

# **Grocery Chain Inventory Management System**

Implementation in NoSQL

## **Group 16**

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**Percentage of effort contributed by Student1: 50%**

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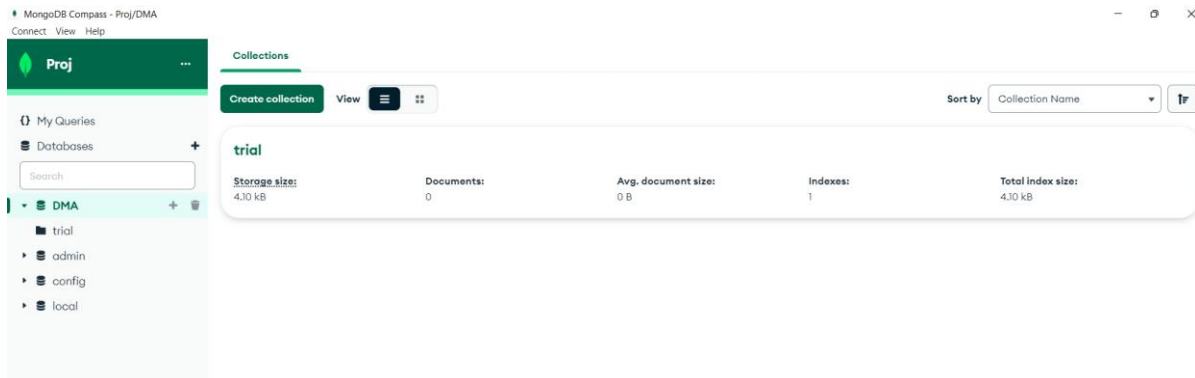
**Signature of Student 1: Nethra Narayanan**

