USE CASE STUDY REPORT : Milestone 4

Group No.: Group 15

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This report follows from the previous report which involved creating a SQL database and querying for some business problems. This report focuses on implementing the project in a NoSQL database in Mongodb. Here are some of the analytical problems solved using the database

NoSQL Queries :

1) The Analytics team at Job Search tool cross platform wants to know the jobs that are most popular and having the most number of applicants inorder to find the trend in the job market. The top 10 jobs with the most number of applicants The NoSQL query for the same is:

db.applicants.find().sort({NumberofApplicants: -1}).limit(10)

Output:

```
{
  _id: ObjectId("64385ebcae03f2a6530df419"),
  NoofApplicants: 153
}
> db.applicants.find().sort({NumberofApplicants: -1}).limit(10)
{
  _id: ObjectId("64385ebdae03f2a6530df41f"),
  JobID: -2813721,
  NoofApplicants: 122
}
{
  _id: ObjectId("64385ebdae03f2a6530df420"),
  JobID: -6650373,
  NoofApplicants: 135
}
{
  _id: ObjectId("64385ebdae03f2a6530df41b"),
  JobID: -5748297,
  NoofApplicants: 25
}
```

```
{
  _id: ObjectId("64385ebdae03f2a6530df41e"),
  JobID: -8408510,
  NoofApplicants: 196
}
{
  _id: ObjectId("64385ebdae03f2a6530df41c"),
  JobID: -7296158,
  NoofApplicants: 104
}
{
  _id: ObjectId("64385ebcae03f2a6530df41a"),
  JobID: -9150345,
  NoofApplicants: 210
}
{
  _id: ObjectId("64385ebcae03f2a6530df418"),
  JobID: -5449910,
  NoofApplicants: 63
}
{
  _id: ObjectId("64385ebcae03f2a6530df417"),
  JobID: -6528638,
  NoofApplicants: 249
}
{
  _id: ObjectId("64385ebcae03f2a6530df419"),
  JobID: -5296408,
  NoofApplicants: 153
}
{
  _id: ObjectId("64385ebdae03f2a6530df41d"),
  JobID: -9984004,
  NoofApplicants: 17
}
```

2) The Analytics team at Job Search tool cross platform wants to know about the jobs that are paying the highest salaries to give a report on salary trends.
Top 10 jobs with the highest salary
The NoSQL query for the same is:

db.job_listings.find({}, { _id: 0, JobID: 1, CompanyName: 1, Salary: 1 })
.sort({ Salary: -1 })
.limit(10)

Output:


```
{
  JobID: -1175244,
  CompanyName: 'LiveZ',
  Salary: '95375.3'
}
{
  JobID: -7564821,
  CompanyName: 'Voomm',
  Salary: '93297.64'
}
{
  JobID: -2925686,
  CompanyName: 'Thoughtworks',
  Salary: '86691.96'
}
{
  JobID: -9424595,
  CompanyName: 'Kazu',
  Salary: '76438.94'
}
{
  JobID: -5449910,
  CompanyName: 'Skivee',
  Salary: '72554.83'
}
{
  JobID: -7836812,
  CompanyName: 'Kare',
  Salary: '62159.12'
}
{
  JobID: -9989541,
  CompanyName: 'Centidel',
  Salary: '57047.19'
}
{
  JobID: -4218071,
  CompanyName: 'Realfire',
  Salary: '55437.38'
}
```

```
{
  JobID: -8765811,
  CompanyName: 'Skalith',
  Salary: '53530.9'
}
{
  JobID: -7624018,
  CompanyName: 'Skiba',
  Salary: '52720.7'
}
```


3) The Analytics team wants to know information regarding the demand for management roles and the companies currently hiring in order to target ads for people looking for management roles.
Find all job listings with a job title that contains the word "Manager"
The NoSQL query for the same is:

db.job_listings.find({ JobTitle: /Manager/ })

Output:


```
{
  _id: ObjectId("64385cc7ae03f2a6530df3c1"),
  JobID: -4893372,
  CompanyName: 'Jabbersphere',
  JobTitle: 'General Manager',
  Location: 'Lesnoye',
  Salary: '106139.9'
}
{
  _id: ObjectId("64385cc8ae03f2a6530df3c8"),
  JobID: -2326164,
  CompanyName: 'Devbug',
  JobTitle: 'General Manager',
  Location: 'Landivisiau',
  Salary: '288761.81'
}
{
  _id: ObjectId("64385cc8ae03f2a6530df3d0"),
  JobID: -5037695,
```

```
    CompanyName: 'Kayveo',
    JobTitle: 'Marketing Manager',
    Location: 'Khoyniki',
    Salary: '268917.75'
  }
  {
    _id: ObjectId("64385cc8ae03f2a6530df3e1"),
    JobID: -5680930,
    CompanyName: 'Flashdog',
    JobTitle: 'Project Manager',
    Location: 'Cigembor',
    Salary: '333629.14'
  }
  {
    _id: ObjectId("64385cc8ae03f2a6530df3e9"),
    JobID: -4889558,
    CompanyName: 'Gigabox',
    JobTitle: 'Media Manager I',
    Location: 'Butel',
    Salary: '228377.67'
```


4) The Analytics team wants the popularity of a certain jobtitle interms of number of applicants.

   The NoSQL query for the same is:

```
db.applicants.aggregate([
 {
  $lookup: {
   from: "job_listings",
   localField: "JobID",
   foreignField: "JobID",
   as: "job"
  }
 },
 {
  $unwind: "$job"
 },
 {
  $match: { "job.JobTitle": "Accountant I" }
 },
 {
  $count: "TotalApplicants"
 }
])
```

Output: