

# LAB 1 and 2

Setting environment for using XAMPP for Windows.

user@aurav c:\xampp

# cd C:\xampp\mysql\bin

user@aurav C:\xampp\mysql\bin

# mysql -u root -p

Enter password:

Welcome to the MariaDB monitor. Commands end with ; or \g.

Your MariaDB connection id is 9

Server version: 10.4.32-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> create database gaurav;

ERROR 1007 (HY000): Can't create database 'gaurav'; database exists

MariaDB [(none)]> use gaurav

Database changed

MariaDB [gaurav]> create table student(sname nvarchar(20)not null,rollno int not null,dob datetime not null);

Query OK, 0 rows affected (0.017 sec)

MariaDB [gaurav]> create table emp(empno int,ename nvarchar(20)not null,job nvarchar(10)not null,deptno int,sal int);

Query OK, 0 rows affected (0.016 sec)

MariaDB [gaurav]> desc emp;

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

Field	Type	Null	Key	Default	Extra
empno	int(11)	YES		NULL	
ename	varchar(20)	NO		NULL	
job	varchar(10)	NO		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	

5 rows in set (0.028 sec)

MariaDB [gaurav]> desc student;

Field	Type	Null	Key	Default	Extra
sname	varchar(20)	NO		NULL	
rollno	int(11)	NO		NULL	
dob	datetime	NO		NULL	

3 rows in set (0.011 sec)

MariaDB [gaurav]> alter table emp add experience int;

Query OK, 0 rows affected (0.018 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [gaurav]> desc emp;

Field	Type	Null	Key	Default	Extra
empno	int(11)	YES		NULL	
ename	varchar(20)	NO		NULL	
job	varchar(10)	NO		NULL	

deptno	int(11)	YES		NULL		
sal	int(11)	YES		NULL		
experience	int(11)	YES		NULL		

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

6 rows in set (0.011 sec)

MariaDB [gaurav]> alter table emp modify column job nvarchar(12);

Query OK, 0 rows affected (0.033 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [gaurav]> desc emp;

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

Field	Type	Null	Key	Default	Extra
-------	------	------	-----	---------	-------

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

empno	int(11)	YES		NULL	
-------	---------	-----	--	------	--

ename	varchar(20)	NO		NULL	
-------	-------------	----	--	------	--

job	varchar(12)	YES		NULL	
-----	-------------	-----	--	------	--

deptno	int(11)	YES		NULL	
--------	---------	-----	--	------	--

sal	int(11)	YES		NULL	
-----	---------	-----	--	------	--

experience	int(11)	YES		NULL	
------------	---------	-----	--	------	--

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

6 rows in set (0.006 sec)

MariaDB [gaurav]> alter table emp add phone\_no nvarchar(20);

Query OK, 0 rows affected (0.013 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [gaurav]> desc emp;

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

Field	Type	Null	Key	Default	Extra
-------	------	------	-----	---------	-------

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

empno	int(11)	YES		NULL	
ename	varchar(20)	NO		NULL	
job	varchar(12)	YES		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	
experience	int(11)	YES		NULL	
phone_no	varchar(20)	YES		NULL	

7 rows in set (0.005 sec)

MariaDB [gaurav]> alter table emp modify column phone\_no int;

Query OK, 0 rows affected (0.042 sec)

Records: 0 Duplicates: 0 Warnings: 0

MariaDB [gaurav]> desc emp;

Field	Type	Null	Key	Default	Extra
empno	int(11)	YES		NULL	
ename	varchar(20)	NO		NULL	
job	varchar(12)	YES		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	
experience	int(11)	YES		NULL	
phone_no	int(11)	YES		NULL	

7 rows in set (0.013 sec)

MariaDB [gaurav]> ALTER TABLE EMP ADD CONSTRAINT Pkey1 PRIMARY KEY(EmpNo)

;

Query OK, 0 rows affected, 1 warning (0.029 sec)

Records: 0 Duplicates: 0 Warnings: 1

MariaDB [gaurav]> desc emp;

Field	Type	Null	Key	Default	Extra
empno	int(11)	NO	PRI	NULL	
ename	varchar(20)	NO		NULL	
job	varchar(12)	YES		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	
experience	int(11)	YES		NULL	
phone_no	int(11)	YES		NULL	

7 rows in set (0.011 sec)

MariaDB [gaurav]> show full columns from emp;

