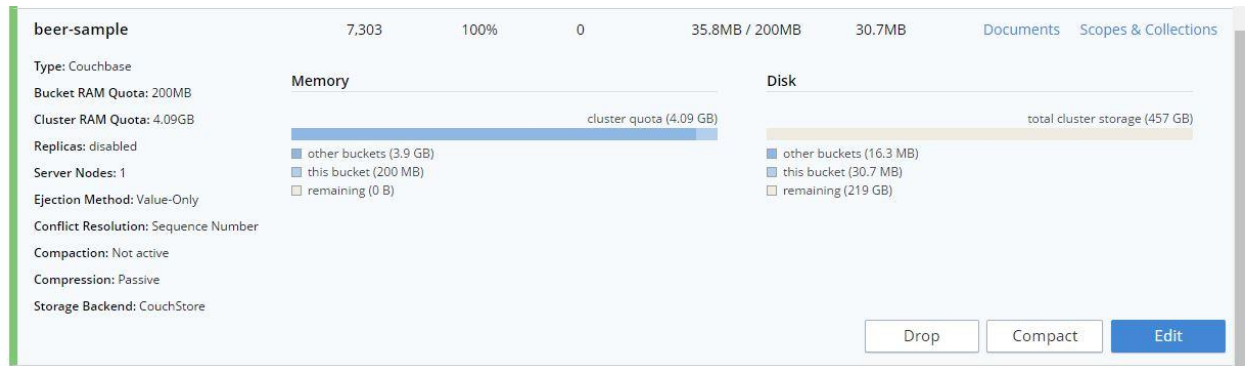## AU 2021 - NoSQL Basics & Fundamentals Assignment

Nayan Narula

1. **Import `beer-sample` bucket**

2. Write a join query to fetch the Top 10 brewery(type="beer") and their country(type="brewery") which produces more varieties of beers.

3. Write a mapreduce to get the number of breweries based on country.

Please attach the mapreduce code and json output screenshot.

MapReduce Code:

MyCluster > Views > Views Editing

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▸ **Sample Document:** minhas_craft_brewery-berghoff_oktoberfest_beer

View Index Code

[Make Copy] [Save Changes]

Map

```
1 function(doc, meta) {
2
3   if(doc.type=="brewery")
4     emit(doc.country,null);
5 }
6
```

Reduce (built in: _count, _sum, _stats)

```
1 _count
```

Output:

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

[Development Time Subset] Full Cluster Data Set

[<] [>] [Show Results]

| Key	Value
"" undefined	1
"Argentina" undefined	2
"Aruba" undefined	1
"Australia" undefined	14
"Austria" undefined	10
"Belgium" undefined	99

Json screenshot:

← → C ⓘ localhost:8092/bee

```
{"rows":[
{"key":"","value":1},
{"key":"Argentina","value":2},
{"key":"Aruba","value":1},
{"key":"Australia","value":14},
{"key":"Austria","value":10},
{"key":"Belgium","value":99}
]
}
```
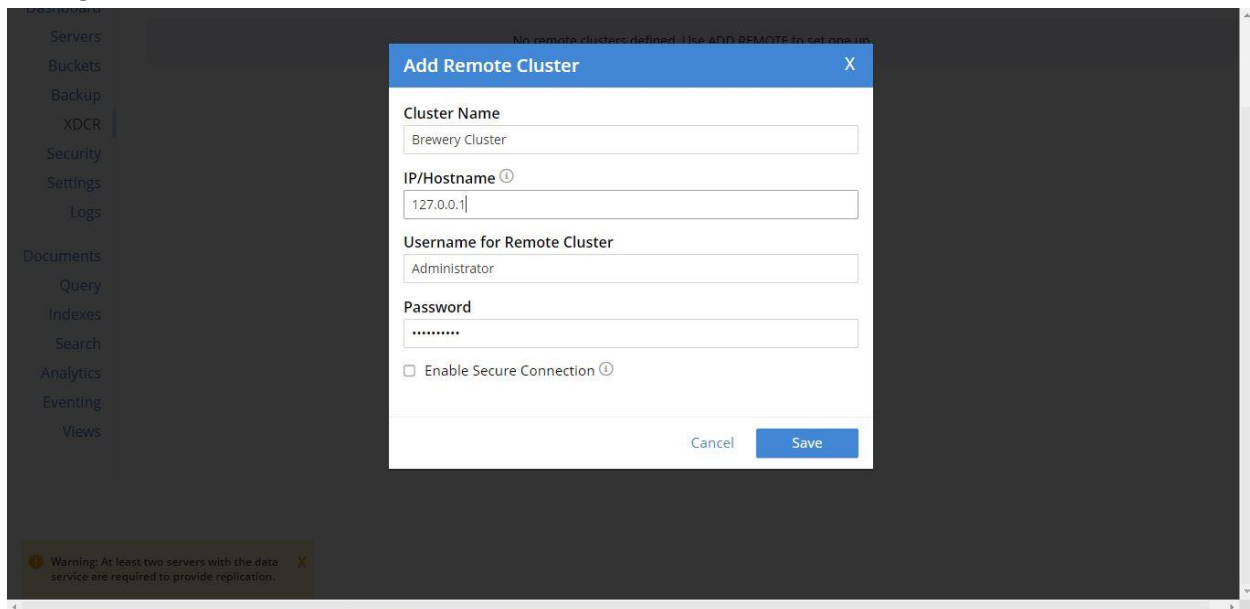
4. XDCR:

