

# **20MCA134 - DATABASE MANAGEMENT SYSTEM LAB**

*Lab Report Submitted By*

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**AJC21MCA-2092**

*In Partial fulfillment for the Award of the Degree Of*

**MASTER OF COMPUTER APPLICATIONS (2 Year)  
(MCA)**

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**



**AMAL JYOTHI COLLEGE OF ENGINEERING  
KANJIRAPPALLY**

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**2021-2023**

**DEPARTMENT OF COMPUTER APPLICATIONS**  
**AMAL JYOTHI COLLEGE OF ENGINEERING**  
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**CERTIFICATE**

This is to certify that the Lab report, **“20MCA136 NETWORKING & SYSTEM ADMINISTRATION LAB”** is the bonafide work of **Sandra P M AJC21MCA-2092** in partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications under APJ Abdul Kalam Technological University during the year 2021-22.

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**ADVANCED DATABASE MANAGEMENT LAB****Experiment No.: 1****Aim**

To familiarize DDL Commands-  
Create,ALTER,DROP,TRUNCATE,RENAME

**QUESTION**

1. Create a table emp with attributes empno number(4) as primary key, ename char(10), hiredate, salary, commission  
insert 5 rows of data
2. Modifying the structure of tables
  - a. Add new columns: sal number(7,2)
  - b. Dropping a column from a table: sal
  - c. Modifying existing column :ename varchar2(15)
  - d. Renaming the tables: emp to emp1
  - e. truncating the tables: emp1
  - f. Destroying tables: emp
3. Create a table stud with sname varchar2(20) primary key, rollno number(10) not null, dob date not null
4. Create a table student as regno number (6), mark number (3) check constraint (mark >=0 and mark <=100));  
In table student add check constraint(length(regno)<=4))
5. Create a table cust with(custid number(6) constraint unique, name char(10))

**PROCEDURE**

```
1. CREATE TABLE emp(EMPNO INT(4) PRIMARY KEY, ENAME CHAR(10), HIREDATE DATE, SALARY INT(5), COMMISSION INT(5));  
  
INSERT INTO emp(EMPNO, ENAME, HIREDATE, SALARY)  
VALUES (101, 'RAMESH', '1980-01-17', 5000), (102, 'AJAY', '1985-07-05', 5000),
```

Name: Sandra pm

Roll No: 34

Batch: MCA-B

Date: 08-04-2022

(103,'RAVI','1981-08-12',1500),(104,'Nikesh','1983-03-03',3000),  
(105,'Ravi','1985-07-05',3000);

	EMPNO	ENAME	HIREDATE	SALARY	COMMISSION
▶	101	RAMESH	1980-01-17	5000	NULL
	102	AJAY	1985-07-05	5000	NULL
	103	RAVI	1981-08-12	1500	NULL
	104	Nikesh	1983-03-03	3000	NULL
	105	Ravi	1985-07-05	3000	NULL
*	NULL	NULL	NULL	NULL	NULL

2.

a) ALTER TABLE emp ADD column sal int ;

	EMPNO	ENAME	HIREDATE	SALARY	COMMISSION	sal
▶	101	RAMESH	1980-01-17	5000	NULL	NULL
	102	AJAY	1985-07-05	5000	NULL	NULL
	103	RAVI	1981-08-12	1500	NULL	NULL
	104	Nikesh	1983-03-03	3000	NULL	NULL
	105	Ravi	1985-07-05	3000	NULL	NULL
*	NULL	NULL	NULL	NULL	NULL	NULL

b) ALTER TABLE emp DROP COLUMN sal;

	EMPNO	ENAME	HIREDATE	SALARY	COMMISSION
▶	101	RAMESH	1980-01-17	5000	NULL
	102	AJAY	1985-07-05	5000	NULL
	103	RAVI	1981-08-12	1500	NULL
	104	Nikesh	1983-03-03	3000	NULL
	105	Ravi	1985-07-05	3000	NULL
*	NULL	NULL	NULL	NULL	NULL

c) ALTER TABLE emp MODIFY ename VARCHAR(15);

✓	80	11:21:15	ALTER TABLE emp MODIFY ename VARCHAR(15)	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	1.734 sec
---	----	----------	--	--	-----------

d) RENAME table emp to emp1;

✓	82	11:26:53	RENAME table emp to emp1	0 row(s) affected	0.235 sec
---	----	----------	--------------------------	-------------------	-----------

e) TRUNCATE TABLE emp1;

	EMPNO	ename	HIREDATE	SALARY	COMMISSION
*	NULL	NULL	NULL	NULL	NULL

f) DROP TABLE emp1;

✓	88	11:34:20	DROP TABLE emp1	0 row(s) affected	0.640 sec
---	----	----------	-----------------	-------------------	-----------

3. CREATE TABLE stud(sname varchar(20) PRIMARY KEY, rollno int NOT NULL, dob date NOT NULL);

```
SELECT * FROM stud;
```

	sname	rollno	dob
*	NULL	NULL	NULL

4. Create table student (regno int, mark int(3) constraint b check (mark >=0 and mark <=100));

```
SELECT * from student;
```

	regno	mark
.		

5. CREATE TABLE cust (custid int UNIQUE, name char(10));

	custid	name

**ADVANCED DATABASE MANAGEMENT LAB****Experiment No.: 2**

Name: Sandra pm  
Roll No:34  
Batch: MCA-B  
Date:25-03-2022

**Aim**

To familiarize with DML commands- select,insert,delete,update

**Question**

Create the following Tables and insert values

**Table 1: DEPOSIT**

ACTNO VARCHAR2(5) PRIMARY KEY, FIRST LETTER MUST START WITH 'D'  
CNAME VARCHAR2(15) FOREIGN KEY REFERENCES CUSTOMER  
BNAME VARCHAR2(20) FOREIGN KEY REFERENCES BRANCH  
AMOUNT NUMBER (8,2) NOT NULL, CANNOT BE 0  
ADATE DATE

**Table 2: BRANCH**

BNAME VARCHAR2(20) PRIMARY KEY

CITY VARCHAR2(30) NOT NULL , any one of NAGPUR, DELHI, BANGALORE, BOMBAY

**Table 3: CUSTOMER**

CNAME VARCHAR2(15) PRIMARY KEY  
CITY VARCHAR2(20) NOT NULL ,

**Table 4: BORROW**

LOANNO VARCHAR2(8) PRIMARY KEY / FIRST LETTER MUST START WITH 'L'  
CNAME VARCHAR2(15) FOREIGN KEY REFERENCES CUSTOMER  
BNAME VARCHAR2(20) FOREIGN KEY REFERENCES BRANCH  
AMOUNT NUMBER(8,2) NOT NULL, CANNOT BE 0

1. List all data from table deposite
2. List all data from borrow
3. List all data from customer
4. List all data from branch
5. Give account no and amount of deposite

6. Give customer name and account no of depositors
7. Give name of customers
8. Give name of branches
9. Give name of borrows
10. Give names of customer living in city Nagpur
11. Give names of depositors having amount greater than 4000
12. Give account date of Anil
13. Give name of all branches located in Bombay
14. Give name of borrower having loan number l205
15. Give names of depositors having account at VRCE
16. Give names of all branched located in city Delhi
17. Give name of the customers who opened account date '1-12-96'
18. Give account no and deposit amount of customers having account opened between dates '1-12-96' and '1-5-96'
19. Give name of the city where branch KAROLBAGH is located
20. Give details of customer ANIL

### **Procedure**

CREATE DATABASE MYACCOUNT;

USE MYACCOUNT;

### **BRANCH**

```
CREATE TABLE BRANCH(  
BNAME VARCHAR(20) PRIMARY KEY,  
CITY VARCHAR(30) NOT NULL );
```

```
alter table BRANCH add CITY Varchar(30) check( CITY in ( "NAGPUR", "DELHI", "  
BANGALORE", "BOMBAY" ));
```

```
INSERT INTO BRANCH VALUES('VRCE','NAGPUR');  
INSERT INTO BRANCH VALUES('AJNI','NAGPUR');  
INSERT INTO BRANCH VALUES('KAROLBAGH','DELHI');  
INSERT INTO BRANCH VALUES('CHANDNI','DELHI');  
INSERT INTO BRANCH VALUES('DHARAMPETH','NAGPUR');  
INSERT INTO BRANCH VALUES('MG ROAD','BANGALORE');  
INSERT INTO BRANCH VALUES('ANDHERI','BOMBAY');  
INSERT INTO BRANCH VALUES('NEHRU PALACE','DELHI');  
INSERT INTO BRANCH VALUES('POWAI','BOMBAY');
```