**Signature of Student 2: Pratyusha Yellapragada**

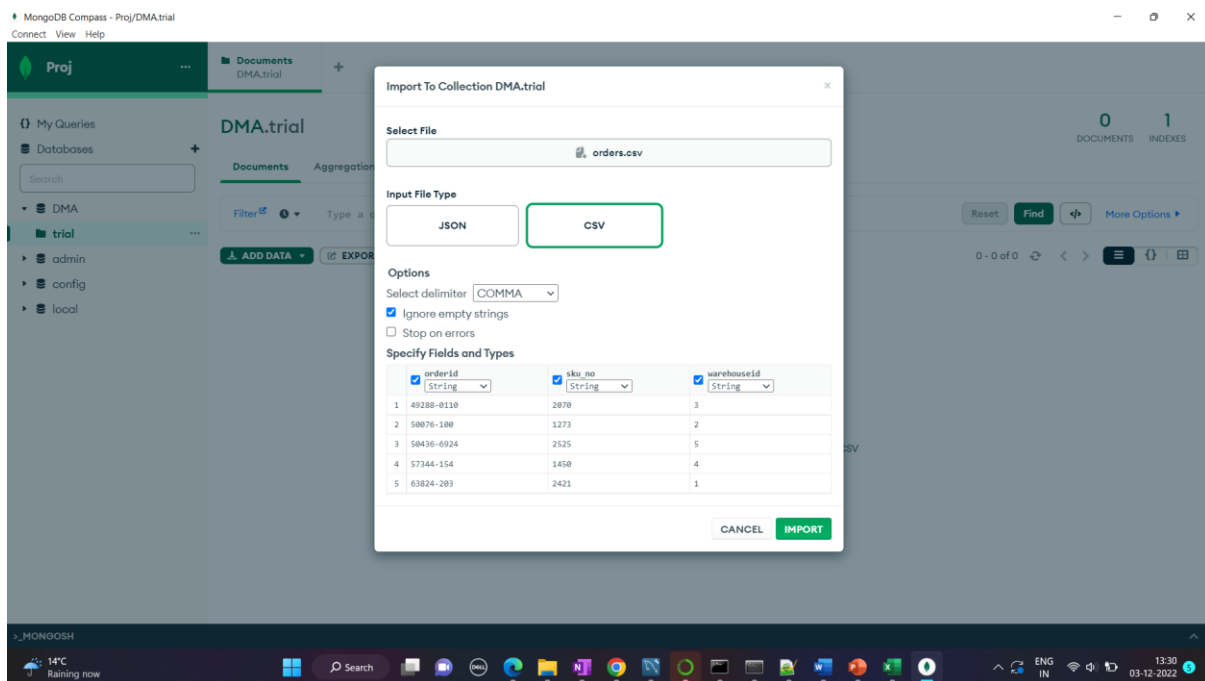
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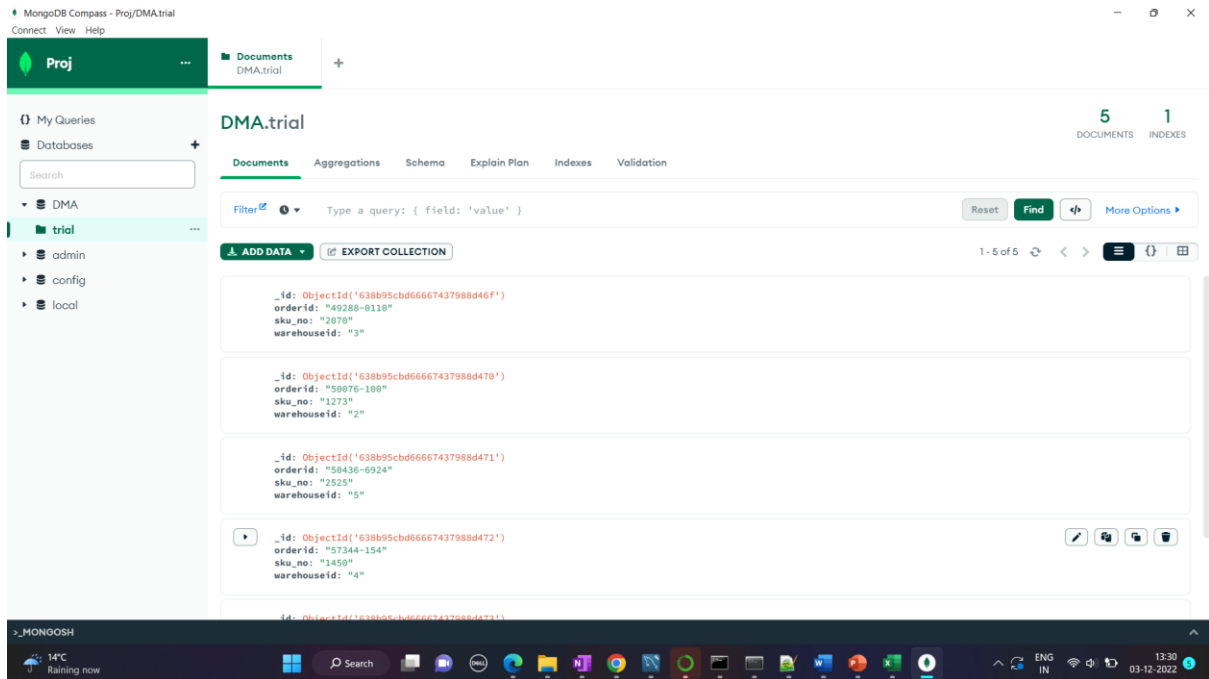
We have implemented the project in NoSQL in MongoDB Community Edition

Here we created a Database named DMA and Collection named trial as seen below



Into the collection we imported the same csv files we used for our SQL implementation





Similarly we did it for our tables product, shift, employee and warehouse.

Below are two simple queries we have written on this collection.

