Assessment 1 – MongoDB and MYSQL
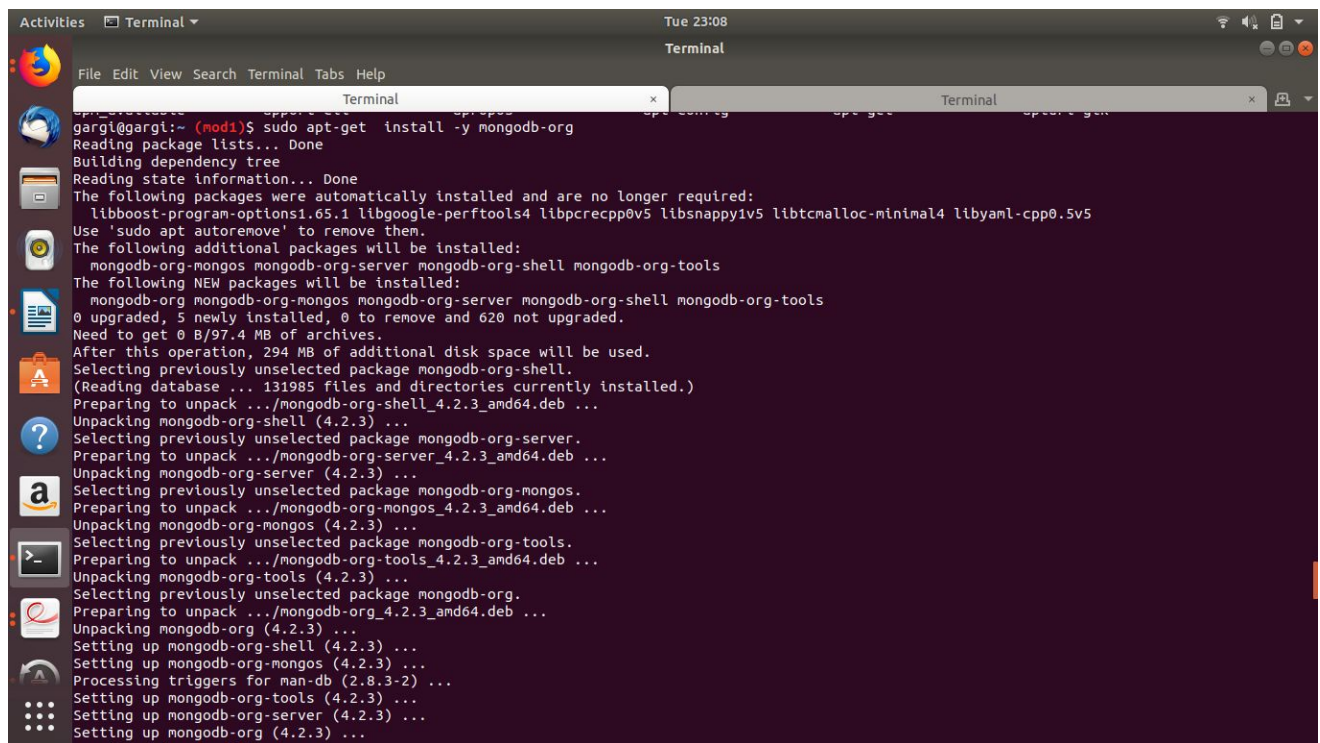
Trainee Name : Gargi Sharma

Mentor Name : Mr. Ravi Kumar

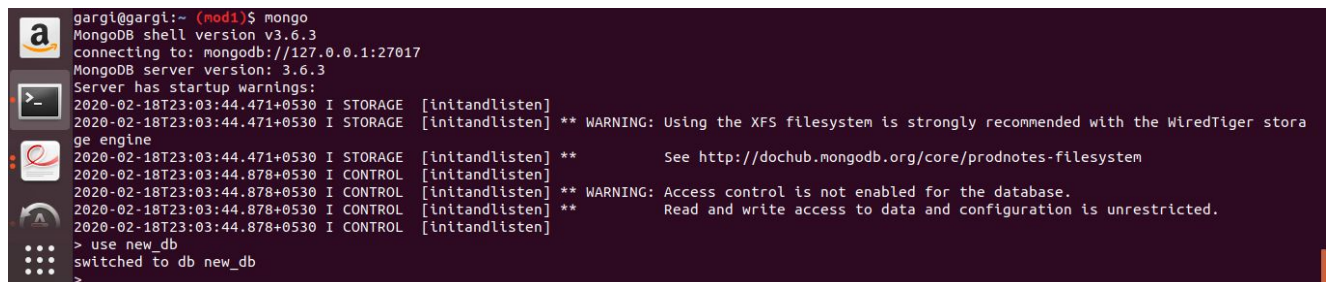## College Name : UPES

MONGODB

1. **Install latest version of MongoDB from apt-get repository**

2.Create a database student

3.Insert operation : 5 students data (Name, Contact, City, Roll No, Branch)