### **CUSTOMER**



```
create table CUSTOMER
(CNAME VARCHAR(15) PRIMARY KEY ,
CITY VARCHAR(20) NOT NULL );
```

```
INSERT INTO CUSTOMER VALUES('ANIL','CALCUTTA');
INSERT INTO CUSTOMER VALUES('SUNIL','DELHI');
INSERT INTO CUSTOMER VALUES('MEHUL','BARODA');
INSERT INTO CUSTOMER VALUES('MANDAR','PATNA');
INSERT INTO CUSTOMER VALUES('MADHURI','NAGPUR');
INSERT INTO CUSTOMER VALUES('PRAMOD','NAGPUR');
INSERT INTO CUSTOMER VALUES('SANDIP','SURAT');
INSERT INTO CUSTOMER VALUES('SHIVANI','BOMBAY');
INSERT INTO CUSTOMER VALUES('KRANTI','BOMBAY');
INSERT INTO CUSTOMER VALUES('NAREN','BOMBAY');
```

## **BORROW**

```
CREATE TABLE BORROW (LOANNO VARCHAR(8) CHECK (LOANNO LIKE 'L%') PRIMARY
KEY,CNAME
VARCHAR(15) REFERENCES CUSTOMER(CNAME),BNAME      VARCHAR(20) REFERENCES
BRANCH(BNAME),AMOUNT FLOAT(8) CHECK (AMOUNT>0) NOT NULL);
```

```
INSERT INTO BORROW VALUES('L201','ANIL','VRCE',1000.00);
INSERT INTO BORROW VALUES('L206','MEHUL','AJNI',5000.00);
INSERT INTO BORROW VALUES('L311','SUNIL','DHARAMPETH',3000.00);
INSERT INTO BORROW VALUES('L321','MADHURI','ANDHERI',2000.00);
INSERT INTO BORROW VALUES('L371','PRAMOD','VIRAR',8000.00);
INSERT INTO BORROW VALUES('L481','KRANTI','NEHRU PLACE',3000.00);
```

## **DEPOSIT**

```
CREATE TABLE DEPOSIT (ACTNO VARCHAR(5) CHECK (ACTNO LIKE 'D%') PRIMARY KEY ,CNAME
VARCHAR(15) REFERENCES CUSTOMER(CNAME),BNAME      VARCHAR(20) REFERENCES
BRANCH(BNAME),AMOUNT FLOAT(8) CHECK (AMOUNT>0) NOT NULL, ADATE varchar(30));
```

```
INSERT INTO DEPOSIT VALUES('D100','ANIL','VRCE',1000.00,'1-MAR-95');
INSERT INTO DEPOSIT VALUES('D101','SUNIL','ANJNI',500.00,'4-JAN-96');
INSERT INTO DEPOSIT VALUES('D102','MEHUL','KAROLBAGH',3500.00,'17-NOV- 95');
INSERT INTO DEPOSIT VALUES('D104','MADHURI','CHANDNI',1200.00,'17-DEC-95');
INSERT INTO DEPOSIT VALUES('D105','PRAMOD','MG ROAD',3000.00,'27-MAR-96');
INSERT INTO DEPOSIT VALUES('D106','SANDIP','ANDHERI',2000.00,'31-MAR-96');
INSERT INTO DEPOSIT VALUES('D107','SHIVANI','VIRAR',1000.00,'5-SEP-95');
INSERT INTO DEPOSIT VALUES('D108','KRANTI','NEHRU PLACE',5000.00,'2-JUL- 95');
INSERT INTO DEPOSIT VALUES('D109','MINU','POWAI',7000.00,'10-AUG-95');
SELECT * FROM myaccount.branch;
```

```
SELECT * FROM myaccount.borrow;
```

```
SELECT * FROM myaccount.borrow;
```

```
SELECT * FROM myaccount.customer;
```

## **Output Screenshot**

	BNAME	CITY
	CHANDNI	DELHI
	DHARAMPETH	NAGPUR
	KAROLBAGH	DELHI
	MG ROAD	BANGALORE
	NEHRU PALACE	DELHI
	POWAI	BOMBAY
	VRCE	NAGPUR
*	NULL	NULL

	LOANNO	CNAME	BNAME	AMOUNT
	L201	ANIL	VRCE	1000
	L206	MEHUL	AJNI	5000
▶	L311	SUNIL	DHARAMPETH	3000
	L321	MADHURI	ANDHERI	2000
	L371	PRAMOD	VIRAR	8000
	L481	KRANTI	NEHRU PLACE	3000
*	NULL	NULL	NULL	NULL

	ACTNO	CNAME	BNAME	AMOUNT	ADATE
	D101	SUNIL	ANJNI	500	4-JAN-96
	D102	MEHUL	KAROLBAGH	3500	17-NOV-95
	D104	MADHURI	CHANDNI	1200	17-DEC-95
	D105	PRAMOD	MG ROAD	3000	27-MAR-96
	D106	SANDIP	ANDHERI	2000	31-MAR-96
	D107	SHIVANI	VIRAR	1000	5-SEP-95
	D108	KRANTI	NEHRU PLACE	5000	2-JUL-95
	D109	MINU	POWAI	7000	10-AUG-95
*	NULL	NULL	NULL	NULL	NULL

	CNAME	CITY
	MADHURI	NAGPUR
	MANDAR	PATNA
	MEHUL	BARODA
	NAREN	BOMBAY
	PRAMOD	NAGPUR
	SANDIP	SURAT
	SHIVANI	BOMBAY
	SUNIL	DELHI
*	NULL	NULL

1. SELECT \* FROM myaccount.deposit;

	ACTNO	CNAME	BNAME	AMOUNT	ADATE
▶	D100	ANIL	VRCE	1000	1-MAR-95
	D101	SUNIL	ANJNI	500	4-JAN-96
	D102	MEHUL	KAROLBAGH	3500	17-NOV-95
	D104	MADHURI	CHANDNI	1200	17-DEC-95
	D105	PRAMOD	MG ROAD	3000	27-MAR-96
	D106	SANDIP	ANDHERI	2000	31-MAR-96
	D107	SHIVANI	VIRAR	1000	5-SEP-95
	D108	KRANTI	NEHRU PLACE	5000	2-JUL-95
	D109	MINU	POWAI	7000	10-AUG-95
*	NULL	NULL	NULL	NULL	NULL

2. SELECT \* FROM myaccount.borrow;

	LOANNO	CNAME	BNAME	AMOUNT
▶	L201	ANIL	VRCE	1000
	L206	MEHUL	AJNI	5000
	L311	SUNIL	DHARAMPETH	3000
	L321	MADHURI	ANDHERI	2000
	L371	PRAMOD	VIRAR	8000
	L481	KRANTI	NEHRU PLACE	3000
*	NULL	NULL	NULL	NULL

3. SELECT \* FROM myaccount.customer;

	CNAME	CITY
▶	ANIL	CALCUTTA
	KRANTI	BOMBAY
	MADHURI	NAGPUR
	MANDAR	PATNA
	MEHUL	BARODA
	NAREN	BOMBAY
	PRAMOD	NAGPUR
	SANDIP	SURAT
	SHIVANI	BOMBAY
	SUNIL	DELHI
*	NULL	NULL

4. SELECT \* FROM myaccount.branch;

	BNAME	CITY
▶	AJNI	NAGPUR
	ANDHERI	BOMBAY
	CHANDNI	DELHI
	DHARAMPETH	NAGPUR
	KAROLBAGH	DELHI
	MG ROAD	BANGALORE
	NEHRU PALACE	DELHI
	POWAI	BOMBAY
	VRCE	NAGPUR
*	NULL	NULL

5. select ACTNO,AMOUNT from myaccount.deposit;

	ACTNO	AMOUNT
▶	D100	1000
	D101	500
	D102	3500
	D104	1200
	D105	3000
	D106	2000
	D107	1000
	D108	5000
	D109	7000
*	NULL	NULL

6. select CNAME ,ACTNO from myaccount.deposit;

	CNAME	ACTNO
▶	ANIL	D100
	SUNIL	D101
	MEHUL	D102
	MADHURI	D104
	PRAMOD	D105
	SANDIP	D106
	SHIVANI	D107
	KRANTI	D108
	MINU	D109
*	NULL	NULL

7. select CNAME from myaccount.customer;

	CNAME
▶	ANIL
	KRANTI
	MADHURI
	MANDAR
	MEHUL
	NAREN
	PRAMOD
	SANDIP
	SHIVANI
	SUNIL
*	NULL

8. select BNAME from myaccount.branch;

