

## Group B : Lab Assignment no. 2

**Title :Implement aggregation and indexing with suitable example using MongoDB**

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**dipti@dipti-VPCEG28FN:~\$ mongo**

**MongoDB shell version v3.6.3**

**connecting to: mongodb://127.0.0.1:27017**

**MongoDB server version: 3.6.3**

**Server has startup warnings:**

**2020-10-15T14:26:28.786+0530 I STORAGE [initandlisten]**

**2020-10-15T14:26:28.786+0530 I STORAGE [initandlisten] \*\* WARNING:**

**Using the XFS filesystem is strongly recommended with the WiredTiger storage engine**

**2020-10-15T14:26:28.786+0530 I STORAGE [initandlisten] \*\* See**

**<http://dochub.mongodb.org/core/prodnotes-filesystem>**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten]**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten] \*\* WARNING:**

**Access control is not enabled for the database.**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten] \*\* Read and write access to data and configuration is unrestricted.**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten]**

**>**

**//USE DATABASE**

**> use comp;**

**switched to db comp**

**//CREATE COLLECTION WEBSITE**

**> db.createCollection('website');**

**{ "ok" : 1 }**

**//INSERT VALUES IN WEBSITE**

**>**

**db.website.insert({'roll':'1','name':'harsh','amount':1000,'url':'www.yahoo.com'});**

**WriteResult({ "nInserted" : 1 })**

```
>db.website.insert({'roll':'2','name':'jitesh','amount':2000,'url':'www.yahoo.com'});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.website.insert({'roll':'3','name':'rina','amount':3000,'url':'www.google.com'});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.website.insert({'roll':'4','name':'ash','amount':4000,'url':'www.gmail.com'})  
;
```

```
WriteResult({ "nInserted" : 1 })
```

```
>db.website.insert({'roll':'5','name':'ash','amount':1000,'url':'www.pvg.com'});
```

```
WriteResult({ "nInserted" : 1 })
```

**//SUM AGGREGATE**

```
> db.website.aggregate({$group:{_id:"$name","total":{$sum:"$amount"}}});  
{ "_id" : "ash", "total" : 5000 }  
{ "_id" : "rina", "total" : 3000 }  
{ "_id" : "jitesh", "total" : 2000 }  
{ "_id" : "harsh", "total" : 2000 }
```

**//AVG AGGREGATE**

```
> db.website.aggregate({$group:{_id:"$name","total":  
{$avg:"$amount"}}});  
{ "_id" : "ash", "total" : 2500 }  
{ "_id" : "rina", "total" : 3000 }  
{ "_id" : "jitesh", "total" : 2000 }  
{ "_id" : "harsh", "total" : 1000 }
```

**//MIN AGGREGATION**

```
> db.website.aggregate({$group:{_id:"$name","total":{$min:"$amount"}}});  
{ "_id" : "ash", "total" : 1000 }  
{ "_id" : "rina", "total" : 3000 }  
{ "_id" : "jitesh", "total" : 2000 }  
{ "_id" : "harsh", "total" : 1000 }
```

## //MAX AGGREGATION

```
> db.website.aggregate({$group:{_id:"$name","total":{$max:"$amount"}}});
{ "_id" : "ash", "total" : 4000 }
{ "_id" : "rina", "total" : 3000 }
{ "_id" : "jitesh", "total" : 2000 }
{ "_id" : "harsh", "total" : 1000 }
```

## //FIRST AGGREGATION

```
> db.website.aggregate({$group:{_id:"$name","total":{$first:"$amount"}}});
{ "_id" : "ash", "total" : 4000 }
{ "_id" : "rina", "total" : 3000 }
{ "_id" : "jitesh", "total" : 2000 }
{ "_id" : "harsh", "total" : 1000 }
```

## //LAST AGGREGATION

```
> db.website.aggregate({$group:{_id:"$name","total":{$last:"$amount"}}});
{ "_id" : "ash", "total" : 1000 }
{ "_id" : "rina", "total" : 3000 }
{ "_id" : "jitesh", "total" : 2000 }
{ "_id" : "harsh", "total" : 1000 }
```

## //PUSH AGGREGATION

```
> db.website.aggregate({$group:{_id:"$name","total":
{$push:"$amount"}}});
{ "_id" : "ash", "total" : [ 4000, 1000 ] }
{ "_id" : "rina", "total" : [ 3000 ] }
{ "_id" : "jitesh", "total" : [ 2000 ] }
{ "_id" : "harsh", "total" : [ 1000, 1000 ] }
```