Field	Type	Collation	Null	Key	Default	Extra	Privileges	Comment
empno	int(11)	NULL	NO	PRI	NULL		select,insert,update,references	
ename	varchar(20)	utf8_general_ci	NO		NULL		select,insert,update,references	
job	varchar(12)	utf8_general_ci	YES		NULL		select,insert,update,references	
deptno	int(11)	NULL	YES		NULL		select,insert,update,references	
sal	int(11)	NULL	YES		NULL		select,insert,update,references	
experience	int(11)	NULL	YES		NULL		select,insert,update,references	
phone_no	int(11)	NULL	YES		NULL		select,insert,update,references	

```
+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.011 sec)
```

```
MariaDB [gaurav]> alter table emp modify column ename nvarchar(30)not nul
l;
Query OK, 0 rows affected (0.014 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [gaurav]> show full columns from emp;
```

```
+-----+-----+-----+-----+-----+-----+-----+
| Field  | Type    | Collation  | Null | Key | Default | Extra | Privileges          | Comment |
+-----+-----+-----+-----+-----+-----+-----+
| empno  | int(11) | NULL       | NO   | PRI | NULL    |      | select,insert,update,references |
|
| ename  | varchar(30) | utf8_general_ci | NO   |     | NULL    |      | select,insert,update,references |
|
| job    | varchar(12) | utf8_general_ci | YES  |     | NULL    |      | select,insert,update,references |
|
| deptno | int(11)   | NULL       | YES  |     | NULL    |      | select,insert,update,references |
|
| sal    | int(11)   | NULL       | YES  |     | NULL    |      | select,insert,update,references |
|
| experience | int(11) | NULL       | YES  |     | NULL    |      | select,insert,update,references |
|
| phone_no | int(11) | NULL       | YES  |     | NULL    |      | select,insert,update,references |
|
+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.012 sec)
```

```
MariaDB [gaurav]> alter table emp modify column ename nvarchar(30)null;
Query OK, 0 rows affected (0.028 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [gaurav]> show full columns from emp;
```

Field	Type	Collation	Null	Key	Default	Extra	Privileges	Comment
empno	int(11)	NULL	NO	PRI	NULL		select,insert,update,references	
ename	varchar(30)	utf8_general_ci	YES		NULL		select,insert,update,references	
job	varchar(12)	utf8_general_ci	YES		NULL		select,insert,update,references	
deptno	int(11)	NULL	YES		NULL		select,insert,update,references	
sal	int(11)	NULL	YES		NULL		select,insert,update,references	
experience	int(11)	NULL	YES		NULL		select,insert,update,references	
phone_no	int(11)	NULL	YES		NULL		select,insert,update,references	

7 rows in set (0.011 sec)

```
MariaDB [gaurav]> create table dept(deptno int primary key,dname varchar(10),loc nvarchar(10));
```

Query OK, 0 rows affected (0.015 sec)

```
MariaDB [gaurav]> desc dept;
```

Field	Type	Null	Key	Default	Extra
deptno	int(11)	NO	PRI	NULL	
dname	varchar(10)	YES		NULL	
loc	varchar(10)	YES		NULL	

3 rows in set (0.012 sec)

```
MariaDB [gaurav]> create table emp1(ename nvarchar(10),empno int,constraint ch check(empno>100));
Query OK, 0 rows affected (0.012 sec)
```

```
MariaDB [gaurav]> alter table emp drop column experience;
Query OK, 0 rows affected (0.016 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [gaurav]> desc emp;
```

Field	Type	Null	Key	Default	Extra
empno	int(11)	NO	PRI	NULL	
ename	varchar(30)	YES		NULL	
job	varchar(12)	YES		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	
phone_no	int(11)	YES		NULL	

```
6 rows in set (0.006 sec)
```

```
MariaDB [gaurav]> insert into emp(empno,ename,job,deptno,sal)
```

```
-> VALUES
```

```
-> (1,'Amit','software engineer',1,10000),
```

```
-> (2,'Rahul','teacher',2,20000),
```

```
-> (3,'Monika','doctor',3,30000),
```

```
-> (4,'Apekshya','developer',4,40000),
```

```
-> (5,'Dinesh','tester',5,50000),
```

```
-> (6,'Simran','DBA',6,60000),
```

```
-> (7,'Hari','manager',7,70000),
```

```
-> (8,'Ashim','CTO',8,64000),
```



-> (9,'Govinda','CFO',9,45000),

-> (10,'Samundra','CEO',10,100000);

Query OK, 10 rows affected, 1 warning (0.013 sec)

Records: 10 Duplicates: 0 Warnings: 1

MariaDB [gaurav]> select \* from emp;

empno	ename	job	deptno	sal	phone_no
1	Amit	software eng	1	10000	NULL
2	Rahul	teacher	2	20000	NULL
3	Monika	doctor	3	30000	NULL
4	Apekshya	developer	4	40000	NULL
5	Dinesh	tester	5	50000	NULL
6	Simran	DBA	6	60000	NULL
7	Hari	manager	7	70000	NULL
8	Ashim	CTO	8	64000	NULL
9	Govinda	CFO	9	45000	NULL
10	Samundra	CEO	10	100000	NULL

10 rows in set (0.007 sec)

MariaDB [gaurav]> select distinct job from emp;

job
software eng
teacher
doctor
developer
tester

DBA	
manager	
CTO	
CFO	
CEO	
+-----+	

10 rows in set (0.008 sec)

MariaDB [gaurav]> select distinct sal from emp;