	BNAME
▶	AJNI
	ANDHERI
	CHANDNI
	DHARAMPETH
	KAROLBAGH
	MG ROAD
	NEHRU PALACE
	POWAI
	VRCE
*	NULL

9. select BNAME from myaccount.borrow;

	BNAME
▶	VRCE
	AJNI
	DHARAMPETH
	ANDHERI
	VIRAR
	NEHRU PLACE

10. select CNAME from myaccount.customer where city="Nagpur";

	CNAME
▶	MADHURI
	PRAMOD
*	NULL

11. SELECT CNAME from myaccount.deposit where AMOUNT>4000;

	CNAME
▶	KRANTI
	MINU

12. SELECT ADATE FROM myaccount.deposit where CNAME='ANIL';

	ADATE
▶	1-MAR-95

13. SELECT BNAME from myaccount.branch where CITY='Bombay';

	BNAME
▶	ANDHERI
	POWAI
*	NULL

14. select BNAME from myaccount.borrow where LOANNO='L1205';

	BNAME
--	-------

15. SELECT CNAME from myaccount.deposit WHERE BNAME='VRCE';

	CNAME
▶	ANIL

16. SELECT BNAME from myaccount.branch WHERE CITY='Delhi';

BNAME
▶ CHANDNI
KAROLBAGH
NEHRU PALACE
✱ NULL

17. SELECT CNAME from myaccount.deposit WHERE ADATE='1-Mar-96';

CNAME
-------

18. SELECT ACTNO,AMOUNT from myaccount.deposit WHERE ADATE BETWEEN '1-Dec-96' AND '1-May-96';

ACTNO	AMOUNT
D100	1000
▶✱ NULL	

19. SELECT CITY from myaccount.branch WHERE BNAME='KAROLBAGH';

CITY
▶ DELHI

20. SELECT \* from myaccount.customer join borrow on customer.cname=borrow.cname join deposit on deposit.cname=borrow.cname WHERE customer.cname='ANIL';

CNAME	CITY	LOANNO	CNAME	BNAME	AMOUNT	ACTNO	CNAME	BNAME	AMOUNT	ADATE
▶ ANIL	CALCUTTA	L201	ANIL	VRCE	1000	D100	ANIL	VRCE	1000	1-MAR-95

**ADVANCED DATABASE MANAGEMENT LAB****Experiment No.: 3**

**Name: Sandra pm**  
**Roll No: 34**  
**Batch: MCA-B**  
**Date: 19-04-2022**

**Aim**

To familiarize with set operations

**Question**

1. List all the customers who are depositors but not borrowers.
2. List all the customers who are both depositors and borrowers
3. List all the depositors having deposit in all the branches where Sunil is having Account 4.  
List all the customers living in city NAGPUR and having branch city BOMBAY or DELHI
5. List all the depositors living in city NAGPUR
6. List all the depositors living in the city NAGPUR and having branch in city BOMBAY 7.  
List the branch cities of Anil and Sunil
8. List the customers having deposit greater than 1000 and loan less than 10000.
9. List the cities of depositors having branch VRCE.
10. List the depositors having amount less than 1000 and living in the same city as Anil
11. List all the cities where branches of Anil and Sunil are locate
12. List the amount for the depositors living in the city where Anil is living

**PROCEDURE**

1. SELECT CNAME FROM DEPOSIT  
WHERE NOT exists (SELECT CNAME FROM BORROW) ;

CNAME
-------

2. SELECT CNAME FROM DEPOSIT UNION (SELECT CNAME FROM BORROW);

CNAME
ANIL
SUNIL
MEHUL
MADHURI
PRAMOD
SANDIP
SHIVANI
KRANTI
MINU

3. SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT D2.BNAME FROM DEPOSIT D2 WHERE D2.CNAME = 'SUNIL' );

CNAME
SUNIL

4. SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME AND B1.CITY IN ('BOMBAY','DELHI');

CNAME
MADHURI

5. SELECT Distinct(CUSTOMER.CNAME) from CUSTOMER,DEPOSIT WHERE City='NAGPUR';

CNAME
PRAMOD
MADHURI

6. SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1, BRANCH B1 WHERE C1.CITY = 'NAGPUR' AND C1.CNAME = D1.CNAME AND D1.BNAME = B1.BNAME AND B1.CITY IN ('BOMBAY');

CNAME
-------

7. \_SELECT B1.CITY FROM DEPOSIT D1, BRANCH B1 WHERE D1.BNAME = B1.BNAME AND D1.CNAME IN ('SUNIL' ,'ANIL');

CITY
NAGPUR

8. \_SELECT DISTINCT D1.CNAME FROM deposit D1, borrow B1 WHERE D1.AMOUNT>1000 AND B1.AMOUNT<10000;

CNAME
MEHUL
MADHURI
PRAMOD
SANDIP
KRANTI
MINU

9. SELECT B1.CITY FROM deposit D1, branch B1 WHERE D1.BNAME=B1.BNAME AND B1.BNAME='VRCE';



CITY
NAGPUR

10. `SELECT D1.CNAME FROM deposit D1, customer C1 WHERE AMOUNT<1000 AND C1.CITY=(C1.CNAME='ANIL');`

CNAME
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL
SUNIL

11. `SELECT B1.CITY FROM BRANCH B1 WHERE B1.BNAME IN (SELECT D1.BNAME FROM DEPOSIT D1 WHERE D1.CNAME IN ('ANIL','SUNIL'));`

CITY
NAGPUR

12. `SELECT DISTINCT(D1.CNAME),D1.AMOUNT ,C1.CITY FROM deposit D1, CUSTOMER C1, BRANCH B1 WHERE D1.CNAME=C1.CNAME AND C1.CITY IN(SELECT C2.CITY FROM customer C2 WHERE C2.CNAME='ANIL');`

CNAME	AMOUNT	CITY
ANIL	1000	CALCUTTA

---

**Experiment No.: 4****Aim**

To familiarize with join or cartesian product

**Name:Sandra pm**

**Roll No:34**

**Batch:MCA-B**

**Date:06-05-2022**

**Question**

1. Give name of customers having living city BOMBAY and branch city NAGPUR
2. Give names of customers having the same living city as their branch city
3. Give names of customers who are borrowers as well as depositors and having city NAGPUR.
4. Give names of borrowers having deposit amount greater than 1000 and loan amount greater than 2000.
5. Give names of depositors having the same branch as the branch of Sunil
6. Give names of borrowers having loan amount greater than the loan amount of Pramod
7. Give the name of the customer living in the city where branch of depositor Sunil is located.
8. Give branch city and living city of Pramod
9. Give branch city of Sunil and branch city of Anil
10. Give the living city of Anil and the living city of Sunil

**Procedure**

1. SELECT D1.CNAME,D1.BNAME,C1.CNAME,C1.CITY,B1.CITY,B1.BNAME  
FROM DEPOSIT D1,CUSTOMER C1,BRANCH B1 WHERE C1.CITY = 'BOMBAY' AND  
B1.CITY = 'NAGPUR' AND D1.CNAME = C1.CNAME AND D1.BNAME = B1.BNAME;

	CNAME	BNAME	CNAME	CITY	CITY	BNAME

2. SELECT distinct(customer.CNAME), BRANCH.CITY FROM BRANCH, customer  
WHERE BRANCH.city = customer.city;
3. SELECT C1.CNAME FROM CUSTOMER C1,DEPOSIT D1,BORROW B1 WHERE  
C1.CITY='NAGPUR' AND C1.CNAME=D1.CNAME AND D1.CNAME = B1.CNAME;
4. SELECT BR1.CNAME, BR1.AMOUNT, D1.CNAME, D1.AMOUNT FROM  
BORROW BR1,DEPOSIT D1 WHERE D1.CNAME = BR1.CNAME AND D1.AMOUNT >  
1000 AND BR1.AMOUNT > 2000;
5. SELECT D1.CNAME FROM DEPOSIT D1 WHERE D1.BNAME IN (SELECT  
D2.BNAME FROM DEPOSIT D2 WHERE D2.CNAME = 'SUNIL');
6. SELECT BR1.CNAME,BR1.AMOUNT FROM BORROW BR1 WHERE  
BR1.AMOUNT > ALL (SELECT BR2.AMOUNT FROM BORROW BR2 WHERE  
BR2.CNAME = 'PRAMOD');
7. SELECT C.CNAME FROM CUSTOMER C WHERE C.CITY IN (SELECT B.CITY  
FROM BRANCH B WHERE B.BNAME IN (SELECT D.BNAME FROM DEPOSIT D  
WHERE D.CNAME='SUNIL'));
8. SELECT B1.CITY , C1.CITY FROM BRANCH B1,CUSTOMER C1, DEPOSIT D1  
WHERE C1.CNAME = 'PRAMOD' AND C1.CNAME = D1.CNAME AND D1.BNAME =  
B1.BNAME;
9. SELECT B1.CITY FROM DEPOSIT D1, BRANCH B1 WHERE D1.BNAME =  
B1.BNAME AND D1.CNAME IN ('SUNIL' , 'ANIL');
10. SELECT C1.CNAME, C1.CITY FROM CUSTOMER C1 WHERE C1.CNAME =  
'ANIL' OR C1.CNAME = 'SUNIL';

