



LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

DISTRIBUTED DATABASES LAB

Experiment- No.1

Software compatibility: MYSQL Ver 8.0.28 for Win64 on x86_64 (MySQL Community Server - GPL)

INSTRUCTIONS:

1. Students are instructed to write their Lab record with reference to this experiment exercise and corresponding output.
 2. This execution part is mandatory to write on Lab observation as well as Lab record file.
 3. This execution part is to be continued just after the theory part as you already have completed.
 4. Lab Record & Observation should be completed.
 5. *Students with complete records and observation will only be allowed to enter the LAB.*
-

EXCERCISE 1:

1) Create a table "emp" with the following fields:

EMPNO ENAME JOB HIREDATE SAL COMM DEPTNO MGR

COMMNAD CODE:

```
CREATE TABLE dept (  
    DEPTNO INT NOT NULL,  
    DNAME VARCHAR(50),  
    LOCATION VARCHAR(50),  
    PRIMARY KEY (DEPTNO)  
);
```

OUTPUT:

```
mysql> show databases;
+-----+
| Database |
+-----+
| alightdb |
| information_schema |
| mydatabase |
| mysql |
| performance_schema |
| sys |
+-----+
6 rows in set (0.02 sec)

mysql> use alightdb;
Database changed
mysql> CREATE TABLE emp (
-> EMPNO INT NOT NULL AUTO_INCREMENT,
-> ENAME VARCHAR(50),
-> JOB VARCHAR(50),
-> HIREDATE DATE,
-> SAL DECIMAL(10, 2),
-> COMM DECIMAL(10, 2),
-> DEPTNO INT,
-> MGR INT,
```

2) Create a table “dept” with the following fields:

DEPTNO DNAME LOCATION

COMMAND CODE:

```
CREATE TABLE dept (
DEPTNO INT NOT NULL,
DNAME VARCHAR(50),
LOCATION VARCHAR(50),
PRIMARY KEY (DEPTNO)
);
```

OUTPUT:

```
mysql> CREATE TABLE dept (
-> DEPTNO INT NOT NULL,
-> DNAME VARCHAR(50),
-> LOCATION VARCHAR(50),
-> PRIMARY KEY (DEPTNO)
-> );
Query OK, 0 rows affected (0.03 sec)

mysql>
```

3) Create a table "stud_master" with the following fields:

REG_NO S_NAME BRANCH

COMMAND CODE:

```
CREATE TABLE stud_master (  
    REG_NO INT NOT NULL,  
    S_NAME VARCHAR(50),  
    BRANCH VARCHAR(50),  
    PRIMARY KEY (REG_NO)  
);
```

OUTPUT:

```
mysql> CREATE TABLE stud_master (  
    ->     REG_NO INT NOT NULL,  
    ->     S_NAME VARCHAR(50),  
    ->     BRANCH VARCHAR(50),  
    ->     PRIMARY KEY (REG_NO)  
    -> );  
Query OK, 0 rows affected (0.03 sec)
```

4) Create a table "stud_detail" with the following fields:

REG_NO COURSE_CODE COURSE_NAME MARKS SEM

COMMAND CODE:

```
CREATE TABLE stud_detail (  
    REG_NO INT NOT NULL,  
    COURSE_CODE VARCHAR(20),  
    COURSE_NAME VARCHAR(100),  
    MARKS INT,  
    SEM VARCHAR(10),
```

PRIMARY KEY (REG_NO, COURSE_CODE)

);

OUTPUT:

```
mysql> CREATE TABLE stud_detail (  
->     REG_NO INT NOT NULL,  
->     COURSE_CODE VARCHAR(20),  
->     COURSE_NAME VARCHAR(100),  
->     MARKS INT,  
->     SEM VARCHAR(10),  
->     PRIMARY KEY (REG_NO, COURSE_CODE)  
-> );  
Query OK, 0 rows affected (0.02 sec)
```

MYSQL EXECUTION SCREENSHOT (4).

EXERCISE 1.2

1) Insert records into emp table.

