

1)Create 3 tables named students,department,year

**2)student should contain relationship to both department and yearmysql>
create database gen_ai;**

Query OK, 1 row affected (0.01 sec)

mysql> use gen_ai;

Database changed

#creaating department table

mysql> -- Create the department table

mysql> CREATE TABLE department (

-> dept_id INT PRIMARY KEY AUTO_INCREMENT,

-> dept_name VARCHAR(50) NOT NULL

->);

Query OK, 0 rows affected (0.01 sec)

#creating year table

mysql>

mysql> -- Create the year table

mysql> CREATE TABLE year (

-> year_id INT PRIMARY KEY AUTO_INCREMENT,

-> year_name VARCHAR(20) NOT NULL

->);

Query OK, 0 rows affected (0.01 sec)

#creating student table and adding dept id and year id as foreign key

mysql>

mysql> -- Create the students table with foreign key relationships

mysql> CREATE TABLE students (

-> student_id INT PRIMARY KEY AUTO_INCREMENT,

-> student_name VARCHAR(100) NOT NULL,

-> dept_id INT,

-> year_id INT,

```
-> FOREIGN KEY (dept_id) REFERENCES department(dept_id),
-> FOREIGN KEY (year_id) REFERENCES year(year_id)
-> );
```

Query OK, 0 rows affected (0.03 sec)

mysql> desc department;

```
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| dept_id | int | NO | PRI | NULL | auto_increment |
| dept_name | varchar(50) | NO | | NULL | |
+-----+-----+-----+-----+-----+
```

2 rows in set (0.00 sec)

mysql> desc year;

```
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| year_id | int | NO | PRI | NULL | auto_increment |
| year_name | varchar(20) | NO | | NULL | |
+-----+-----+-----+-----+-----+
```

2 rows in set (0.00 sec)

mysql> desc student;

mysql> desc students;

```
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| student_id | int | NO | PRI | NULL | auto_increment |
| student_name | varchar(100) | NO | | NULL | |
+-----+-----+-----+-----+-----+
```

dept_id	int	YES	MUL	NULL		
year_id	int	YES	MUL	NULL		

+-----+-----+-----+-----+-----+

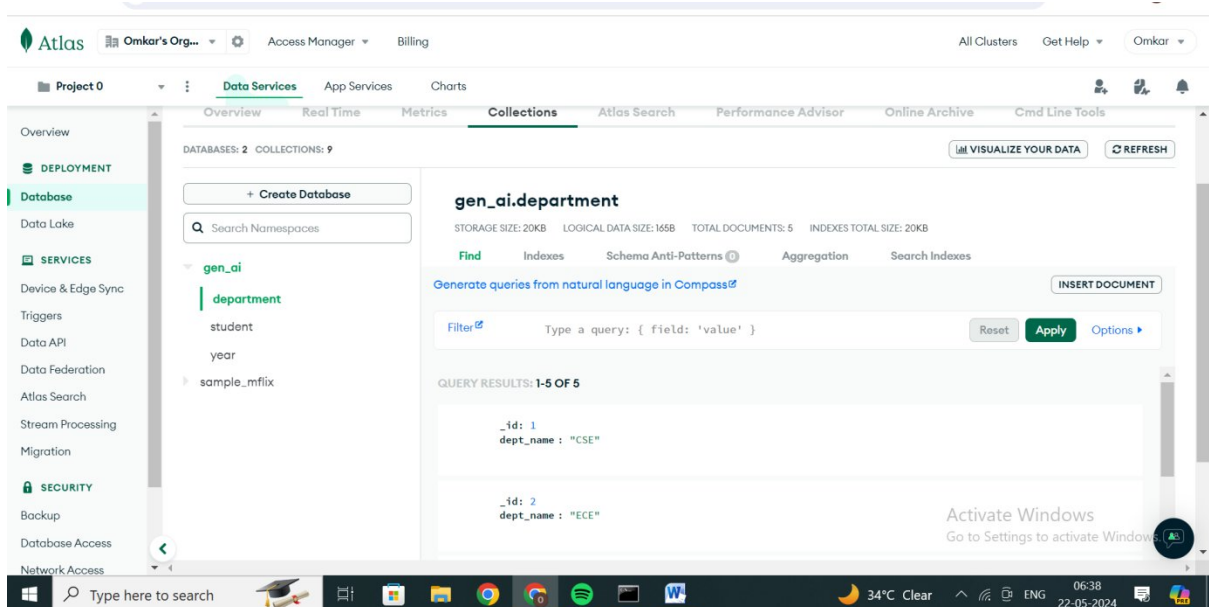
4 rows in set (0.00 sec)

