

NoSQL Basics/Fundamentals ASSIGNMENT

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1) Import `travel-sample` bucket.

The screenshot shows the 'Sample Buckets' configuration page in the AccoliteCluster UI. The left sidebar contains links to Dashboard, Servers, Buckets, XDCR, Security, Settings (selected), Logs, and Documents. The main content area has a blue header with the AccoliteCluster logo and 'Settings'. Below the header are tabs for General, Auto-Compaction, Email Alerts, and Sample Buckets (selected). The 'Sample Buckets' section includes a description: '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.' It features two columns: 'Available Samples' with checkboxes for 'beer-sample', 'gamesim-sample', and 'travel-sample' (checked), and 'Installed Samples' showing 'none'. A 'Load Sample Data' button is at the bottom.

localhost:8091/ui/index.html#/settings/sampleBuckets?scenarioZoom=minute

activity help krishnakanth

AccoliteCluster > 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
- ☒ travel-sample

Installed Samples
none

Load Sample Data

The screenshot shows the 'Buckets' page in the AccoliteCluster UI. The left sidebar is the same as the previous screenshot, with 'Buckets' selected. The main content area has a blue header with the AccoliteCluster logo and 'Buckets', and an 'ADD BUCKET' button. Below the header is a search bar 'filter buckets...' and a table of buckets. The table has columns: name, items, resident, ops/sec, RAM used/quota, disk used, and links for Documents and Statistics. One bucket, 'travel-sample', is listed with 0 items, 100% resident, 0 ops/sec, 32MB / 100MB RAM used, and 13.5KB disk used.

localhost:8091/ui/index.html#/buckets?scenarioZoom=minute

activity help krishnakanth

AccoliteCluster > Buckets

ADD BUCKET

filter buckets...

name	items	resident	ops/sec	RAM used/quota	disk used	
travel-sample	0	100%	0	32MB / 100MB	13.5KB	Documents Statistics

2) Write a query to get the sum of all distances where type="route" for each airline id.

Query:

```
select airlineid,sum(distance) as sum from `travel-sample` where  
type="route" group by airlineid;
```

The screenshot displays the AccoliteCluster Query Workbench interface. The top navigation bar includes the AccoliteCluster logo and the text "Query". Below this, a sidebar on the left lists various navigation options: Dashboard, Servers, Buckets, XDCR, Security, Settings, Logs, Documents, Query, Indexes, Search, and Views. The main content area is titled "Query Editor" and contains a SQL query: `1 SELECT airlineid, 2 SUM(distance) AS sum 3 FROM `travel-sample` 4 WHERE type="route" 5 GROUP BY airlineid;`. Below the query editor, there are buttons for "Execute" and "Explain", followed by a status bar indicating "External Query Advisor" is "success" and providing execution details like "just now", "elapsed: 2.2s", "execution: 2.2s", "docs: 214", and "size: 16505 bytes". A "format" button is also present. The "Query Results" section shows a table with two columns: "airlineid" and "sum". The table contains 15 rows of data, with the last row partially cut off. The results are displayed in a table format, with options for "Table", "JSON", "Tree", "Plan", and "Plan Text" at the top right of the results section.

airlineid	sum
airline_1790	37755.45777020409
airline_2750	3387.4542048073135
airline_28	156205.10227206541
airline_3287	586.8438761452044
airline_4255	11035.84146172311
airline_16262	595.2753756507055
airline_5013	420573.88340573246
airline_2222	145673.5425198167
airline_3826	5081.907077999962
airline_3000	39702.70550474702
airline_2264	5928.925428340259
airline_4435	138691.73486671568
airline_5265	4118778.5142756514
airline_2001	175055.06128666068

- 3) Write queries to join(LEFT,RIGHT,INNER) type="route"&"airline" and fetch the data whose sourceairport="SFO".

Query:

```
SELECT * FROM `travel-sample` left_doc JOIN `travel-sample` right_doc ON  
left_doc.airlineid = META(right_doc).id WHERE left_doc.sourceairport = "SFO"  
LIMIT 5;
```

Inner join:

The screenshot displays the AccoliteCluster Query Workbench interface. The top navigation bar includes the AccoliteCluster logo and the text "Query Workbench". A sidebar on the left contains a menu with items: Dashboard, Servers, Buckets, XDCR, Security, Settings, Logs, Documents, Query (highlighted), Indexes, Search, and Views. The main area is titled "Query Editor" and contains a SQL query:

```
1 SELECT *  
2 FROM `travel-sample` left_doc  
3 JOIN `travel-sample` right_doc ON left_doc.airlineid = META(right_doc).id  
4 WHERE left_doc.sourceairport = "SFO"  
5 LIMIT 5;
```