a) Add a new bucket "Brewery".

b) Create a XDCR with a filter(type='brewery') to replicate only the

brewery entity from `beer-sample` bucket.

Adding bucket:
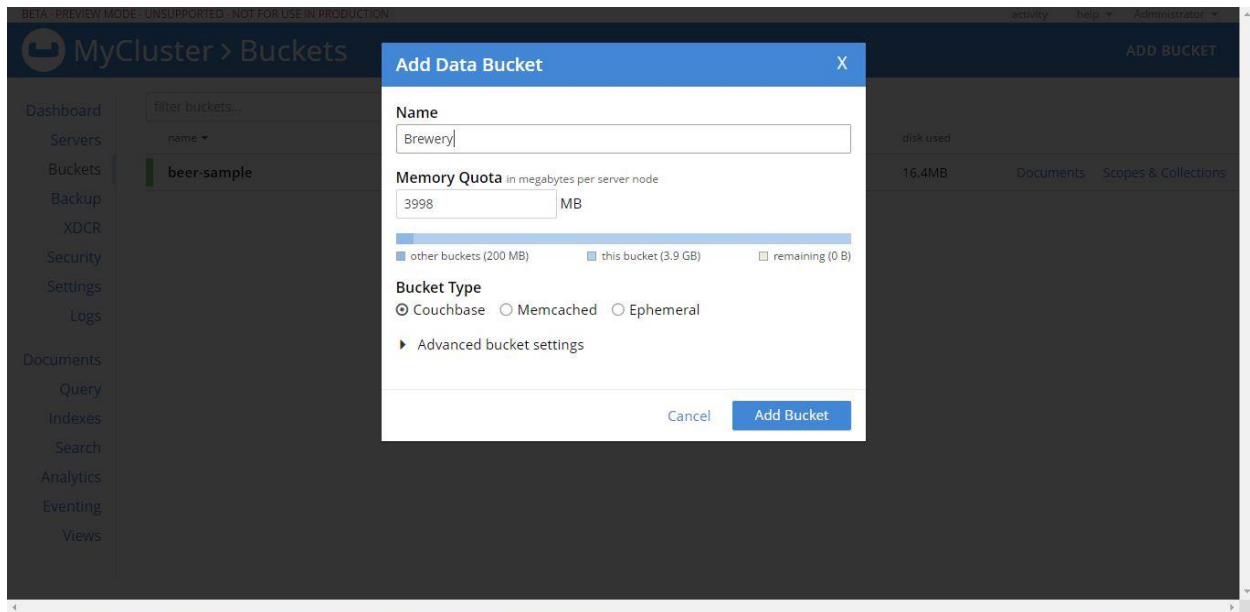
Adding Remote Cluster:

Filtering :

MyCluster > XDCR Add Replication ← BACK

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Replicate From Bucket   **Remote Cluster**   **Remote Bucket**

beer-sample ∨   >   Brewery ∨   Brewery

The bucket *beer-sample* will be replicated to *Brewery*. Missing targets on the remote will be ignored and that data will not be replicated.