### **Output Screenshot**

	CNAME	BNAME	CNAME	CITY	CITY	BNAME

	CNAME	CITY
▶	KRANTI	BOMBAY
	MADHURI	NAGPUR
	NAREN	BOMBAY
	PRAMOD	NAGPUR
	SHIVANI	BOMBAY
	SUNIL	DELHI

	CNAME
▶	MADHURI
	PRAMOD

	CNAME	AMOUNT	CNAME	AMOUNT
▶	MEHUL	5000	MEHUL	3500
	PRAMOD	8000	PRAMOD	3000
	KRANTI	3000	KRANTI	5000

	CNAME
▶	SUNIL

	CNAME	AMOUNT

	CNAME
*	NULL

	CITY	CITY
▶	BANGALORE	NAGPUR

	CITY
▶	NAGPUR

	CNAME	CITY
▶	ANIL	CALCUTTA
	SUNIL	DELHI
*	NULL	NULL

---

## **Experiment No.: 5**

### **Aim**

To familiarize with Group by and Having clause

**Name: Sandra pm**

**Roll No:34**

**Batch: MCA-B**

**Date:06-05-2022**

### **Question**

- 1.List the branches having sum of deposit more than 5000.
- 2.List the branches having sum of deposit more than 500 and located in city BOMBAY
- 3.List the names of customers having deposited in the branches where the average deposit is more than 5000.
- 4.List the names of customers having maximum deposit
- 5.List the name of branch having highest number of depositors?
- 6.Count the number of depositors living in NAGPUR.
- 7.Give names of customers in VRCE branch having more deposite than any other customer in same branch
- 8.Give the names of branch where number of depositors is more than 5
- 9.Give the names of cities in which the maximum number of branches are located
- 10.Count the number of customers living in the city where branch is located

### **Procedure**

1. SELECT D.BNAME FROM DEPOSIT D, BRANCH B WHERE  
D.BNAME=B.BNAME AND B.CITY='BOMBAY' GROUP BY D.BNAME HAVING  
SUM(D.AMOUNT)>5000;

2. SELECT D.BNAME FROM DEPOSIT D, BRANCH B ,Customer C WHERE  
D.BNAME=B.BNAME and C.city="Bombay" GROUP BY D.BNAME HAVING SUM(D.AMOUNT)>500  
;
3. select CNAME from deposit where AMOUNT=(select AVG(Amount) from DEPOSIT  
GROUP BY BNAME having AVG(Amount)>5000);
4. SELECT MAX(AMOUNT),CNAME FROM deposit;
5. SELECT D1.BNAME FROM DEPOSIT D1 GROUP BY D1.BNAME HAVING  
count(D1.CNAME) >= ALL (SELECT count(D2.CNAME) FROM DEPOSIT D2  
GROUP BY D2.BNAME);
6. select count(deposit.cname)from deposit,CUSTOMER where  
CUSTOMER.CITY='nagpur';
7. Select CNAME from deposit where BNAME='VRCE' and amount=(select  
max(AMOUNT) from deposit where BNAME='VRCE');
8. SELECT BNAME from deposit GROUP BY BNAME HAVING  
COUNT(BNAME)>5;
9. select C.CNAME ,count(B.BNAME) from CUSTOMER C inner join Branch B on  
C.CNAME=B.BNAME group by C.Cname order by count(B.BName) DESC;
10. select count(b1.bname) From deposit d1 , borrow b1 , customer c1 Where  
c1.cname=d1.cname and d1.cname=b1.cname and c1.city in (select city from customer);

### **Output Screenshot**

	BNAME
▶	POWAI

	BNAME
▶	VRCE
	KAROLBAGH
	CHANDNI
	MG ROAD
	ANDHERI
	POWAI

	CNAME
▶	MINU

	MAX(AMOUNT)	CNAME
▶	7000	ANIL

	BNAME
▶	VRCE
	ANJNI
	KAROLBAGH
	CHANDNI
	MG ROAD
	ANDHERI
	VIRAR
	NEHRU PLACE
	POWAI

	count(deposit.cname)
▶	18

	CNAME
▶	ANIL

	BNAME
--	-------

	CNAME	count(B.BNAME)
--	-------	----------------

	count(b1.bname)
▶	6

**Experiment No.:6****Aim**

Implementation of triggers

**Question**

1. Create a student table with fields id, name, subject1, subject2, subject3 and total, percentage. For each entry of row, update total marks and percentage using triggers in SQL.

**Procedure**

Syntax:

CREATE DATABASE TRIGGER;

USE TRIGGER;

CREATE TABLE STUDENT(ID INT PRIMARY KEY , NAME VARCHAR(20) NOT NULL, SUBJ1 INT, SUBJ2 INT, SUBJ3 INT, TOTAL INT, PER INT);

CREATE TRIGGER MARKCHANGE BEFORE INSERT ON STUDENT FOR EACH ROW SET  
new.total=new.SUBJ1+new.SUBJ2+NEW.SUBJ3, NEW.PER=NEW.TOTAL \* 60/100;

insert into student(ID, NAME, SUBJ1, SUBJ2, SUBJ3) VALUES(1001, 'Emil', 34, 45, 49);

insert into student(ID, NAME, SUBJ1, SUBJ2, SUBJ3) VALUES(1002, 'Sijo', 45, 46, 41);

select \* from student;

**Output Screenshot**

	ID	NAME	SUBJ1	SUBJ2	SUBJ3	TOTAL	PER
▶	1001	Emil	34	45	49	128	77
	1002	Sijo	45	46	41	132	79
	1003	Aksa	35	42	43	120	72
	1004	Sneha	44	38	48	130	78
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

**Name: Sandra pm**  
**Roll no:34**  
**Batch:MCA-B**  
**Date:10-6-2022**



## Question

2. Create a Trigger for student table that will update another table shows the name, total marks and percentage.

**Name: Sandra pm**  
**Roll No:34**  
**Batch:MCA-B**  
**Date:10-6-2022**

## PROCEDURE:

use TRIGGER;

```
CREATE TABLE MARKS(MARKID INT PRIMARY KEY AUTO_INCREMENT,NAME
VARCHAR(20),TOTAL INT,PER INT);
```

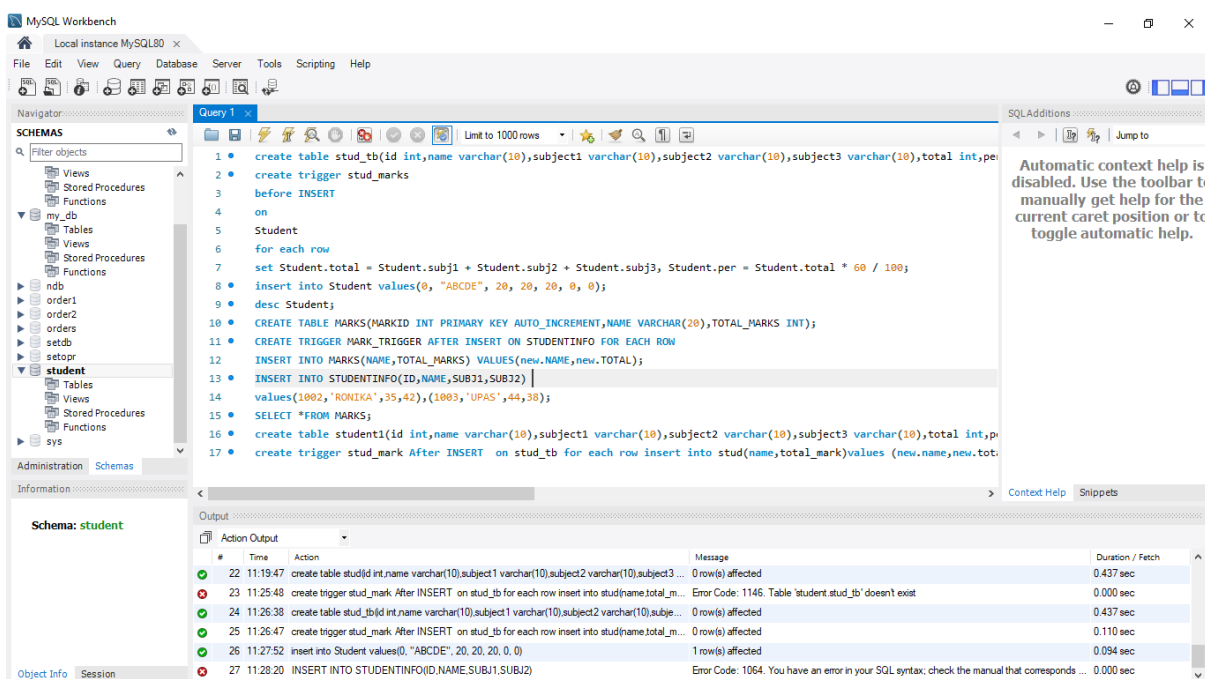
```
CREATE TRIGGER MARK_TRIGGER AFTER INSERT ON STUDENT FOR EACH ROW INSERT
INTO MARKS(NAME,TOTAL,per) VALUES(new.NAME,new.TOTAL,new.per);
```