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```
>
> db.student.insert({name: 'Gargi', Contact : '9719797046' , City:'Udaipur' , RollNo: '68', Branch: 'Computer Science'})
WriteResult({ "nInserted" : 1 })
> db.student.insert({name: 'Arun', Contact : '9767908888' , City:'Agra' , RollNo: '41', Branch: 'Computer Science'})
WriteResult({ "nInserted" : 1 })
> db.student.insert({name: 'Eva', Contact : '9767906777' , City:'Delhi' , RollNo: '66', Branch: 'Computer Science'})
WriteResult({ "nInserted" : 1 })
> db.student.insert({name: 'Navin', Contact : '9767777555' , City:'Chennai' , RollNo: '78', Branch: 'IT INFRA'})
WriteResult({ "nInserted" : 1 })
> db.student.insert({name: 'Chhavi', Contact : '9767777535' , City:'Jaipur' , RollNo: '79', Branch: 'E-Commerce'})
WriteResult({ "nInserted" : 1 })
> db.student.find().pretty();
{
        "_id" : ObjectId("5e4c24377edd648ed8a40912"),
        "name" : "Gargi",
        "Contact" : "9719797046",
        "City" : "Udaipur",
        "RollNo" : "68",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c248a7edd648ed8a40913"),
        "name" : "Arun",
        "Contact" : "9767908888",
        "City" : "Agra",
        "RollNo" : "41",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24a37edd648ed8a40914"),
        "name" : "Eva",
        "Contact" : "9767906777",
        "City" : "Delhi",
        "RollNo" : "66",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24cc7edd648ed8a40915"),
```

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```
        "Contact" : "9719797046",
        "City" : "Udaipur",
        "RollNo" : "68",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c248a7edd648ed8a40913"),
        "name" : "Arun",
        "Contact" : "9767908888",
        "City" : "Agra",
        "RollNo" : "41",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24a37edd648ed8a40914"),
        "name" : "Eva",
        "Contact" : "9767906777",
        "City" : "Delhi",
        "RollNo" : "66",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24cc7edd648ed8a40915"),
        "name" : "Navin",
        "Contact" : "9767777555",
        "City" : "Chennai",
        "RollNo" : "78",
        "Branch" : "IT INFRA"
}
{
        "_id" : ObjectId("5e4c24fc7edd648ed8a40916"),
        "name" : "Chhavi",
        "Contact" : "9767777535",
        "City" : "Jaipur",
        "RollNo" : "79",
        "Branch" : "E-Commerce"
}
> 
```

4.Read operation : All the students belong to a particular city

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```
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c248a7edd648ed8a40913"),
        "name" : "Arun",
        "Contact" : "9767908888",
        "City" : "Agra",
        "RollNo" : "41",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24a37edd648ed8a40914"),
        "name" : "Eva",
        "Contact" : "9767906777",
        "City" : "Delhi",
        "RollNo" : "66",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24cc7edd648ed8a40915"),
        "name" : "Navin",
        "Contact" : "9767777555",
        "City" : "Chennai",
        "RollNo" : "78",
        "Branch" : "IT INFRA"
}
{
        "_id" : ObjectId("5e4c24fc7edd648ed8a40916"),
        "name" : "Chhavi",
        "Contact" : "9767777535",
        "City" : "Jaipur",
        "RollNo" : "79",
        "Branch" : "E-Commerce"
}
> db.student.find({City:'Udaipur'})
{ "_id" : ObjectId("5e4c24377edd648ed8a40912"), "name" : "Gargi", "Contact" : "9719797046", "City" : "Udaipur", "RollNo" : "68", "Branch" : "C
omputer Science" }
>
```

5.Update operation : Update the branch of all the students to CSE

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```
> db.student.updateMany({},{ $set: { Branch: 'Computer Science'}})
{ "acknowledged" : true, "matchedCount" : 5, "modifiedCount" : 2 }
> db.student.find().pretty();
{
        "_id" : ObjectId("5e4c24377edd648ed8a40912"),
        "name" : "Gargi",
        "Contact" : "9719797046",
        "City" : "Udaipur",
        "RollNo" : "68",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c248a7edd648ed8a40913"),
        "name" : "Arun",
        "Contact" : "9767908888",
        "City" : "Agra",
        "RollNo" : "41",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24a37edd648ed8a40914"),
        "name" : "Eva",
        "Contact" : "9767906777",
        "City" : "Delhi",
        "RollNo" : "66",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24cc7edd648ed8a40915"),
        "name" : "Navin",
        "Contact" : "9767777555",
        "City" : "Chennai",
        "RollNo" : "78",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c24fc7edd648ed8a40916"),
        "name" : "Chhavi",
```