3)use chatgpt and ask like "this is my table in mysql how can i create same in mongodb"

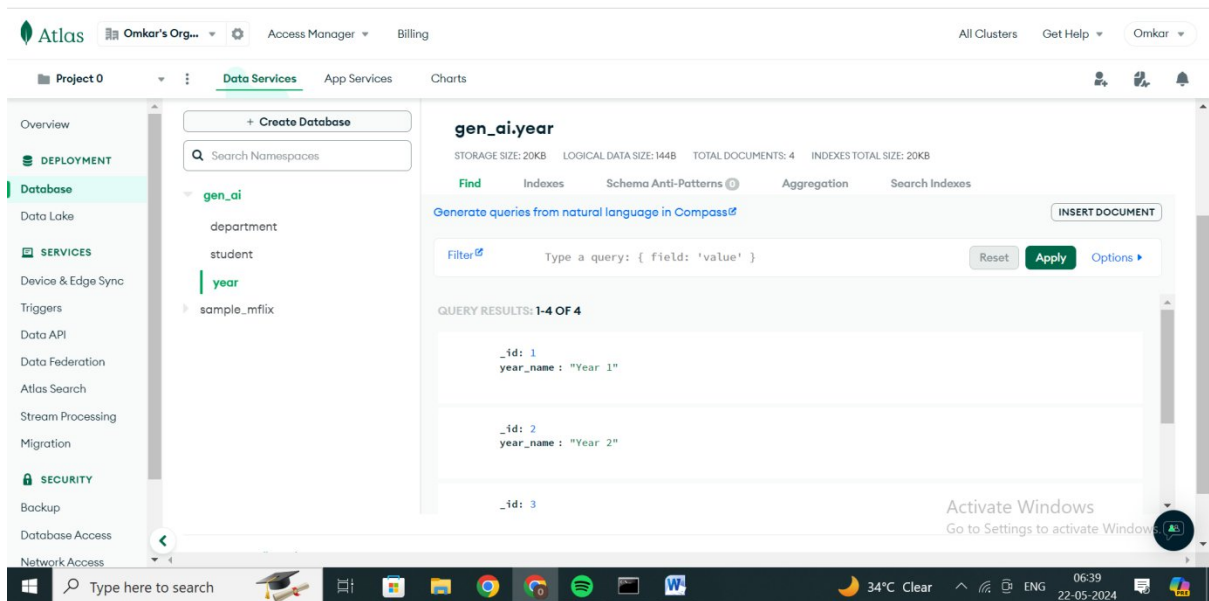
//Creating a database called gen_ai in mongodb and