INSERT INTO

```
STUDENT(ID,NAME,SUBJ1,SUBJ2,subj3)values(1003,'Aksa',35,42,43),(1004,'Sneha',44,38,48);
```

SELECT \*FROM MARKS;

## OUTPUT



**ADVANCED DATABASE MANAGEMENT LAB****Experiment No.: 7**

**Name: Sandra pm**  
**Roll No:34**  
**Batch: MCA -B**  
**Date:24-05-2022**

**Aim**

Installation of MongoDB on windows

**Procedure**

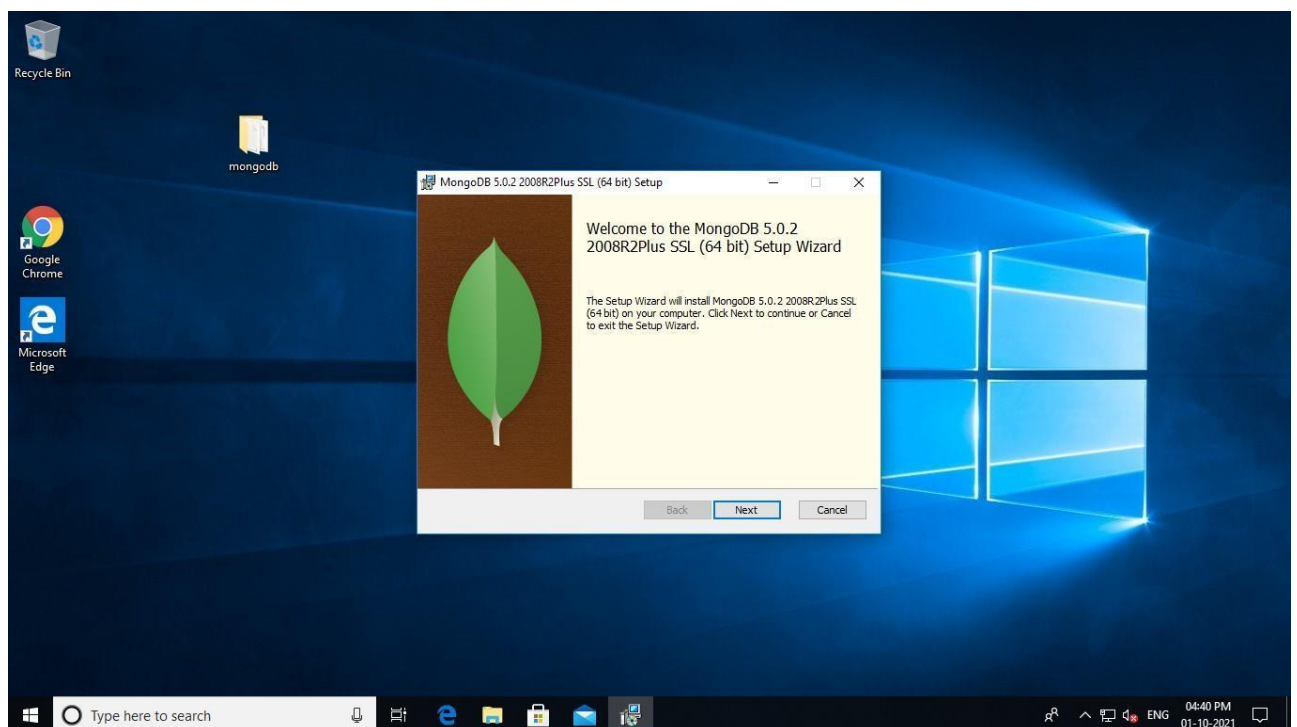
The installers for MongoDB are available in both the 32-bit and 64-bit format. The 32-bit installers are good for development and test environments. But for production environments you should use the 64-bit installers. Otherwise, you can be limited to the amount of data that can be stored within MongoDB.

**Download & Install MongoDB on Windows**

The following steps can be used to install MongoDB on Windows 10:

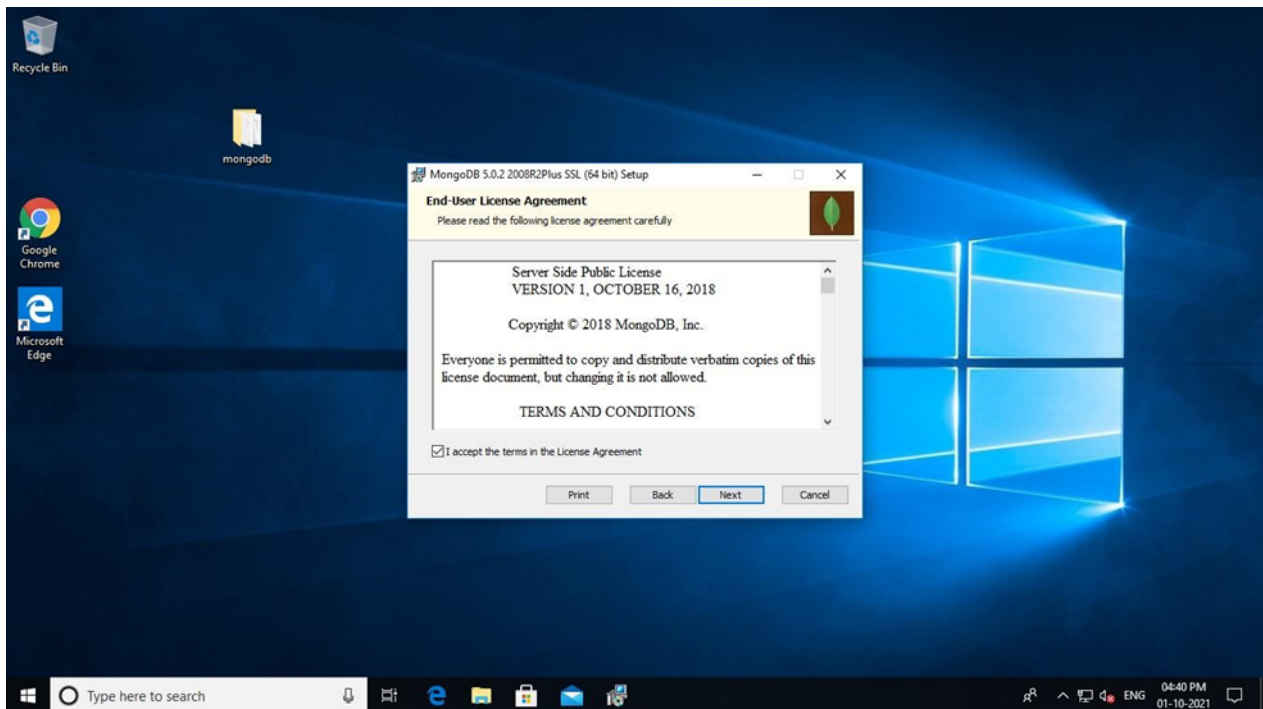
**Step 1:**

After downloading MongoDB, open the msi file and click next.