COMMAND CODE:

INSERT INTO emp (empno, ename, job, mgr, hiredate, sal, comm, deptno)

VALUES

(7369, 'KHAN', 'CLERK', 7902, '1980-12-17', 800, NULL, 20),

(7499, 'ALI', 'SALESMAN', 7698, '1981-02-20', 1600, 300, 30),

(7521, 'VERMA', 'SALESMAN', 7698, '1981-02-22', 1250, 500, 30),

(7566, 'PATEL', 'MANAGER', 7839, '1981-04-02', 2975, NULL, 20),

(7698, 'SHARMA', 'MANAGER', 7839, '1981-05-01', 2850, NULL, 30),

(7782, 'SINGH', 'MANAGER', 7839, '1981-06-09', 2450, NULL, 10);

OUTPUT:

```
mysql> INSERT INTO emp (empno, ename, job, mgr, hiredate, sal, comm, deptno)
-> VALUES
-> (7369, 'KHAN', 'CLERK', 7902, '1980-12-17', 800, NULL, 20),
-> (7499, 'ALI', 'SALESMAN', 7698, '1981-02-20', 1600, 300, 30),
-> (7521, 'VERMA', 'SALESMAN', 7698, '1981-02-22', 1250, 500, 30),
-> (7566, 'PATEL', 'MANAGER', 7839, '1981-04-02', 2975, NULL, 20),
-> (7698, 'SHARMA', 'MANAGER', 7839, '1981-05-01', 2850, NULL, 30),
-> (7782, 'SINGH', 'MANAGER', 7839, '1981-06-09', 2450, NULL, 10);
Query OK, 6 rows affected (0.02 sec)
```

2) Insert records into depttable.

COMMAND CODE:

INSERT INTO dept (deptno, dname, location)

VALUES

(10, 'ACCOUNTING', 'MUMBAI'),

(20, 'RESEARCH', 'BANGALORE'),

(30, 'SALES', 'DELHI'),

(40, 'OPERATIONS', 'CHENNAI');

OUTPUT

```
mysql> INSERT INTO dept (deptno, dname, location)
-> VALUES
-> (10, 'ACCOUNTING', 'MUMBAI'),
-> (20, 'RESEARCH', 'BANGALORE'),
-> (30, 'SALES', 'DELHI'),
-> (40, 'OPERATIONS', 'CHENNAI');
Query OK, 4 rows affected (0.00 sec)
```

3) Insert records into stud_master table.

COMMAND CODE:

INSERT INTO stud_master (REG_NO, S_NAME, BRANCH)

VALUES

(1, 'Aamir Khan', 'Computer Engineering'),

(2, 'Ayesha Begum', 'Electrical Engineering'),

(3, 'Rahul Verma', 'Mechanical Engineering'),

(4, 'Sara Ali', 'Computer Engineering');

OUTPUT

```
mysql> INSERT INTO stud_master (REG_NO, S_NAME, BRANCH)
-> VALUES
-> (1, 'Aamir Khan', 'Computer Engineering'),
-> (2, 'Ayesha Begum', 'Electrical Engineering'),
-> (3, 'Rahul Verma', 'Mechanical Engineering'),
-> (4, 'Sara Ali', 'Computer Engineering');
Query OK, 4 rows affected (0.01 sec)
```

4) Insert records into stud_detail table.

COMMAND CODE:

INSERT INTO stud_detail (REG_NO, COURSE_CODE, COURSE_NAME, MARKS, SEM)

VALUES

(1, 'CS101', 'Data Structures', 85, 'Sem1'),
(2, 'EE101', 'Circuit Analysis', 90, 'Sem1'),
(3, 'ME101', 'Thermodynamics', 78, 'Sem1'),
(4, 'CS102', 'Algorithms', 88, 'Sem1');

OUTPUT:

```
mysql> INSERT INTO stud_detail (REG_NO, COURSE_CODE, COURSE_NAME, MARKS, SEM)
-> VALUES
-> (1, 'CS101', 'Data Structures', 85, 'Sem1'),
-> (2, 'EE101', 'Circuit Analysis', 90, 'Sem1'),
-> (3, 'ME101', 'Thermodynamics', 78, 'Sem1'),
-> (4, 'CS102', 'Algorithms', 88, 'Sem1');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```


5) Select all information from emptable.

COMMAND CODE:

SELECT * FROM emp;

OUTPUT

