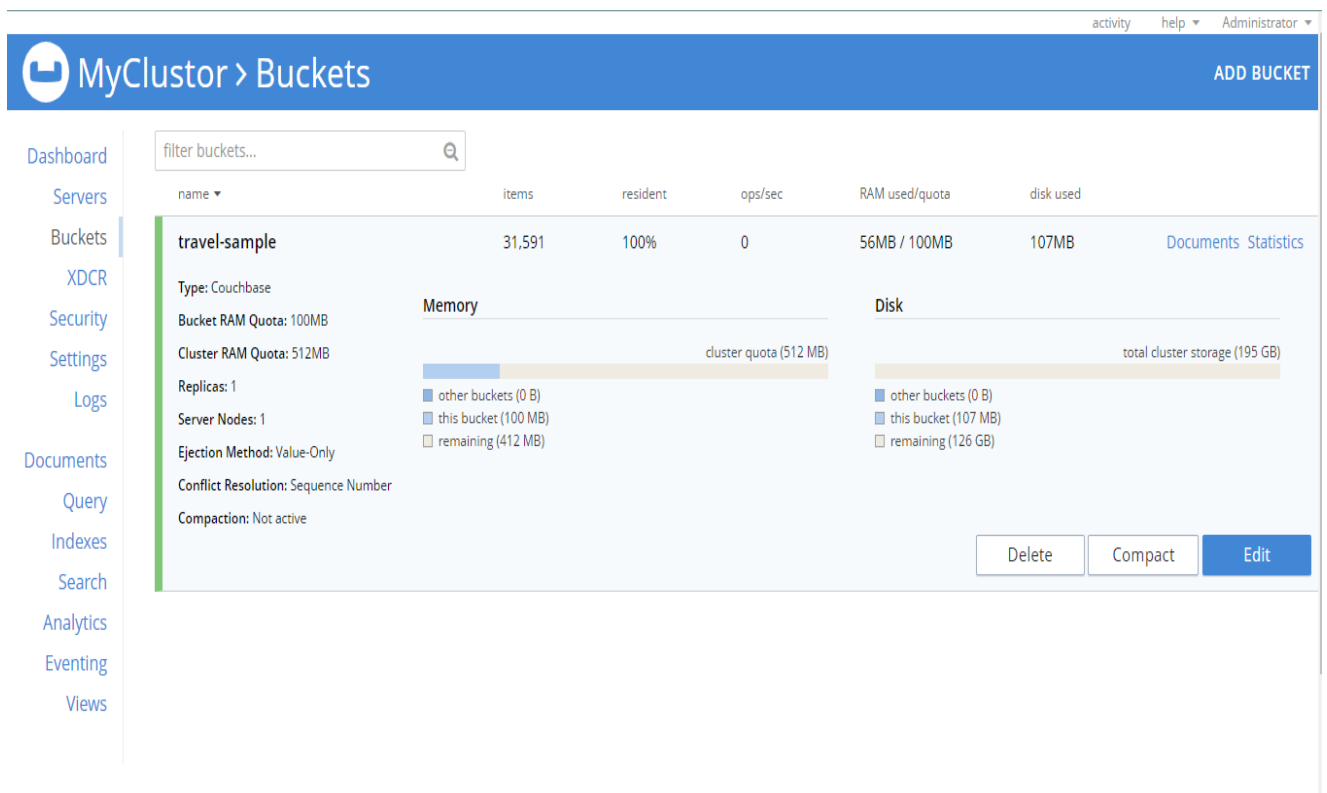
Sample Buckets
Sample buckets contain example data, views, and indexes for your experimentation.
Sample buckets — like all buckets in Couchbase Server 5.0+ — can only be accessed by a user with privileges for that bucket.

Available Samples
☐ beer-sample
☐ gamesim-sample

Installed Samples
travel-sample

[Load Sample Data](#)

Left Sidebar: Dashboard, Servers, Buckets, XDCR, Security, Settings, Logs, Documents, Query, Indexes, Search, Analytics, Eventing, Views.