## //COUNT AGGREGATION

```
> db.website.aggregate({$group:{_id:"$name","total": {$sum:1}}});
{ "_id" : "ash", "total" : 2 }
{ "_id" : "rina", "total" : 1 }
{ "_id" : "jitesh", "total" : 1 }
{ "_id" : "harsh", "total" : 2 }
```

## //ADDTOSET AGGREGATE

```
> db.website.aggregate({$group:
  {_id:"$name","total":{"addToSet":{"amount"}}});
{ "_id" : "ash", "total" : [ 1000, 4000 ] }
{ "_id" : "rina", "total" : [ 3000 ] }
{ "_id" : "jitesh", "total" : [ 2000 ] }
{ "_id" : "harsh", "total" : [ 1000 ] }
```

## //INDEXING

```
> db.createCollection('website1');
{ "ok" : 1 }
```

```
> db.website1.insert({'r':1,'name':'harsh'});
WriteResult({ "nInserted" : 1 })
```

```
> db.website1.find().pretty()
{ "_id" : ObjectId("5ba3509a444926329738012d"), "roll" : 1,
  "name" : "harsh" }
{ "_id" : ObjectId("5ba35293444926329738012e"), "roll" : 1,
  "name" : "harsh" }
```

```
> db.website1.createIndex({'name':1})
{ "numIndexesBefore" : 2, "note" : "all indexes already
exist", "ok" : 1 }//CREATE INDEXING
```

```
> db.website1.createIndex({'name':-1})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 2,
  "numIndexesAfter" : 3,
  "ok" : 1
}
```

```
> db.website1.getIndexes()
2018-09-20T13:28:09.628+0530 TypeError: Property 'getIndexes'
of object om.website is not a
function
```

```
> db.website1.getIndexes()
[
  {"v" : 1,
    "key" : {
```

```

  "_id" : 1
},
"name" : "_id_",
"ns" : "harsh.website1"
},
{
  "v" : 1,
  "key" : {
    "name" : 1
  },
  "name" : "name_1",
  "ns" : "harsh.website1"
},
{
  "v" : 1,
  "key" : {
    "name" : -1
  },
  "name" : "name_-1",
  "ns" : "harsh.website1"
}
]
> db.website1.createIndex({'name':-1})
{ "numIndexesBefore" : 3, "note" : "all indexes already
exist", "ok" : 1 }

```

## //DROP INDEX

```

> db.website.dropIndex({'name':-1})
{ "nIndexesWas" : 3, "ok" : 1 }>
db.website1.dropIndex({'name':1})
{ "nIndexesWas" : 2, "ok" : 1 }> db.website1.dropIndex({'name':1})
{
  "nIndexesWas" : 1,
  "ok" : 0,
  "errmsg" : "can't find index with key:{ name: 1.0 }"
}

```

## //GET INDEXING

```

> db.website1.getIndexes()
[
  {
    "v" : 1,
    "key" : {

```

```
"_id" : 1
},
"name" : "_id_",
"ns" : "harsh.website1"
}
]
```

```
> db.website1.find().pretty()
{ "_id" : ObjectId("5ba3509a444926329738012d"), "roll" : 1,
  "name" : "harsh" }
{ "_id" : ObjectId("5ba35293444926329738012e"), "roll" : 1,
  "name" : "harsh" }
```

```
>
> db.website1.createIndex({'name':1})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}
```

```
> db.website1.getIndexes()[
{
  "v" : 1,
  "key" : {
    "_id" : 1
  },
  "name" : "_id_",
  "ns" : "harsh.website1"
},
{
  "v" : 1,
  "key" : {"name" : 1
  },
  "name" : "name_1",
  "ns" : "harsh.website1"
}
]
```

```
> db.website1.dropIndex({'name':1})
{ "nIndexesWas" : 2, "ok" : 1 }
```

```
> db.website1.getIndexes()
[
```

```
{
  "v" : 1,
  "key" : {
    "_id" : 1
  },
  "name" : "_id_",
  "ns" : "harsh.website1"
}
```

```
> db.website1.createIndex({'name':1,'r':-1})
{"createdCollectionAutomatically" : false,
 "numIndexesBefore" : 1,
 "numIndexesAfter" : 2,
 "ok" : 1
}
```

```
> db.website1.getIndexes()
[
  {
    "v" : 1,
    "key" : {
      "_id" : 1
    },
    "name" : "_id_",
    "ns" : "harsh.website1"
  },
  {
    "v" : 1,
    "key" : {
      "name" : 1,
      "r" : -1
    },
    "name" : "name_1_r_-1",
    "ns" : "harsh.website1"
  }
] (i-search)`db.website1.insert({'roll':1,'name':'harsh'})`;
```