First to find all products with balance on hand less than 30 and another one to retrieve all managers

```
> db.trial.find({balance_on_hand:{$lt: "30"}}).pretty()
< { _id: ObjectId("638a81817abf03bf1d318e3f"),
  sku_no: '3211',
  sku_desc: 'bathroom cleaner',
  store_aisle_no: '1001-7',
  balance_on_hand: '10',
  shelf_capacity: '20' }
{ _id: ObjectId("638a81817abf03bf1d318e40"),
  sku_no: '2193',
  sku_desc: 'beef',
  store_aisle_no: '1001-12',
  balance_on_hand: '11',
  shelf_capacity: '21' }
{ _id: ObjectId("638a81817abf03bf1d318e41"),
  sku_no: '3841',
  sku_desc: 'berries',
  store_aisle_no: '1001-1',
  balance_on_hand: '12',
  shelf_capacity: '22' }
{ _id: ObjectId("638a81817abf03bf1d318e42"),
```

>\_MONGOSH

```
> db.trial.find({shiftid:{$eq: "fullshift" }})
< { _id: ObjectId("638a9eca4f2cf816837e7bf0"),
  employeeid: '1',
  roleid: 'MAN-01',
  shiftid: 'fullshift' }
{ _id: ObjectId("638a9eca4f2cf816837e7bf5"),
  employeeid: '6',
  roleid: 'MAN-01',
  shiftid: 'fullshift' }
{ _id: ObjectId("638a9eca4f2cf816837e7bfa"),
  employeeid: '11',
  roleid: 'MAN-01',
  shiftid: 'fullshift' }
{ _id: ObjectId("638a9eca4f2cf816837e7bff"),
  employeeid: '16',
  roleid: 'MAN-01',
  shiftid: 'fullshift' }
{ _id: ObjectId("638a9eca4f2cf816837e7c04"),
  employeeid: '21',
  roleid: 'MAN-01',
```

Next, we have written the following aggregate queries:

Here all values except the manager values as matched, are grouped according to the store id.

```
>_MONGOSH
> db.trial.aggregate( [
  // Stage 1: Filter roles and choose associate employees
  {
    $match: { roleid: "MAN-01" }
  },
  // Stage 2: Group remaining values by store id
  {
    $group: { _id: "$storeid" }
  }
] )
< { _id: '3002' }
{ _id: '5007' }
{ _id: '2011' }
{ _id: null }
{ _id: '2005' }
{ _id: '2001' }
{ _id: '3008' }
{ _id: '2009' }
{ _id: '1001' }
{ _id: '2002' }
```

All the Store Associated are retrieved using the match function:

```
>_MONGOSH
> db.trial.aggregate([{$match:{roleid:"ASS-01"}}])
< { _id: ObjectId("638a9ea34f2cf816837e7af7"),
  employeeid: '2',
  roleid: 'ASS-01',
  first_name: 'Ricki',
  last_name: 'Elloy',
  date_of_birth: '1979-09-23',
  storeid: '1001' }
{ _id: ObjectId("638a9ea34f2cf816837e7afc"),
  employeeid: '7',
  roleid: 'ASS-01',
  first_name: 'Demetrius',
  last_name: 'Sallows',
  date_of_birth: '1996-04-14',
  storeid: '1002' }
{ _id: ObjectId("638a9ea34f2cf816837e7b01"),
  employeeid: '12',
  roleid: 'ASS-01',
  first_name: 'Caralie',
  last_name: 'Trayes',
```

The following query uses aggregate sum to provide the total cost of items by multiplying the unit cost with the case quantity:

```
> db.sum.aggregate(
  [
    {
      $group:
        {
          _id:"$sku_no",
          totalCost: { $sum: { $multiply: [ "$case_qty", "$unit_cost" ] } },
          count: { $sum: 1 }
        }
    }
  ]
)
< { _id: '1997', totalCost: 30, count: 1 }
{ _id: '1373', totalCost: 6, count: 1 }
{ _id: '2300', totalCost: 6, count: 1 }
{ _id: '1748', totalCost: 117, count: 1 }
{ _id: '2022', totalCost: 87, count: 1 }
{ _id: '4525', totalCost: 6, count: 1 }
{ _id: '3972', totalCost: 6, count: 1 }
{ _id: '2290', totalCost: 6, count: 1 }
```