```
mysql> SELECT * FROM emp;
```

EMPNO	ENAME	JOB	HIREDATE	SAL	COMM	DEPTNO
7369	KHAN	CLERK	1980-12-17	800.00	NULL	20
7499	ALI	SALESMAN	1981-02-20	1600.00	300.00	30
7521	VERMA	SALESMAN	1981-02-22	1250.00	500.00	30
7566	PATEL	MANAGER	1981-04-02	2975.00	NULL	20
7698	SHARMA	MANAGER	1981-05-01	2850.00	NULL	30
7782	SINGH	MANAGER	1981-06-09	2450.00	NULL	10

6 rows in set (0.00 sec)

6) List all the employees who have salary between 1000 and 2000.

COMMAND CODE:

SELECT * FROM emp

WHERE sal BETWEEN 1000 AND 2000;

OUTPUT:

```
mysql> SELECT * FROM emp
-> WHERE sal BETWEEN 1000 AND 2000;
```

EMPNO	ENAME	JOB	HIREDATE	SAL	COMM	DEPTNO
7499	ALI	SALESMAN	1981-02-20	1600.00	300.00	30
7521	VERMA	SALESMAN	1981-02-22	1250.00	500.00	30

2 rows in set (0.00 sec)

7) List names and jobs of all clerks in department 20.

COMMAND CODE:

SELECT **ename, job** **FROM emp**

WHERE job = 'CLERK' AND deptno = 20;

OUTPUT:

```
mysql> SELECT ename, job FROM emp
      -> WHERE job = 'CLERK' AND deptno = 20;
+-----+-----+
| ename | job   |
+-----+-----+
| KHAN  | CLERK |
+-----+-----+
1 row in set (0.00 sec)
```

8) Display all the different job types.

COMMAND CODE:

SELECT DISTINCT job **FROM emp;**

OUTPUT:

```
mysql> SELECT DISTINCT job FROM emp;
+-----+
| job   |
+-----+
| CLERK |
| SALESMAN |
| MANAGER |
+-----+
3 rows in set (0.00 sec)
```

9) List department numbers and names in department name order.

COMMAND CODE:

SELECT deptno, dname **FROM dept**

ORDER BY dname;

OUTPUT:

```
mysql> SELECT deptno, dname FROM dept
-> ORDER BY dname;
+-----+-----+
| deptno | dname      |
+-----+-----+
|      10 | ACCOUNTING |
|      40 | OPERATIONS |
|      20 | RESEARCH   |
|      30 | SALES      |
+-----+-----+
4 rows in set (0.00 sec)
```

10) Select all information from stud_mastertable.

COMMAND CODE:

SELECT * FROM stud_master;

OUTPUT:

```
mysql> SELECT * FROM stud_master;
+-----+-----+-----+
| REG_NO | S_NAME      | BRANCH                      |
+-----+-----+-----+
|      1 | Aamir Khan  | Computer Engineering       |
|      2 | Ayesha Begum | Electrical Engineering     |
|      3 | Rahul Verma | Mechanical Engineering     |
|      4 | Sara Ali    | Computer Engineering       |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

11) Display Registration number and name of students whose department is
"computer engineering".

COMMAND CODE:

SELECT stud_detail.REG_NO, stud_master.S_NAME

FROM stud_detail

JOIN stud_master ON stud_detail.REG_NO = stud_master.REG_NO

WHERE stud_master.BRANCH = 'Computer Engineering';

OUTPUT:

```
mysql> SELECT stud_detail.REG_NO, stud_master.S_NAME  
-> FROM stud_detail  
-> JOIN stud_master ON stud_detail.REG_NO = stud_master.REG_NO  
-> WHERE stud_master.BRANCH = 'Computer Engineering';
```

```
+-----+-----+  
| REG_NO | S_NAME |  
+-----+-----+  
|      1 | Aamir Khan |  
|      4 | Sara Ali |  
+-----+-----+  
2 rows in set (0.00 sec)
```