⬤ Specify scopes, collections, and mapping

⬤ Migrate collections ⓘ

⬤ Filter replication

Filter Expression ⓘ

type='brewery'

id of document to test...   Test Filter

Deletion Filters

☐ Do not replicate document expirations ⓘ
☐ Do not replicate DELETE operations ⓘ
☐ Remove TTL from replicated items ⓘ

Mapping Rules

Save Replication   Cancel/Reset

Replicating:

MyCluster > XDCR Replications   ADD REPLICATION   ADD REMOTE

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Remote Clusters

name ▼	IP/hostname
Brewery	127.0.0.1:8091

Outgoing Replications

source bucket	destination bucket	remote cluster	status
beer-sample `filter`	Brewery	Brewery	replicating

Result:

Brewery	1,412	100%	0	19.2MB / 1GB	7.06MB	Documents	Scopes & Collections

Type: Couchbase

Bucket RAM Quota: 1GB

Cluster RAM Quota: 4.09GB

Replicas: 1

Server Nodes: 1

Ejection Method: Value-Only

Conflict Resolution: Sequence Number

Compaction: Not active

Compression: Passive

Storage Backend: CouchStore

Memory

cluster quota (4.09 GB)

- other buckets (3.09 GB)
- this bucket (1 GB)
- remaining (0 B)

Disk

total cluster storage (457 GB)

- other buckets (34 MB)
- this bucket (7.06 MB)
- remaining (178 GB)

[Drop] [Compact] [Edit]

MyCluster › Documents

ADD DOCUMENT

Edit ▼   Import

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Location bucket.scope.collection | **Limit** ⓘ | **Offset** ⓘ | **Document ID** ⓘ   show range | **N1QL WHERE** ⓘ

Brewery ▼ _default ▼ _default ▼ | 10 | 0 | optional... | no indexes available... | [Retrieve Docs]

10 Results for Brewery._default._default, limit: 10, offset: 0   ⬤ enable field editing   < prev batch | next batch >

	id	
✏ ⧉ 🗑 💾	21st_amendment_brewery_cafe	{"name":"21st Amendment Brewery Cafe","city":"San Francisco","state":"California","code":"94107","country":"United States","phone":"1-415-369-0900","website":"http://www.21st-amendment.com/","type":"b...
✏ ⧉ 🗑 💾	357	{"name":"357","city":"","state":"","code":"","country":"","phone":"","website":"","type":"brewery","updated":"07-22 20:00:20","description":"","address":[]}
✏ ⧉ 🗑 💾	3_fonteinen_brouwerij_ambachtelijke_geu zestekerij	{"name":"3 Fonteinen Brouwerij Ambachtelijke Geuzestekerij","city":"Beersel","state":"Vlaams Brabant","code":"","country":"Belgium","phone":"32-02-/-306-71-03","website":"http://www.3fonteinen.be/
✏ ⧉ 🗑 💾	512_brewing_company	{"name":"(512) Brewing Company","city":"Austin","state":"Texas","code":"78745","country":"United States","phone":"512.707.2337","website":"http://512brewing.com/","type":"brewery","updated":"2010-07-
✏ ⧉ 🗑 💾	aass_brewery	{"name":"Aass Brewery","city":"Drammen","state":"","code":"","country":"Norway","phone":"47-32-26-60-00","website":"http://www.aass.no","type":"brewery","updated":"2010-07-22 20:00:20","description":"...
✏ ⧉ 🗑 💾	abbaye_de_leffe	{"name":"Abbaye de Leffe","city":"Dinant","state":"Namur","code":"","country":"Belgium","phone":"","website":"","type":"brewery"dated":"2010-07-22 20:00:20","description":"","address":["Dinant"],"...
✏ ⧉ 🗑 💾	abbaye_de_maredsous	{"name":"Abbaye de Maredsous","city":"Dene","state":"Namur","code":"","country":"Belgium","phone":"32-69-82-11","website":"http://www.maredsous10.be/","type":"brewery","updated":"2010-07-22 20:0...

5. CLI:

a) Add a new bucket "Beer".

b) Using CLI - do a cbexport of the entire `beer-sample`

c) And do a cbimport with "brewery_id" as primary key. As a result, in the

new bucket - only "beer" documents will be imported with their

respective brewery name as meta().id

d) Share your observation on counts with screenshot.