**Step 2:**

- a. Accept the End-User License Agreement

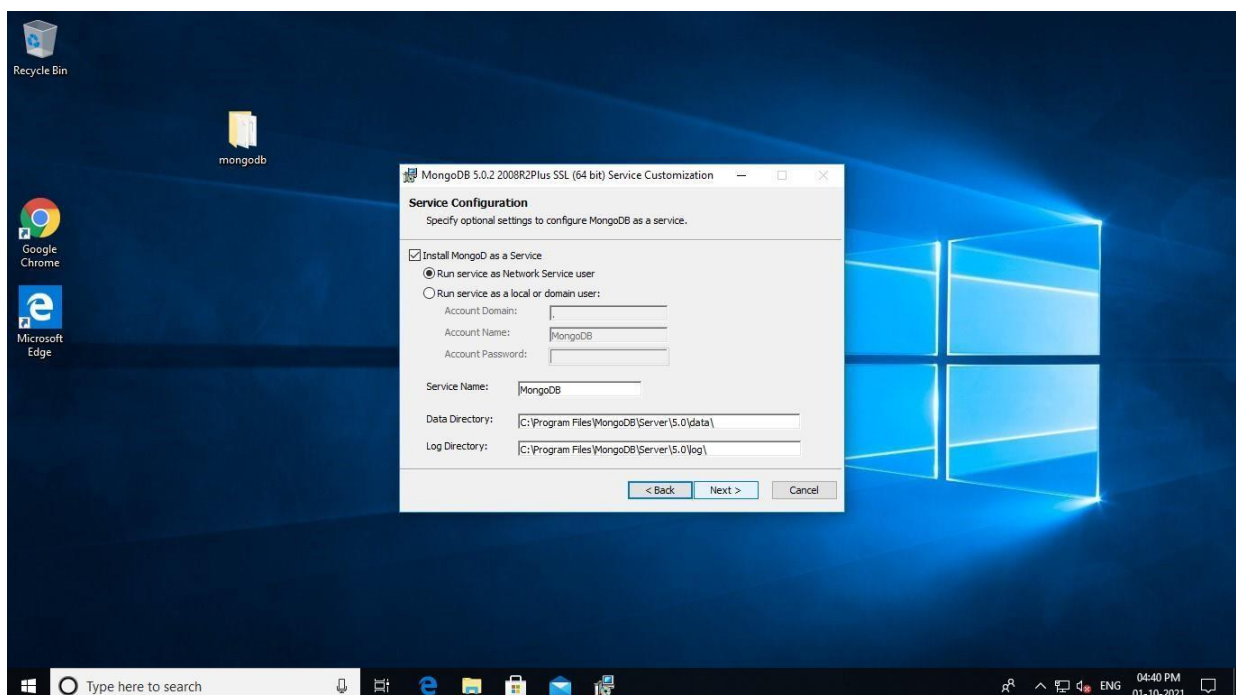
b. Click Next



### Step 3:

Click on the "complete" button to install all of the components. The custom option can be used to install selective components or if you want to change the location of the installation.

1. Select "Run service as Network Service user". Make a note of the data directory, we'll need this later.
2. Click Next

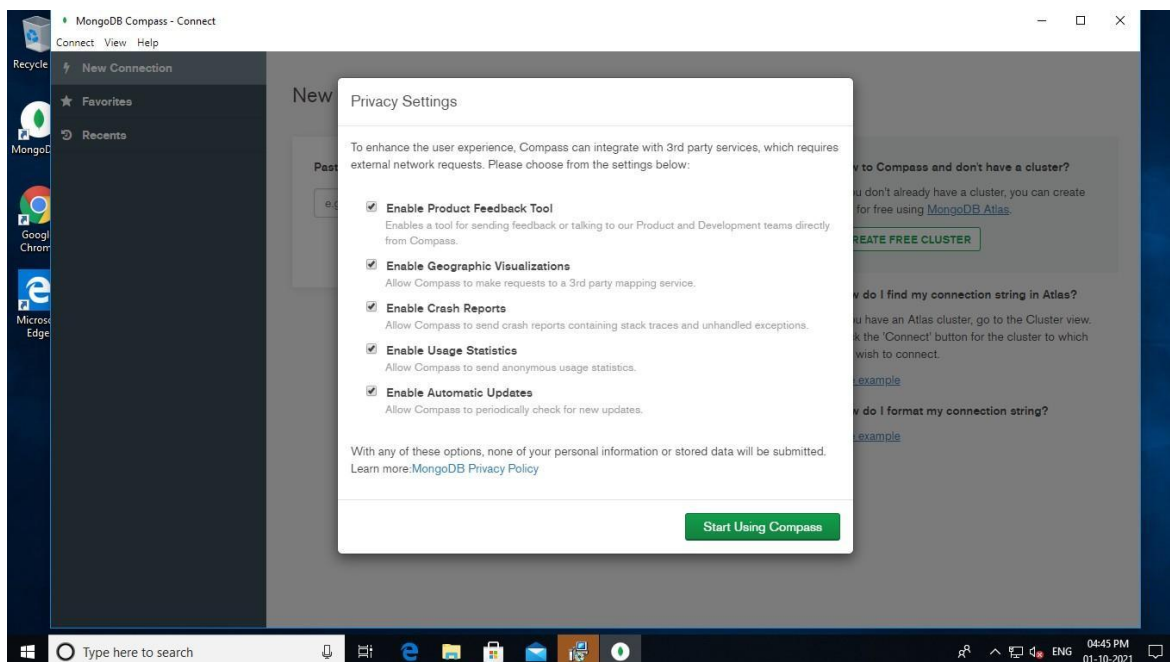
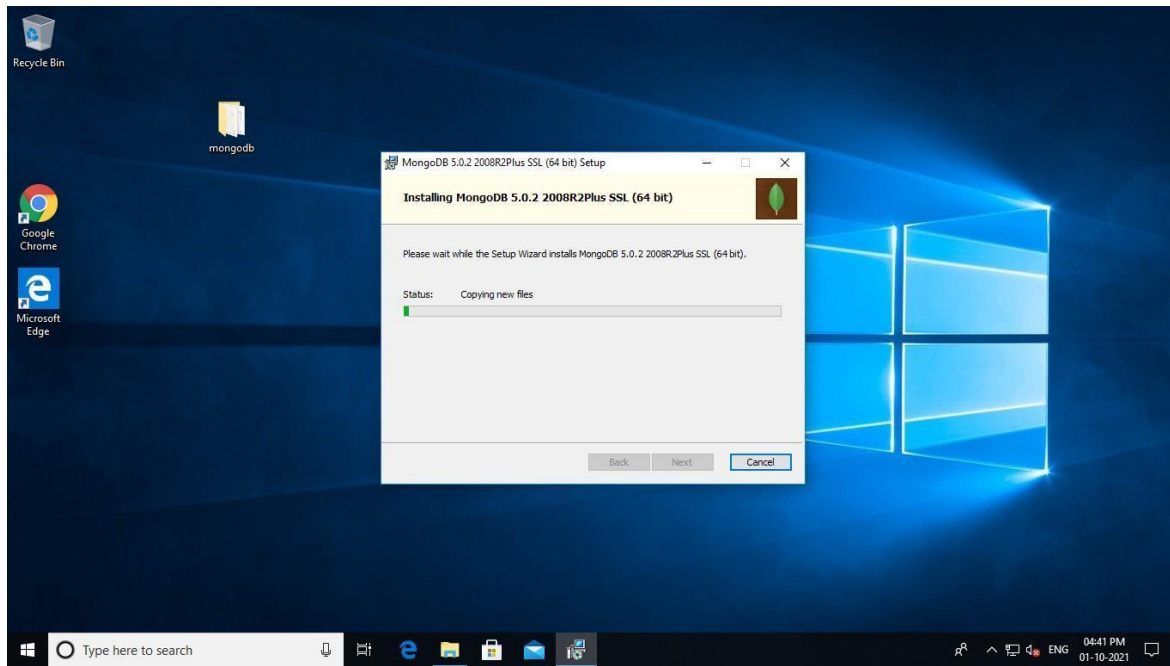