The screenshot shows the 'MyCluster > Buckets' page. It displays a table of buckets with columns: name, items, resident, ops/sec, RAM used/quota, and disk used. The 'travel-sample' bucket is highlighted. Below the table, there are sections for 'Memory' and 'Disk' usage, showing bar charts and details for the selected bucket. At the bottom, there are buttons for 'Delete', 'Compact', and 'Edit'.

MyCluster > Buckets ADD BUCKET

filter buckets...

name	items	resident	ops/sec	RAM used/quota	disk used
travel-sample	31,591	100%	0	56MB / 100MB	107MB

travel-sample Details:

- Type: Couchbase
- Bucket RAM Quota: 100MB
- Cluster RAM Quota: 512MB
- Replicas: 1
- Server Nodes: 1
- Ejection Method: Value-Only
- Conflict Resolution: Sequence Number
- Compaction: Not active

Memory Usage:

- other buckets (0 B)
- this bucket (100 MB)
- remaining (412 MB)

Disk Usage:

- other buckets (0 B)
- this bucket (107 MB)
- remaining (126 GB)

[Documents](#) [Statistics](#)

[Delete](#) [Compact](#) [Edit](#)

Left Sidebar: Dashboard, Servers, Buckets, XDCR, Security, Settings, Logs, Documents, Query, Indexes, Search, Analytics, Eventing, Views.

Answer 2

Query Editor < history (55/55) >

```
1 SELECT airlineid, SUM(distance) FROM `travel-sample`
2 WHERE type = "route" GROUP BY airlineid
```

Execute Explain Advise ✓ success just now | elapsed: 2.7s | execution: 2.7s | docs: 214 | size: 16291 bytes [format](#)

Query Results [📄](#) [🔍](#) Table **JSON** Tree Plan Plan Text Advice

1	[
2	{
3	"\$1": 22910.52133180999,
4	"airlineid": "airline_3926"
5	},
6	{
7	"\$1": 167326.74076888536,
8	"airlineid": "airline_5067"
9	},
10	{
11	"\$1": 121250.51601142721,
12	"airlineid": "airline_3200"
13	},

Query Editor < history (56/56) >

```
1 SELECT airlineid, airline, SUM(distance) FROM `travel-sample`
2 WHERE type = "route" GROUP BY airlineid,airline
3
```

Execute Explain Advise ✓ success just now | elapsed: 1.7s | execution: 1.7s | docs: 223 | size: 22529 bytes [format](#)

Query Results [📄](#) [🔍](#) Table **JSON** Tree Plan Plan Text Advice

1	[
2	{
3	"\$1": 75806.20571820374,
4	"airline": "BW",
5	"airlineid": "airline_1663"
6	},
7	{
8	"\$1": 4239.143522643578,
9	"airline": "OV",
10	"airlineid": "airline_2218"
11	},
12	{
13	"\$1": 19834.89006126716,

Answer 3

LEFT

Query Editor

[history \(57/57\)](#)

```
1 SELECT * FROM `travel-sample` route LEFT JOIN `travel-sample` airline ON
2 (route.type = "route") = (airline.type="airline")
3 WHERE route.sourceairport = "SFO" LIMIT (100)
```

Execute

Explain

Advise

✓ success just now | elapsed: 331.3ms | execution: 321.3ms | docs: 100 | size: 365158 bytes

[format](#)

Query Results



Table

JSON

Tree

Plan

Plan Text

Advice

1	[
2	{
3	"airline": {
4	"callsign": "MILE-AIR",
5	"country": "United States",
6	"iata": "Q5",
7	"icao": "MLA",
8	"id": 10,
9	"name": "40-Mile Air",
10	"type": "airline"
11	},
12	"route": {
13	"airline": "AI",