6.Take dump of the database

```
2020-02-18T23:49:12.903+0530 E QUERY    [thread1] SyntaxError: Missing ; before statement @(shell):1.12
> exit
bye
gargi@gargi:~ (mod1)$ sudo moongodump --db new_db --out /home/gargi/Documents/mongobackup/`date +"%m-%d-%y"`
sudo: moongodump: command not found
gargi@gargi:~ (mod1)$ sudo mongodump --db new_db --out /home/gargi/Documents/mongobackup/`date +"%m-%d-%y"`
2020-02-18T23:54:32.847+0530    writing new_db.student to
2020-02-18T23:54:32.850+0530    done dumping new_db.student (5 documents)
gargi@gargi:~ (mod1)$
```

7.Delete operation : Delete the record of last 2 students according to the roll number

```
> for(i=0;i<2;i++) { db.student.findAndModify({query :{}, sort: {"RollNo" : -1}, remove:true}) }
{
        "_id" : ObjectId("5e4c34eb51637e5a0bdfd90e"),
        "name" : "Navin",
        "Contact" : "9767777555",
        "City" : "Chennai",
        "RollNo" : "78",
        "Branch" : "IT INFRA"
}
> db.student.find().pretty();
{
        "_id" : ObjectId("5e4c34c351637e5a0bdfd90b"),
        "name" : "Gargi",
        "Contact" : "9719797046",
        "City" : "Udaipur",
        "RollNo" : "68",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c34ce51637e5a0bdfd90c"),
        "name" : "Arun",
        "Contact" : "9767908888",
        "City" : "Agra",
        "RollNo" : "41",
        "Branch" : "Computer Science"
}
{
        "_id" : ObjectId("5e4c34de51637e5a0bdfd90d"),
        "name" : "Eva",
        "Contact" : "9767906777",
        "City" : "Delhi",
        "RollNo" : "66",
        "Branch" : "Computer Science"
}
>
```

8.Drop the database

```
> db.dropDatabase() ;
{ "dropped" : "new_db", "ok" : 1 }
> showdbs
2020-02-19T00:40:48.619+0530 E QUERY    [thread1] ReferenceError: showdbs is not defined :
@(shell):1:1
> show dbs
admin   0.000GB
config  0.000GB
local   0.000GB
>
```

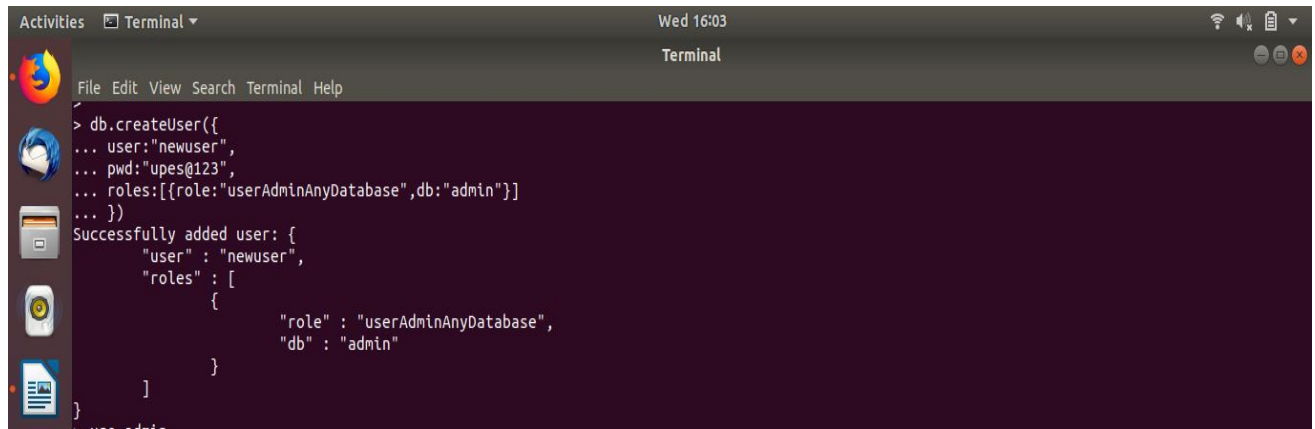## 9.Restore the database again to have the full data