Below the query editor, there are buttons for "Execute" and "Explain". To the right of these buttons, a status bar indicates: "External Query Advisor", "success", "just now", "elapsed: 32.9ms", "execution: 32.9ms", "docs: 5", "size: 17710 bytes", and a "format" link. Below the query editor, the "Query Results" section is visible, showing a table view of the results. The results are displayed in a JSON format, with the first document being:

```
{  
  "left_doc": {  
    "airline": "B6",  
    "airlineid": "airline_3029",  
    "destinationairport": "AUS",  
    "distance": 2416.0035377223094,  
    "equipment": "320",  
    "id": 14239,  
    "schedule": [  
      {  
        "day": 0,  
        "flight": "B6555",  
        "utc": "02:34:00"  
      },  
      {  

```

Right join:

Query:

```
SELECT * FROM `travel-sample` left_doc RIGHT JOIN `travel-sample` right_doc
ON left_doc.airlineid = META(right_doc).id WHERE left_doc.sourceairport =
"SFO" LIMIT 5;
```

The screenshot displays the AccoliteCluster Query Workbench interface. The top navigation bar includes the AccoliteCluster logo and the text "Query". Below this, a sidebar on the left lists navigation options: Dashboard, Servers, Buckets, XDCR, Security, Settings, Logs, Documents, Query (selected), Indexes, Search, and Views. The main content area is titled "Query Editor" and contains a SQL query:

```
1 SELECT *
2 FROM `travel-sample` left_doc RIGHT
3 JOIN `travel-sample` right_doc ON left_doc.airlineid = META(right_doc).id
4 WHERE left_doc.sourceairport = "SFO"
5 LIMIT 5;
```


Below the query editor, there are buttons for "Execute" and "Explain". To the right of these buttons, a status bar indicates: "External Query Advisor", "success", "just now", "elapsed: 259.3ms", "execution: 259.3ms", "docs: 5", "size: 16553 bytes", and a "format" link. The "Query Results" section shows the results in JSON format, with tabs for "Table", "JSON" (selected), "Tree", "Plan", and "Plan Text". The JSON output is as follows:

```
1 {
2   {
3     "left_doc": {
4       "airline": "FL",
5       "airlineid": "airline_1316",
6       "destinationairport": "ATL",
7       "distance": 3434.7108309317646,
8       "equipment": "73G",
9       "id": 25480,
10      "schedule": [
11        {
12          "day": 0,
13          "flight": "FL993",
14          "utc": "09:17:00"
15        },
16      ]
17    }
18  }
```

Left join:

Query:

```
SELECT * FROM `travel-sample` left_doc LEFT JOIN `travel-sample` right_doc
ON left_doc.airlineid = META(right_doc).id WHERE left_doc.sourceairport =
"SFO" LIMIT 5;
```

 AccoliteCluster > Query

Query Workbench

Dashboard

Servers

Buckets

XDCR

Security

Settings

Logs

Documents

Query

Indexes

Search

Views

Query Editor

< history (47/47) >

```
1 SELECT *
2 FROM `travel-sample` left_doc LEFT
3 JOIN `travel-sample` right_doc ON left_doc.airlineid = META(right_doc).id
4 WHERE left_doc.sourceairport = "SFO"
5 LIMIT 5;
```

Execute

Explain

External Query Advisor

✓ success

just now

elapsed: 259.3ms

execution: 259.3ms

docs: 5

size: 16553 bytes

format

Query Results

Table

JSON

Tree

Plan

Plan Text

1	[
2	{
3	"left_doc": {
4	"airline": "FL",
5	"airlineid": "airline_1316",
6	"destinationairport": "ATL",
7	"distance": 3434.7108309317646,
8	"equipment": "73G",
9	"id": 25480,
10	"schedule": [
11	{
12	"day": 0,
13	"flight": "FL993",
14	"utc": "09:17:00"
15	},
16]

- 4) Write a mapreduce to get the number of all documents based on entities(type).

Map:

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

Reduce: _count

View Index Code

Map

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

Make Copy

Save C

Reduce (built in: _count, _sum, _stats)

```
1 _count
```

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

Development Time Subset

Full Cluster Data Set

<

>

Show

Key

Value

null
undefined

5) Export data(from travel-sample) and Import data(to NewBucket):

```
Administrator: Command Prompt

C:\Program Files\Couchbase\Server\bin>cbexport json -c couchbase://127.0.0.1 -u krishnakanth -p pokemon -b travel-sample
-o C:/travelSample.json -f lines -t 4
2021-01-12T11:46:25.109+05:30 WARN: (Couchbase) Unexpected error 'operation timed out after 5s' while trying to get sequence numbers, will retry in 5s -- couchbase.GetSequenceNumbers() at sequence_numbers.go:38
2021-01-12T11:46:40.126+05:30 WARN: (Couchbase) Unexpected error 'operation timed out after 10s' while trying to get sequence numbers, will retry in 10s -- couchbase.GetSequenceNumbers() at sequence_numbers.go:38
Json exported to `C:/travelSample.json` successfully
Documents exported: 31591 Documents skipped: 0

C:\Program Files\Couchbase\Server\bin>
```