Adding collections called Department,Year and Students using mango db atlas

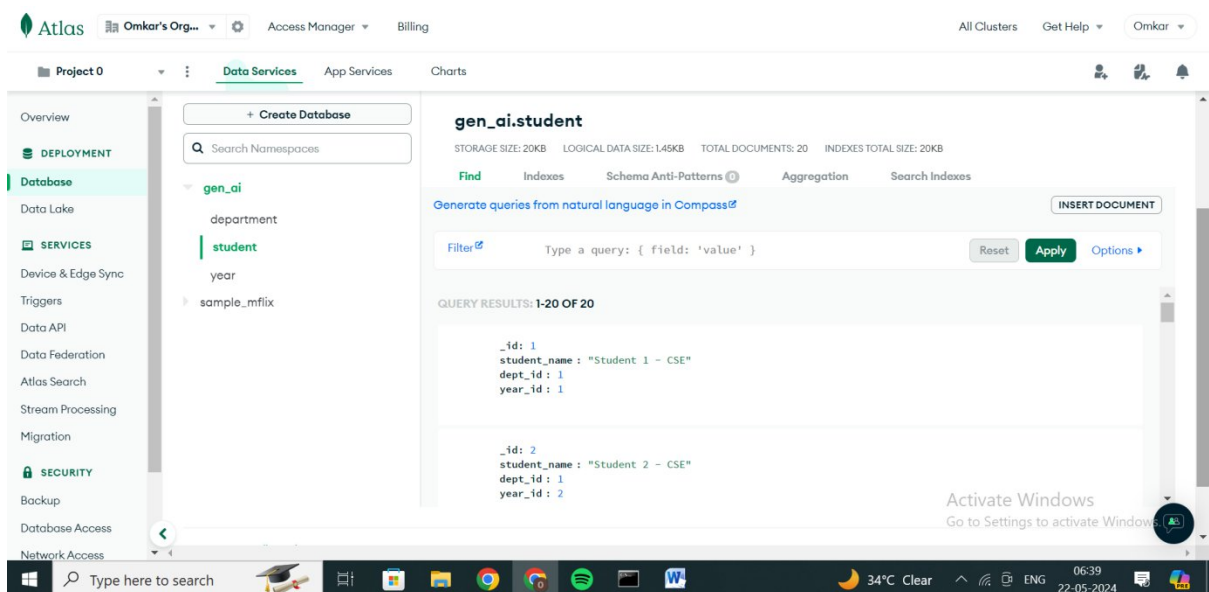
#Department collection



#Year collection



#Student Collection



4)store 5 students for each department

#inserting values into department table

mysql> INSERT INTO department (dept_name) VALUES

-> ('CSE'),

-> ('ECE'),

-> ('EE'),

```
-> ('ME'),  
-> ('Civil');
```

Query OK, 5 rows affected (0.01 sec)

Records: 5 Duplicates: 0 Warnings: 0

#Displaying values of Department table

```
mysql> select * from department;
```

```
+-----+-----+  
| dept_id | dept_name |  
+-----+-----+  
| 1 | CSE |  
| 2 | ECE |  
| 3 | EE |  
| 4 | ME |  
| 5 | Civil |  
+-----+-----+
```

5 rows in set (0.00 sec)

#inserting values into year table

```
mysql> INSERT INTO year (year_name) VALUES
```

```
-> ('Year 1'),  
-> ('Year 2'),  
-> ('Year 3'),  
-> ('Year 4');
```

Query OK, 4 rows affected (0.00 sec)

Records: 4 Duplicates: 0 Warnings: 0

#Displaying values of year table

```
mysql> select * from year;
```

```
+-----+-----+  
| year_id | year_name |  
+-----+-----+  
| 1 | Year 1 |
```

	2	Year 2	
	3	Year 3	
	4	Year 4	

```
+-----+-----+
```

4 rows in set (0.00 sec)

#inserting values into student table

```
mysql> INSERT INTO students (student_name, dept_id, year_id) VALUES
```

```
-> ('Student 1 - CSE', 1, 1), ('Student 2 - CSE', 1, 2), ('Student 3 - CSE', 1, 3), ('Student 4 - CSE', 1, 4),
```

```
-> ('Student 1 - ECE', 2, 1), ('Student 2 - ECE', 2, 2), ('Student 3 - ECE', 2, 3), ('Student 4 - ECE', 2, 4),
```

```
-> ('Student 1 - EE', 3, 1), ('Student 2 - EE', 3, 2), ('Student 3 - EE', 3, 3), ('Student 4 - EE', 3, 4),
```

```
-> ('Student 1 - ME', 4, 1), ('Student 2 - ME', 4, 2), ('Student 3 - ME', 4, 3), ('Student 4 - ME', 4, 4),
```

```
-> ('Student 1 - Civil', 5, 1), ('Student 2 - Civil', 5, 2), ('Student 3 - Civil', 5, 3), ('Student 4 - Civil', 5, 4);
```

Query OK, 20 rows affected (0.00 sec)

Records: 20 Duplicates: 0 Warnings: 0

#Displaying values of student table

```
mysql> select * from students;
```

```
+-----+-----+-----+-----+
```

student_id	student_name	dept_id	year_id	
------------	--------------	---------	---------	--

```
+-----+-----+-----+-----+
```