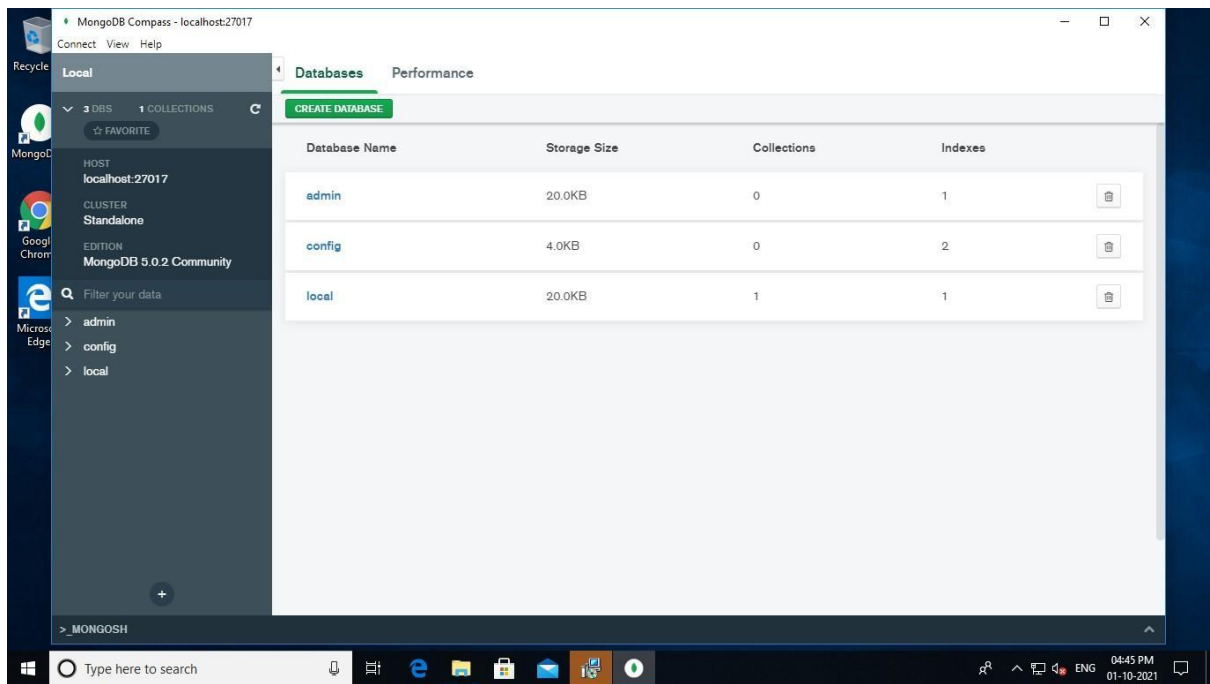
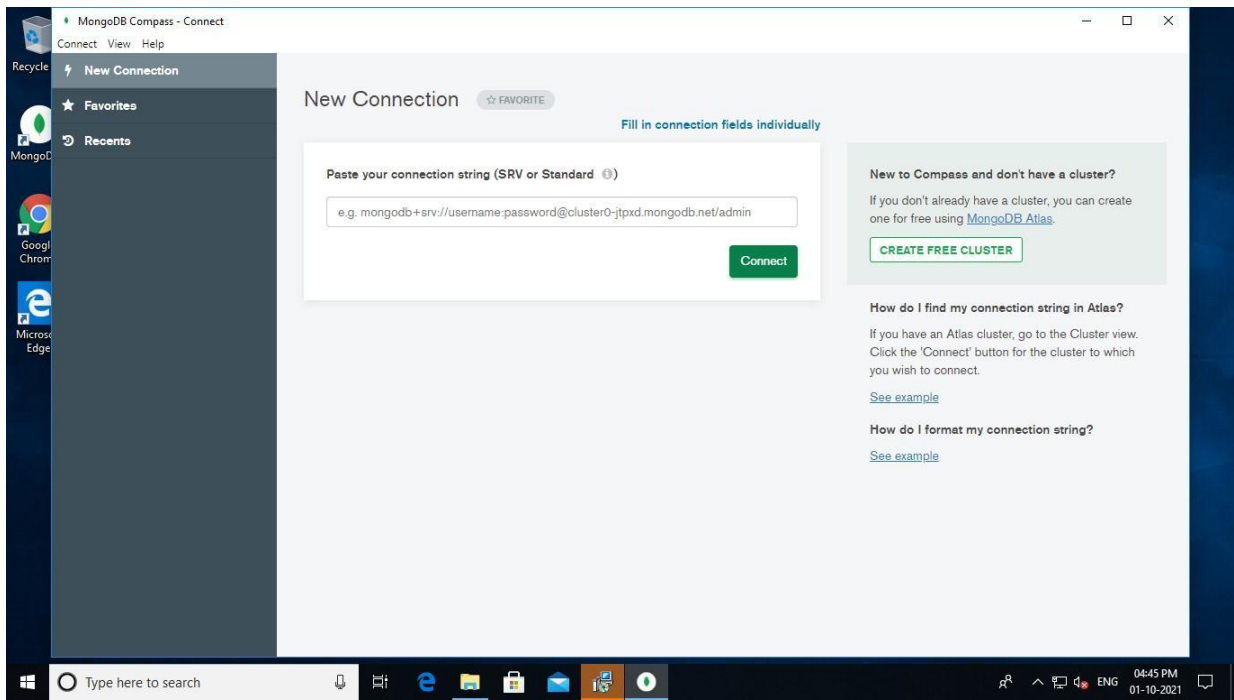
**Step 4:**

Click on the Install button to start the installation. Installation begins.

Click next once completed.

Click on the Finish button to complete the installation.





**ADVANCED DATABASE MANAGEMENT LAB****Experiment No.: 8****Aim**

Install PHP MongoDB Driver




**Procedure**

Download correct mongodb driver for PHP, based on your PHP

version, Architecture and whether Thread Safety is enabled. You can get that information from the phpinfo page.

Do the following steps to install and configure MongoDB driver on Windows XAMPP Server.

1. Download the latest stable version of the PHP MongoDB driver from following URL  
<https://pecl.php.net/package/mongodb>.

Available Releases			
Version	State	Release Date	Downloads
<a href="#">1.3.2</a>	stable	2017-10-30	<a href="#">mongodb-1.3.2.tgz</a> (904.0kB) 
<a href="#">1.3.1</a>	stable	2017-10-16	<a href="#">mongodb-1.3.1.tgz</a> (904.0kB) 
<a href="#">1.3.0</a>	stable	2017-09-19	<a href="#">mongodb-1.3.0.tgz</a> (906.1kB) 

2. Extract the archive File.
3. Copy the php\_mongodb.dll file from the extracted folder to the PHP extension directory. this is usually the "C:\xampp\php\ext" folder in XAMPP Server.
4. Open the php.ini file inside your PHP installation (C:\xampp\php) and add the following line:

**extension=php\_mongodb.dll**

5. Save the file and close it. Restart the Apache web server.

Test MongoDB Connection From PHP Script

Let's write a very simple PHP program that creates a connection to the MongoDB server and dump the connection status.

Add following PHP code to your php script and access from the Web browser. The above PHP example will output something similar to:

```
<?php
$connection = new MongoDB\Driver\Manager("mongodb://localhost:27017");
var_dump($connection);
?>
```

**Result**

```
object(MongoDB\Driver\Manager)#1 (2) { ["uri"]=> string(25) "mongodb://localhost:27017"  
["cluster"]=> array(1) { [0]=> array(11) { ["host"]=> string(9) "localhost" ["port"]=> int(27017)  
["type"]=> int(0) ["is_primary"]=> bool(false) ["is_secondary"]=> bool(false) ["is_arbiter"]=> bool(false)  
["is_hidden"]=> bool(false) ["is_passive"]=> bool(false) ["tags"]=> array(0) { } ["last_is_master"]=>  
array(0) { } ["round_trip_time"]=> int(-1) } } }
```



## ADVANCED DATABASE MANAGEMENT SYSTEM LAB

### Experiment No.: 9

Name: Sandra pm  
Roll No:34  
Batch: B  
Date:03-06-2022

### Aim

Create database Practice CRUD operations

### Procedure

## Mongodb

Create database in mongodb

Use mydb

Create tables

Db.createCollection("flowers")