10.Enable authentication on the Mongo
 Create Authentication:
 db.createUser({
 ... user:"newuser",
 ... pwd:"upes@123",
 ... roles:[{role:"userAdminAnyDatabase",db:"admin"}]
 ... })
 Successfully added user: {
    "user" : "newuser",
    "roles" : [
        {
            "role" : "userAdminAnyDatabase",
            "db" : "admin"
        }
    ]
}

```
Terminal
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> db.createUser({
... user:"newuser",
... pwd:"upes@123",
... roles:[{role:"userAdminAnyDatabase",db:"admin"}]
... })
Successfully added user: {
        "user" : "newuser",
        "roles" : [
                {
                        "role" : "userAdminAnyDatabase",
                        "db" : "admin"
                }
        ]
}
> use admin
```
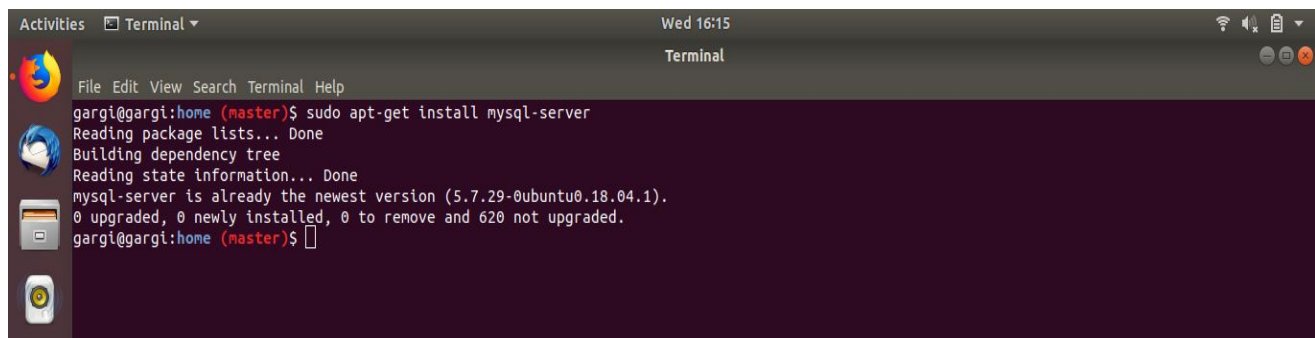
Check Authentication:

```
0
> use admin
switched to db admin
> db.auth("newuser" , "upes@123")
1
>
```

MYSQL

1. Install latest version of MySQL from apt-get repository

```
Terminal
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gargi@gargi:home (master)$ sudo apt-get install mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
mysql-server is already the newest version (5.7.29-0ubuntu0.18.04.1).
0 upgraded, 0 newly installed, 0 to remove and 620 not upgraded.
gargi@gargi:home (master)$
```

2. Create a database student

```
mysql> show databases
    -> ;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| WEBSITE            |
| mydb               |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
6 rows in set (0.00 sec)

mysql> create database student;
Query OK, 1 row affected (0.00 sec)

mysql>
```

3. Insert operation : 5 students data (Name, Contact, City, Roll No, Branch)

```
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Query OK, 1 row affected (0.00 sec)

mysql> use student;
Database changed
mysql> create table stu_details(rollno int(5) primary key,
    -> name varchar(255) not null,
    -> city varchar(255),
    -> branch varchar(20),
    -> contact int(10));
Query OK, 0 rows affected (0.02 sec)

mysql> desc stu_details;
+---------+--------------+------+-----+---------+-------+
| Field   | Type         | Null | Key | Default | Extra |
+---------+--------------+------+-----+---------+-------+
| rollno  | int(5)       | NO   | PRI | NULL    |       |
| name    | varchar(255) | NO   |     | NULL    |       |
| city    | varchar(255) | YES  |     | NULL    |       |
| branch  | varchar(20)  | YES  |     | NULL    |       |
| contact | int(10)      | YES  |     | NULL    |       |
+---------+--------------+------+-----+---------+-------+
5 rows in set (0.01 sec)
```

```
mysql> insert into stu_details values(1,"Gargi","Udaipur","cse",9719046),(2,"Chhavi","NewDelhi","Ho
ing",9057284),(3,"Arun","Agra","finance",7060963),(4,"Janhvi","gurgaon","Big data",7040917),(5,"Kri
warka","Hadoop",807070);
Query OK, 5 rows affected (0.00 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

4. Read operation : All the students belong to a particular city