	1	Student 1 - CSE		1		1	
--	---	-----------------	--	---	--	---	--

	2	Student 2 - CSE		1		2	
--	---	-----------------	--	---	--	---	--

	3	Student 3 - CSE		1		3	
--	---	-----------------	--	---	--	---	--

	4	Student 4 - CSE		1		4	
--	---	-----------------	--	---	--	---	--

	5	Student 1 - ECE		2		1	
--	---	-----------------	--	---	--	---	--

	6	Student 2 - ECE		2		2	
--	---	-----------------	--	---	--	---	--

	7	Student 3 - ECE		2		3	
--	---	-----------------	--	---	--	---	--

	8	Student 4 - ECE		2		4	
--	---	-----------------	--	---	--	---	--

	9	Student 1 - EE		3		1	
--	---	----------------	--	---	--	---	--

	10	Student 2 - EE		3		2	
--	----	----------------	--	---	--	---	--

	11	Student 3 - EE		3		3	
	12	Student 4 - EE		3		4	
	13	Student 1 - ME		4		1	
	14	Student 2 - ME		4		2	
	15	Student 3 - ME		4		3	
	16	Student 4 - ME		4		4	
	17	Student 1 - Civil		5		1	
	18	Student 2 - Civil		5		2	
	19	Student 3 - Civil		5		3	
	20	Student 4 - Civil		5		4	

```
+-----+-----+-----+-----+
```

20 rows in set (0.00 sec)

5)write a query to display students from CSE department

```
mysql> SELECT students.student_id, students.student_name, department.dept_name
```

```
-> FROM students
```

```
-> JOIN department ON students.dept_id = department.dept_id
```

```
-> WHERE department.dept_name = 'CSE';
```

```
+-----+-----+-----+
```

	student_id	student_name		dept_name	
--	------------	--------------	--	-----------	--

```
+-----+-----+-----+
```

	1	Student 1 - CSE		CSE	
--	---	-----------------	--	-----	--

	2	Student 2 - CSE		CSE	
--	---	-----------------	--	-----	--

	3	Student 3 - CSE		CSE	
--	---	-----------------	--	-----	--

	4	Student 4 - CSE		CSE	
--	---	-----------------	--	-----	--

```
+-----+-----+-----+
```

4 rows in set (0.01 sec)

6)write a query to display only deptname using student table

```
mysql> SELECT DISTINCT department.dept_name
```

-> FROM students

-> JOIN department ON students.dept_id = department.dept_id;

```
+-----+
| dept_name |
+-----+
| CSE      |
| ECE      |
| EE       |
| ME       |
| Civil    |
+-----+
```

5 rows in set (0.00 sec)

7)write a query to display students sorted by dept and firstname

```
mysql> SELECT students.student_id, students.student_name, department.dept_name
```

-> FROM students

-> JOIN department ON students.dept_id = department.dept_id

-> ORDER BY department.dept_name, students.student_name;

```
+-----+-----+-----+
| student_id | student_name | dept_name |
+-----+-----+-----+
| 17 | Student 1 - Civil | Civil |
| 18 | Student 2 - Civil | Civil |
| 19 | Student 3 - Civil | Civil |
| 20 | Student 4 - Civil | Civil |
| 1 | Student 1 - CSE | CSE |
| 2 | Student 2 - CSE | CSE |
| 3 | Student 3 - CSE | CSE |
| 4 | Student 4 - CSE | CSE |
| 5 | Student 1 - ECE | ECE |
```


	6	Student 2 - ECE	ECE	
	7	Student 3 - ECE	ECE	
	8	Student 4 - ECE	ECE	
	9	Student 1 - EE	EE	
	10	Student 2 - EE	EE	
	11	Student 3 - EE	EE	
	12	Student 4 - EE	EE	
	13	Student 1 - ME	ME	
	14	Student 2 - ME	ME	
	15	Student 3 - ME	ME	
	16	Student 4 - ME	ME	

+-----+-----+-----+

20 rows in set (0.01 sec)