Add Data Bucket

Name

NewBucket

Memory Quota in megabytes per server node

4560

MB

other buckets (100 MB)

this bucket (4.45 GB)

remaining (0 B)

Bucket Type

☒ Couchbase ☐ Memcached ☐ Ephemeral

▶ Advanced bucket settings

Cancel

Add Bucket

```
Administrator: Command Prompt

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

C:\Program Files\Couchbase\Server\bin>
```

AccoliteCluster > Documents

CLASSIC EDITORADD DOCUMENT

Document EditorImport Documents

Dashboard

Servers

Buckets

XDCR

Security

Settings

Logs

Documents

Query

Indexes

Search

Views

Bucket

show top keys

Limit

Offset

Document ID

show range

































N1QL WHERE

Retrieve Docs

10 Results for NewBucket, limit: 10, offset: 0

enable field editing

< prev batch | next batch >

	id	
   	10	{\"callsign\":\"MILE-AIR\",\"country\":\"United States\",\"iata\":\"Q5\",\"icao\":\"MLA\",\"id\":10,\"name\":\"40-Mile Air\",\"type\":\"airline\"}
   	10000	{\"type\":\"route\",\"airline\":\"AF\",\"airlineid\":\"airline_137\",\"distance\":2881.617376098415,\"id\":10000,\"schedule\":[{\"day\":0,\"flight\":\"AF198\",\"utc\":\"10:13:00\"},{\"day\":0,\"flight\":\"AF547\",\"utc\":\"19:14:00\"},{\"d...
   	10001	{\"id\":10001,\"sourceairport\":\"TLV\",\"type\":\"route\",\"destinationairport\":\"NCE\",\"airlineid\":\"airline_137\",\"distance\":2735.2013399811754,\"equipment\":\"320\",\"schedule\":[{\"day\":0,\"flight\":\"AF248\",\"utc\":\"21:24...
   	10002	{\"stops\":0,\"type\":\"route\",\"airlineid\":\"airline_137\",\"destinationairport\":\"CDG\",\"distance\":8748.296323466084,\"id\":10002,\"sourceairport\":\"TNR\",\"airline\":\"AF\",\"equipment\":\"772\",\"schedule\":[{\"day\":0,\"flig...
   	10003	{\"airlineid\":\"airline_137\",\"destinationairport\":\"ATL\",\"equipment\":\"757 739\",\"schedule\":[{\"flight\":\"AF986\",\"utc\":\"22:26:00\",\"day\":0},{\"day\":0,\"flight\":\"AF962\",\"utc\":\"04:25:00\"},{\"day\":0,\"flight\":\"AF301...
   	10004	{\"airline\":\"AF\",\"distance\":9442.50092891188,\"equipment\":\"777\",\"schedule\":[{\"day\":0,\"flight\":\"AF545\",\"utc\":\"13:22:00\"},{\"day\":0,\"flight\":\"AF350\",\"utc\":\"01:21:00\"},{\"day\":0,\"flight\":\"AF805\",\"utc\":\"19:38...
   	10005	{\"airline\":\"AF\",\"airlineid\":\"airline_137\",\"id\":10005,\"sourceairport\":\"TPE\",\"type\":\"route\",\"destinationairport\":\"MNL\",\"distance\":1175.4394367597245,\"equipment\":\"777\",\"schedule\":[{\"day\":0,\"flight\":\"AF11...
   	10006	{\"stops\":0,\"destinationairport\":\"ATL\",\"equipment\":\"CRJ\",\"id\":10006,\"schedule\":[{\"day\":0,\"flight\":\"AF288\",\"utc\":\"05:02:00\"},{\"day\":0,\"flight\":\"AF230\",\"utc\":\"19:40:00\"},{\"day\":0,\"flight\":\"AF785\",\"utc\":\"...

AccoliteCluster > Query

Query Workbench

Dashboard

Servers

Buckets

XDCR

Security

Settings

Logs

Documents

Query

Indexes

Search

Views

Query Editor

< history (50/50) >

1 Select * from `NewBucket`

2 LIMIT 5;

Execute

Explain

External Query Advisor

success

just now

elapsed: 31.9ms

execution: 31.9ms

docs: 5

size: 15453 bytes

format

Query Results

TableJSONTreePlanPlan Text

3 {

4 \"NewBucket\": {

5 \"callsign\": \"MILE-AIR\",

6 \"country\": \"United States\",

7 \"iata\": \"Q5\",

8 \"icao\": \"MLA\",

9 \"id\": 10,

10 \"name\": \"40-Mile Air\",

11 \"type\": \"airline\"

12 }

13 },

14 {

15 \"NewBucket\": {

16 \"airline\": \"AF\",

17 \"airlineid\": \"airline_137\",

18 \"destinationairport\": \"MRS\",

19 \"distance\": 2881.617376098415,

20 \"equipment\": \"320\",