```
mysql> select * from stu_details where city="Udaipur";
+--------+-------+---------+--------+---------+
| rollno | name  | city    | branch | contact |
+--------+-------+---------+--------+---------+
|      1 | Gargi | Udaipur | cse    | 9719046 |
+--------+-------+---------+--------+---------+
1 row in set (0.00 sec)

mysql>
```

5. Update operation : Update the branch of all the students to CSE

```
Activities    Terminal ▾                                    Wed 16:40
                                                            Terminal

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mysql> select * from stu_details where city="Udaipur";
+--------+-------+---------+--------+---------+
| rollno | name  | city    | branch | contact |
+--------+-------+---------+--------+---------+
|      1 | Gargi | Udaipur | cse    | 9719046 |
+--------+-------+---------+--------+---------+
1 row in set (0.00 sec)

mysql> update stu_details set branch="CSE";
Query OK, 5 rows affected (0.04 sec)
Rows matched: 5  Changed: 5  Warnings: 0

mysql> select * from stu_details;
+--------+---------+----------+--------+---------+
| rollno | name    | city     | branch | contact |
+--------+---------+----------+--------+---------+
|      1 | Gargi   | Udaipur  | CSE    | 9719046 |
|      2 | Chhavi  | NewDelhi | CSE    | 9057284 |
|      3 | Arun    | Agra     | CSE    | 7060963 |
|      4 | Janhvi  | gurgaon  | CSE    | 7040917 |
|      5 | Kritika | Dwarka   | CSE    |  807070 |
+--------+---------+----------+--------+---------+
5 rows in set (0.00 sec)

mysql>
```

6. Take dump of the database

```
gargi@gargi:home (master)$ sudo mysqldump student > /home/gargi/Documents/dump.sql
gargi@gargi:home (master)$
```

7. Delete operation : Delete the record of last 2 students according to the roll number

```
Activities    Terminal ▾                              Wed 16:46

                                    Terminal

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> delete from stu_details order by rollno desc limit 2;
ERROR 1046 (3D000): No database selected
mysql> use student
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> delete from stu_details order by rollno desc limit 2;
Query OK, 2 rows affected (0.03 sec)

mysql> mysql> select * from details;
ERROR 1146 (42S02): Table 'student.stu_detdetails' doesn't exist
mysql> select * from stu_details;
+--------+--------+----------+--------+---------+
| rollno | name   | city     | branch | contact |
+--------+--------+----------+--------+---------+
|      1 | Gargi  | Udaipur  | CSE    | 9719046 |
|      2 | Chhavi | NewDelhi | CSE    | 9057284 |
|      3 | Arun   | Agra     | CSE    | 7060963 |
+--------+--------+----------+--------+---------+
3 rows in set (0.00 sec)

mysql>
```

8. Drop database

```
mysql> drop database student;
Query OK, 1 row affected (0.05 sec)

mysql>
```

9. Restore the database again to have the full data

10. Enable authentication on the MySQL

```
mysql>
mysql> CREATE USER 'gargi'@'localhost' IDENTIFIED BY 'PASS';
ERROR 1819 (HY000): Your password does not satisfy the current policy requirements
mysql> CREATE USER 'gargi'@'localhost' IDENTIFIED BY 'Upes@123';
Query OK, 0 rows affected (0.00 sec)

mysql> gysql> grant select on student.* to 'gargi'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql>
```

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```
mysql>
mysql> CREATE USER 'gargi'@'localhost' IDENTIFIED BY 'PASS';
ERROR 1819 (HY000): Your password does not satisfy the current policy requirements
mysql> CREATE USER 'gargi'@'localhost' IDENTIFIED BY 'Upes@123';
Query OK, 0 rows affected (0.00 sec)

mysql> gysql> grant select on student.* to 'gargi'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql> exit
Bye
gargi@gargi:home (master)$ mysql -u gargi -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 28
Server version: 5.7.29-0ubuntu0.18.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```