RIGHT

Query Editor

[history \(58/58\)](#)

```
1 SELECT * FROM `travel-sample` route RIGHT JOIN `travel-sample` airline ON
2 (route.type = "route") = (airline.type="airline")
3 WHERE route.sourceairport = "SFO" LIMIT (100)
```

Execute

Explain

Advise

✓ success just now | elapsed: 279.3ms | execution: 279.3ms | docs: 100 | size: 367145 bytes

[format](#)

Query Results



Table

JSON

Tree

Plan

Plan Text

Advice

1	[
2	{
3	"airline": {
4	"callsign": "MILE-AIR",
5	"country": "United States",
6	"iata": "Q5",
7	"icao": "MLA",
8	"id": 10,
9	"name": "40-Mile Air",
10	"type": "airline"
11	},
12	"route": {
13	"airline": "UA",

INNER

Query Editor < history (59/59) >

```
1 SELECT * FROM `travel-sample` route INNER JOIN `travel-sample` airline ON
2 (route.type = "route") = (airline.type="airline")
3 WHERE route.sourceairport = "SFO" LIMIT (100)
```

Execute Explain Advise ✓ success just now | elapsed: 277.3ms | execution: 275.3ms | docs: 100 | size: 451958 bytes [format](#)

Query Results [🔗](#) [🔍](#) Table JSON Tree Plan Plan Text Advice

```
1 {
2   {
3     "airline": {
4       "callsign": "MILE-AIR",
5       "country": "United States",
6       "iata": "Q5",
7       "icao": "MLA",
8       "id": 10,
9       "name": "40-Mile Air",
10      "type": "airline"
11    },
12    "route": {
13      "airline": "DL",
```

Answer 4

View Index Code

Map

```
1 function (doc, meta) {
2   if(doc.type=="route")|
3   emit(meta.id, null);
4 }
```

Reduce (built in: `_count`, `_sum`, `_stats`)

```
1 _count
```

Map

```
1 function (doc, meta) {  
2   if(doc.type=="route")  
3     emit(meta.id, null);  
4 }
```

Reduce (built in: `_count`, `_sum`, `_stats`)

```
1 _count
```

Results filter: `?limit=6&stale=false&connection_timeout=60000&inclusive_end=true&skip=0&full_set=true`

Development Time Subset

Key		Value
null		22733
undefined		

Answer 5

```

C:\Program Files\Couchbase\Server\bin>cbexport json -c couchbase://127.0.0.1 -u Administrator -b travel-sample
-o D:/travelSample.json -f lines -t 4 -p
Password:
Json exported to `D:/travelSample.json` successfully
Documents exported: 31591 Documents skipped: 0

C:\Program Files\Couchbase\Server\bin>cbimport json -c couchbase://127.0.0.1 -u Administrator -b NewBucket -f
lines -d file://D:/travelSample.json -t 4 -g %id% -p
Password:
JSON `file://D:/travelSample.json` imported to `http://127.0.0.1:8091` successfully
Documents imported: 31591 Documents failed: 0

```

name ▼	items	resident	ops/sec	RAM used/quota	disk used	
NewBucket	28,579	100%	0	51.5MB / 412MB	34.6MB	Documents Statistics
<div> <div> Type: Couchbase Bucket RAM Quota: 412MB Cluster RAM Quota: 512MB Replicas: 1 Server Nodes: 1 Ejection Method: Value-Only Conflict Resolution: Sequence Number Compaction: Not active </div> <div> Memory <div>cluster quota (512 MB)</div> <div> <div>other buckets (100 MB)</div> <div>this bucket (412 MB)</div> <div>remaining (0 B)</div> </div> </div> <div> Disk <div>total cluster storage (195 GB)</div> <div> <div>other buckets (94 MB)</div> <div>this bucket (34.6 MB)</div> <div>remaining (123 GB)</div> </div> </div> </div> <div> Delete Compact Edit </div>						
travel-sample	31,591	100%	0	56.1MB / 100MB	94MB	Documents Statistics