Insert tuples

Db.flowers.insertMany([{"name": "rose"}, {"name": "lotus"}])

```
C:\Program Files\MongoDB\Server\5.0\bin\mongo.exe
> use mydb
switched to db mydb
> show collections
> db.createCollection("flowers")
{"ok": 1}
> db.createCollection("fruits")
{"ok": 1}
> db.createCollection("animals")
{"ok": 1}
> db.createCollection("birds")
{"ok": 1}
> db.flowers.insertMany([{"name": "sunflower"}, {"name": "rose"}, {"name": "lotus"}])
{"acknowledged": true,
 "insertedIds": [
   ObjectId("62998f11ee064d51dfbe5208"),
   ObjectId("62998f11ee064d51dfbe5209"),
   ObjectId("62998f11ee064d51dfbe520a")
 ]
}
> db.fruits.insertMany([{"name": "apple"}, {"name": "orange"}, {"name": "jackfruit"}])
{"acknowledged": true,
 "insertedIds": [
   ObjectId("62998f5bee064d51dfbe520b"),
   ObjectId("62998f5bee064d51dfbe520c"),
   ObjectId("62998f5bee064d51dfbe520d")
 ]
}
> db.animals.insertMany([{"name": "lion"}, {"name": "tiger"}, {"name": "elephant"}])
{"acknowledged": true,
 "insertedIds": [
   ObjectId("62998f99ee064d51dfbe520e"),
   ObjectId("62998f99ee064d51dfbe520f"),
   ObjectId("62998f99ee064d51dfbe5210")
 ]
}
> db.birds.insertMany([{"name": "parrot"}, {"name": "hen"}, {"name": "peacock"}])
{"acknowledged": true,
 "insertedIds": [
```



localhost:27017

8 DBS 16 COLLECTIONS

HOST  
localhost:27017

CLUSTER  
Standalone

EDITION  
MongoDB 5.0.8 Community

My Queries

Databases

Filter your data

AJCE

MCA

admin

config

local

movie\_db

mydb

My Queries

Databases

Performance

Storage size: 36.86 kB

Collections: 1

Indexes: 2

local

Storage size: 36.86 kB

Collections: 1

Indexes: 1

movie\_db

Storage size: 122.88 kB

Collections: 6

Indexes: 6

mydb

Storage size: 65.34 kB

Collections: 4

Indexes: 4

rmca2023a

Storage size: 20.48 kB

Collections: 1

Indexes: 1

> \_MONGOSH

MongoDB Compass - localhost:27017/mydb

Connect View Help

localhost:27017

8 DBS 16 COLLECTIONS

HOST  
localhost:27017

CLUSTER  
Standalone

EDITION  
MongoDB 5.0.8 Community

My Queries

Databases

Filter your data

AJCE

MCA

admin

config

local

movie\_db

mydb

Collections

Create collection

View

Sort by  
Collection Name

animals

Storage size: 20.48 kB

Documents: 3

Avg. document size: 38.00 B

Indexes: 1

Total index size: 20.48 kB

birds

Storage size: 20.48 kB

Documents: 3

Avg. document size: 38.00 B

Indexes: 1

Total index size: 20.48 kB

flowers

Storage size: 20.48 kB

Documents: 3

Avg. document size: 39.00 B

Indexes: 1

Total index size: 20.48 kB

fruits

Storage size: 20.48 kB

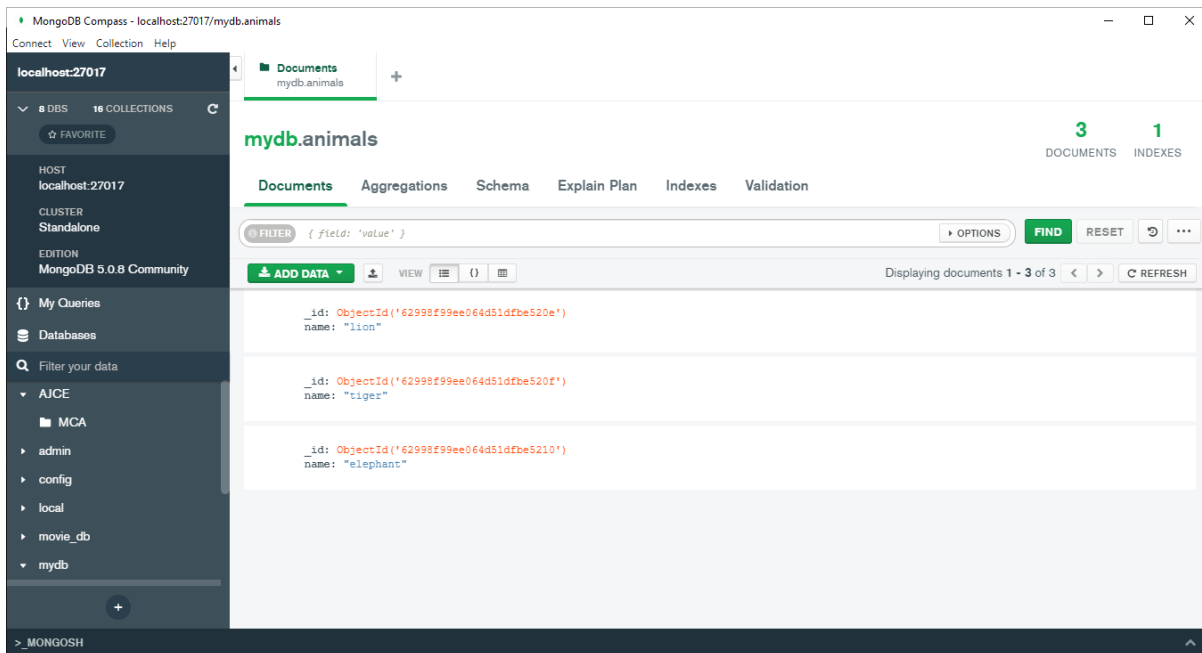
Documents: 3

Avg. document size: 39.00 B

Indexes: 1

Total index size: 20.48 kB

> \_MONGOSH



## read

`db.animals.find()`

```
]
}
> db.animals.find()
{ "_id" : ObjectId("62998f99ee064d51dfbe520e"), "name" : "lion" }
{ "_id" : ObjectId("62998f99ee064d51dfbe520f"), "name" : "tiger" }
{ "_id" : ObjectId("62998f99ee064d51dfbe5210"), "name" : "elephant" }
> db.fruits.updateOne()
```

## Update

`db.flowers.update({"name":"lotus"},{$set: {"name":"lily"}})`

```
WriteResult({ "nMatched" : 0, "nUpserted" : 0, "nModified" : 0 })
> use mydb
switched to db mydb
> db.flowers.update({"name":"lotus"},{$set: {"name":"lily"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
```

mydb.flowers

mydb.flowers

3 DOCUMENTS 1 INDEXES

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { field: 'value' } OPTIONS FIND RESET ↺ ...

ADD DATA VIEW [Table Icon] [JSON Icon] [Grid Icon]

Displaying documents 1 - 3 of 3 < > C REFRESH

```

_id: ObjectId('62998f11ee064d51dfbe5208')
name: "sunflower"

_id: ObjectId('62998f11ee064d51dfbe5209')
name: "rose"

_id: ObjectId('62998f11ee064d51dfbe520a')
name: "lily"

```

## Delete

```
db.flowers.deleteOne({"name": "rose"})
```

```

db.flowers.update({"name": "lotus"}, {$set: {"name": "lily"}})
writeResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
db.flowers.deleteOne({"name": "rose"})
{ "acknowledged" : true, "deletedCount" : 1 }

```

ADD DATA VIEW [Table Icon] [JSON Icon] [Grid Icon]

Displaying documents 1 - 2 of 2 < > C REFRESH

```

_id: ObjectId('62998f11ee064d51dfbe5208')
name: "sunflower"

_id: ObjectId('62998f11ee064d51dfbe520a')
name: "lily"

```

```

{ "acknowledged" : true, "deletedCount" : 1 }
> db.animals.deleteMany({"name": "lion"}, {"name": "elephant"})
{ "acknowledged" : true, "deletedCount" : 1 }
>

```

**Name: Sandra pm**  
**Roll No: 34**  
**Batch: RMCA-B**  
**Date:06/06/2022**

## **ADVANCED DATABASE MANAGEMENT SYSTEM LAB**

### **Experiment No.: 10**

#### **Aim**

PHP form data to mongodb

#### **PROCEDURE**

```
<?php
```

```
$con = new MongoDB\Driver\Manager('mongodb://localhost:27017');
```

```
if(isset($_POST["submit"])){
```

```
$name=$_POST["name"];
```

```
$last_name=$_POST["lastname"];
```

```
$rollno=$_POST["rollno"];
```

```
$passwd=$_POST["password"];
```

```
global $con;
```

```
$writer=new MongoDB\Driver\Bulkwrite;
```

```
$writer->insert(["name"=>$name," rollno"=>$rollno,"passwd"=>$passwd,"lastname"  
=>$last_name]);
```

```
$con->executeBulkWrite('jesdb.insertion',$writer);
```

```
die();
```

```
}
```

```
?>
```

```
<html>
```

```
<head>
```

```
<title>Document</title>
```

```
</head>
```

```
<body>
```

```
  <h2>insert to mongo</h2>
```

```
  <form action="" method="POST">
```

```
    <input type="text" name="name" placeholder="name">
```

```
    <input type="number" name="rollno" placeholder="rollno">
```

```
    <input type="password" name="password" placeholder="password">
```

```
    <input type="text" name="lastname" placeholder="lastname">
```

```
    <input type="submit" name="submit">
```

```
  </form>
```

```
</body>
```

```
</html>
```

## OUTPUT

