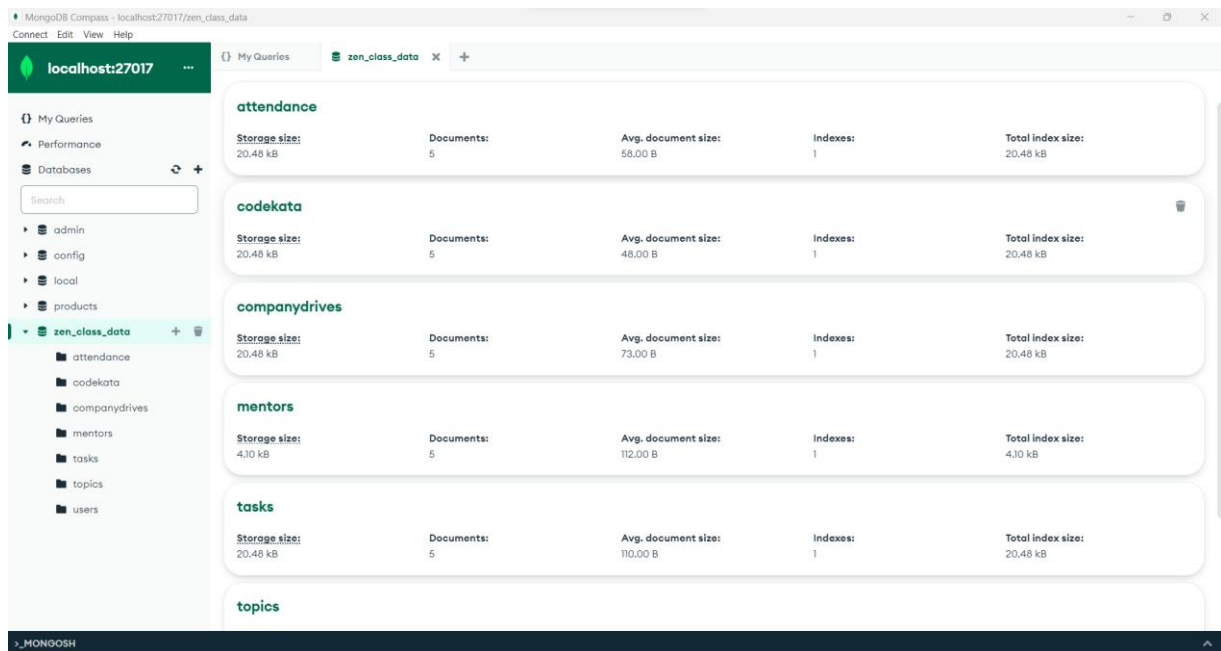# MongoDB Task – day 2

Design database for Zen class programme:

1. Find all the topics and tasks which are thought in the month of October.
   Solution:

   ```
    db.topics.aggregate([
   {
   $lookup: {
   from: "tasks",
   localField: "topicid",
   foreignField: "topicid",
   as: "taskinfo"
   }
   },
   {
   $match: {
   $and: [
   { topic_date: { $gte: new Date("2020-10-01"), $lt: new Date("2020-11-01") } },
   {
   $or: [
   { "taskinfo.due_date": { $gte: new Date("2020-10-01"), $lt: new Date("2020-11-
   01") } },
   { "taskinfo.due_date": { $exists: false } }
   ]
   }
   ]
   }
   },
   {
   ```

```
            $project: {
            _id: 0,
            topicid: 1,
            topic: 1,
            topic_date: 1,
            tasks: "$taskinfo.task",
            due_dates: "$taskinfo.due_date"
            }
            }

            ])
```

2. Find all the company drives which appeared between 15 oct-2020 and 31-oct-2020.

Solution :

```
        db.companydrives.find({
        $or: [
        { drive_date: { $gte: new Date("15-oct-2020") } },
        { drive_date: { $lte: new Date("31-oct-2020") } }
        ]
        })
```

3. Find all the company drives and students who are appeared for the placement.

```
        db.companydrives.aggregate([
        {
        $lookup: {
        from: "users",
        localField: "userid",
        foreignField: "userid",
        as: "userinfo"
        }
        },
        {
        $project: {
        _id: 0,
        company: 1,
        drive_date: 1,
        students: "$userinfo"
        }
        }
        ])
```

4. Find the number of problems solved by the user in codekata.
   Solution:

```
db.codekata.aggregate([
{
$lookup: {
from: "users",
localField: "userid",
foreignField: "userid",
as: "userinfo"
}
},
{
$group: {
_id: {
userid: "$userid",
username: "$userinfo.name"
},
total_problems_solved: { $sum: "$problems" }
}
},
{
$project: {
_id: 0,
userid: "$_id.userid",
username: "$_id.username",
total_problems_solved: 1
}
}

])
```

5. Find all the mentors with who has the mentee's count more than 15.
   Solution:

```
db.users.aggregate([
{
$match: { mentorid: { $exists: true } }
},
{
$group: {
_id: "$mentorid",
mentorname: { $first: "$mentorname" },
mentee_count: { $sum: 1 }
}
},
{
$match: { mentee_count: { $gt: 15 } }
},
{
```

```
$project: {
_id: 0,
mentorid: "$_id",
mentorname: 1,
mentee_count: 1
}
}

])
```

6. Find the number of users who are absent and task is not submitted between
15 oct-2020 and 31-oct-2020.
Solution:

```
db.attendance.aggregate([
{
$lookup: {
from: "topics",
localField: "topicid",
foreignField: "topicid",
as: "topics"
}
},
{
$lookup: {
from: "tasks",
localField: "topicid",
foreignField: "topicid",
as: "tasks"
}
},
{
$match: {
attended: false,
"tasks.submitted": false,
$and: [
{ "topics.topic_date": { $gte: new Date("15-oct-2020") } },
{ "topics.topic_date": { $lte: new Date("31-oct-2020") } },
{ "tasks.due_date": { $gte: new Date("15-oct-2020") } },
{ "tasks.due_date": { $lte: new Date("31-oct-2020") } }
]
}
},
{$count: "No_of_students_absent"}
])
```