Exercise 4 - Introduction to Queries

Exercise 4.a - Create a Categories View in Couchbase

Open up the Couchbase Admin Console by going to http://127.0.0.1:8091/ in a web browser

Choose Data Buckets

Click the "Views" button next to the **default** bucket

Click the "Create Development View" button

For the **Design Document Name** use `products`. Note that the full design document name will be `_design/dev_products`

For the **View Name** use `by_category`

Click "Save"

Use the following JavaScript as the **Map** function for the view. This will create a view whose value is the category name, if it has a `doc_type` property whose value is "product" and the document has a `category` property. The value in the index is *null*.

```
function (doc, meta) {
  if(doc.doc_type && doc.doc_type === "product" && doc.category){
    emit(doc.category, null);
  }
}
```

For the **Reduce** function enter the value of `_count` and click the "Save" button

You can click on the "Show Results" button to see partial data from index.

We now need to publish our Development View to Production. To do this scroll up to the top of the page, and click on Views.

Make sure you are on the **Development Views** tab and next to `_design/dev_products` click on the "Publish" button. This will move your `product` Design Document to production and create the index against all of the documents in the entire bucket for the view `by_category`.

Exercise 4.b - Querying the Categories View

There are 2 queries that need to be performed, the first is we need to get the true total number of products in the category for pagination, and the second is to actually get the products that match the category on a

given page as there are only 24 products shown at a time.

Open `exercise4/com/example/CategoryService.cfc` in your IDE

Modify the `getProductsTotalForCategory` method to query Couchbase View. This will call the CFCouchbase `query()` method with the following arguments:

```
query = cb.query(
    designDocumentName = "products",
    viewName = "by_category",
    options = {
        key = arguments.category
    }
);
```

Modify the `getProductsByCategory` method to query Couchbase View. This will call the CFCouchbase `query()` method with the following arguments:

```
query = cb.query(
    designDocumentName = "products",
    viewName = "by_category",
    options = {
        reduce = false,
        includeDocs = true,
        key = arguments.category,
        limit = arguments.limit,
        offset = arguments.offset,
    }
);
```

Notice how the reduce option is set to false, this tells Couchbase to not run the reduce function and just return the results from the map function only.

Open the homepage (/exercise4/index.cfm) and click on any category from the menu to verify that you are seeing results.

For your reference the data from the `getProductsTotalForCategory` and `getProductsByCategory` method is used in the following views:

- exercise4/view/categories.cfm
- exercise4/view/includes/template.product.cfm

Exercise 4.c - Create a Brands View in Couchbase

Open up the Couchbase Admin Console by going to http://127.0.0.1:8091/ in a web browser

Choose Data Buckets

Click the "Views" button next to the **default** bucket

Click the "Development Views" tab, since we already have a Design Document, click the "Add View" button next to `design/dev_products`

For the **View Name** use `by_brand`

Click "Save"

Based on what you learned in Exercise 4.a create a view that will output the `brand` property for each document that has a `doc_type` of "product" and has the `brand` property present.

For the **Reduce** function enter the value of `_count` and click the "Save" button

We now need to publish our Development View to Production. To do this scroll up to the top of the page, and click on Views.

Make sure you are on the **Development Views** tab and next to `_design/dev_products` click on the "Publish" button. You will get a notification that the Design Document already exists and it will ask you to confirm that you want to overwrite it, click "Confirm". This will move your `product` Design Document to production and create the index against all of the documents in the entire bucket for all of the views in the view.

Exercise 4.d - Querying the Brands View

There are 2 queries that need to be performed, the first is we need to get the true total number of products in the brand for pagination, and the second is to actually get the products that match the brand on a given page as there are only 24 products shown at a time.

Open `exercise4/com/example/BrandService.cfc` in your IDE

Using what you learned in Exercise 4.b modify the `getProductsTotalForBrand` method to query Couchbase Design Document of `products` and the View `by_brand`.

Using what you learned in Exercise 4.b modify the `getProductsByBrand` method to query Couchbase Design Document of `products` and the View `by_brand` and get the results.

Open the homepage (/exercise4/index.cfm) and click on any Brand from the menu to verify that you are seeing results.

For your reference the data from the `getProductsTotalForBrand` and `getProductsByBrand` method is used in the following views:

- exercise4/view/brands.cfm
- exercise4/view/includes/template.product.cfm