Adding bucket:

Cbexport:

```
Administrator: Command Prompt                                              —      □      ×

C:\Program Files\Couchbase\Server\bin>cbexport json -c couchbase://127.0.0.1 -u Administrator -p 1qazxcvbnm -b beer-samp
le -o C:/beer-sample.json -f lines -t 4
2021-02-14T17:43:48.961+05:30 WARN: (Couchbase) Unexpected error 'operation timed out after 5s' while trying to get sequ
ence numbers, will retry in 5s -- couchbase.GetSequenceNumbers() at sequence_numbers.go:39
JSON exported to `C:/beer-sample.json` successfully
Documents exported: 7303 Documents skipped: 0

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

Cbimport:

```
C:\Program Files\Couchbase\Server\bin>cbimport json -c couchbase://127.0.0.1 -u Administrator -p 1qazxcvbnm -b beer -d f
ile://C:/beer-sample.json -f lines -g key::%brewery_id%::#UUID# -t 4
```

:

:

```
2021-02-14T18:02:08.085+05:30 ERRO: Failed to import document 7302: Error in key expression at char 0, field 'brewery_id
' does not exist -- jsondata.(*JSONSource).handleError() at source.go:379
JSON import failed: 5891 documents were imported, 1412 documents failed to be imported
JSON import failed: Some errors occurred while transferring data, see logs for more details

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

Cbimport result:

beer	5,891	100%	0	21.2MB / 2.9GB	9.28MB	Documents	Scopes & Collections

Type: Couchbase
Bucket RAM Quota: 2.9GB
Cluster RAM Quota: 4.09GB
Replicas: 1
Server Nodes: 1
Ejection Method: Value-Only
Conflict Resolution: Sequence Number
Compaction: Not active
Compression: Passive
Storage Backend: CouchStore

Memory
cluster quota (4.09 GB)
■ other buckets (1.19 GB)
■ this bucket (2.9 GB)
□ remaining (0 B)

Disk
total cluster storage (457 GB)
■ other buckets (31.8 MB)
■ this bucket (9.28 MB)
□ remaining (178 GB)

Drop   Compact   Edit

MyCluster > Documents   ADD DOCUMENT

Edit ∨   Import

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Location bucket.scope.collection   Limit ⓘ Offset ⓘ   Document ID ⓘ show range N1QL WHERE ⓘ
beer ∨   _default ∨ _default ∨   10   0   optional...   no indexes available...   Retrieve Docs

10 Results for beer._default._default, limit: 10, offset: 0   ○ enable field editing   < prev batch | next batch >

	id	
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::0e0d 4883-0b53-4ea1-8e2d-d9a9422a3039	{"abv":5.9,"brewery_id":"21st_amendment_brewery_cafe","category":"North American Ale","description":"[black color. Chocolate milk color head, providing an array of Belgian lace. Toffee and light r...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::32c0 5adb-6197-459e-9ddc-01a1ce47e903	{"abv":5,"brewery_id":"21st_amendment_brewery_cafe","category":"North American Ale","description":"De black color, toasted black burnt coffee flavors and aroma. Dispensed with Nitrogen through a slo...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::66ce c8d1-7c83-4f85-a4d0-e18ee9fe5b00	{"abv":9.8,"brewery_id":"21st_amendment_brewery_cafe","category":"North American Ale","description":"[golden, rich malt flavor huge citrus, fruity grassy, ethanol sweetness aroma with a profound ...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::7e11 0965-9946-4bae-a93e-df960dec4239	{"abv":5.2,"brewery_id":"21st_amendment_brewery_cafe","category":"British Ale","description":"Traditional English E.S.B. made with English malt and hops. Fruity aroma with an imparted tart flavor brou...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::9c09 ec78-4e0f-4551-a561-9baa3cf96770	{"abv":5.5,"brewery_id":"21st_amendment_brewery_cafe","category":"Belgian and French Ale","description definition of summer in a pint glass. This unique, American-style wheat beer, is brewed wit...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::a788 70f1-998f-4b66-8946-726901ae96b6	{"abv":7.2,"brewery_id":"21st_amendment_brewery_cafe","category":"North American Ale","description":"[golden color. Citrus and piney hop aromas. Assertive malt backbone supporting the overwhelming...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::b523 bf2f-846b-47d5-8a76-54a2469628cf	{"abv":5.2,"brewery_id":"21st_amendment_brewery_cafe","category":"North American Ale","description":"F golden hue color. Floral hop with sweet malt aroma. Medium mouth feel with malt sweetness, hop...
✏ ⧉ 🗑 🗎	key::21st_amendment_brewery_cafe::e601 1c07-cc4f-483d-88b7-04e27f0f1c5c	{"abv":5,"brewery_id":"21st_amendment_brewery_cafe","category":"North American Ale","description":"Lig golden color. Sweet dry aroma with crisp, clear bitterness. Brewed with imported German hops Th...