+-----+	
sal	
+-----+	
10000	
20000	
30000	
40000	
50000	
60000	
70000	
64000	
45000	
100000	
+-----+	

10 rows in set (0.000 sec)

MariaDB [gaurav]> select empno,ename from emp where sal>30000;

+-----+-----+		
empno	ename	
+-----+-----+		
4	Apekshya	
5	Dinesh	

	6		Simran	
	7		Hari	
	8		Ashim	
	9		Govinda	
	10		Samundra	

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

7 rows in set (0.007 sec)

MariaDB [gaurav]> select empno,ename from emp order by empno;

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

	empno		ename	
--	-------	--	-------	--

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

	1		Amit	
	2		Rahul	
	3		Monika	
	4		Apekshya	
	5		Dinesh	
	6		Simran	
	7		Hari	
	8		Ashim	
	9		Govinda	
	10		Samundra	

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

10 rows in set (0.000 sec)

MariaDB [gaurav]> select empno,ename from emp order by empno desc;

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

	empno		ename	
--	-------	--	-------	--

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

	10		Samundra	
	9		Govinda	

	8		Ashim	
	7		Hari	
	6		Simran	
	5		Dinesh	
	4		Apekshya	
	3		Monika	
	2		Rahul	
	1		Amit	

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

10 rows in set (0.000 sec)

MariaDB [gaurav]> create table newtable LIKE emp;

Query OK, 0 rows affected (0.007 sec)

MariaDB [gaurav]> desc newtable;

Field	Type	Null	Key	Default	Extra
empno	int(11)	NO	PRI	NULL	
ename	varchar(30)	YES		NULL	
job	varchar(12)	YES		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	
phone_no	int(11)	YES		NULL	

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

6 rows in set (0.005 sec)

MariaDB [gaurav]> select \* from newtable;

Empty set (0.001 sec)

MariaDB [gaurav]> create table newtable2 as select \* from emp;

Query OK, 10 rows affected (0.013 sec)

Records: 10 Duplicates: 0 Warnings: 0

MariaDB [gaurav]> desc newtable2;

Field	Type	Null	Key	Default	Extra
empno	int(11)	NO		NULL	
ename	varchar(30)	YES		NULL	
job	varchar(12)	YES		NULL	
deptno	int(11)	YES		NULL	
sal	int(11)	YES		NULL	
phone_no	int(11)	YES		NULL	

6 rows in set (0.004 sec)

MariaDB [gaurav]> select \* from newtable2;

empno	ename	job	deptno	sal	phone_no
1	Amit	software eng	1	10000	NULL
2	Rahul	teacher	2	20000	NULL
3	Monika	doctor	3	30000	NULL
4	Apekshya	developer	4	40000	NULL
5	Dinesh	tester	5	50000	NULL
6	Simran	DBA	6	60000	NULL
7	Hari	manager	7	70000	NULL
8	Ashim	CTO	8	64000	NULL
9	Govinda	CFO	9	45000	NULL
10	Samundra	CEO	10	100000	NULL

10 rows in set (0.000 sec)

```
MariaDB [gaurav]> insert into newtable1 select * from emp;
```

ERROR 1146 (42S02): Table 'gaurav.newtable1' doesn't exist

```
MariaDB [gaurav]> select * from newtable;
```

Empty set (0.005 sec)

```
MariaDB [gaurav]> insert into newtable select * from emp;
```

Query OK, 10 rows affected (0.002 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
MariaDB [gaurav]> select * from newtable;
```

empno	ename	job	deptno	sal	phone_no
1	Amit	software eng	1	10000	NULL
2	Rahul	teacher	2	20000	NULL
3	Monika	doctor	3	30000	NULL
4	Apekshya	developer	4	40000	NULL
5	Dinesh	tester	5	50000	NULL
6	Simran	DBA	6	60000	NULL
7	Hari	manager	7	70000	NULL
8	Ashim	CTO	8	64000	NULL
9	Govinda	CFO	9	45000	NULL
10	Samundra	CEO	10	100000	NULL

10 rows in set (0.001 sec)

```
MariaDB [gaurav]> update emp set ename='Krishna' where empno=1;
```

Query OK, 1 row affected (0.013 sec)

Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [gaurav]> select \* from emp;

empno	ename	job	deptno	sal	phone_no
1	Krishna	software eng	1	10000	NULL
2	Rahul	teacher	2	20000	NULL
3	Monika	doctor	3	30000	NULL
4	Apekshya	developer	4	40000	NULL
5	Dinesh	tester	5	50000	NULL
6	Simran	DBA	6	60000	NULL
7	Hari	manager	7	70000	NULL
8	Ashim	CTO	8	64000	NULL
9	Govinda	CFO	9	45000	NULL
10	Samundra	CEO	10	100000	NULL

10 rows in set (0.001 sec)

MariaDB [gaurav]> select \* from newtable;

empno	ename	job	deptno	sal	phone_no
1	Amit	software eng	1	10000	NULL
2	Rahul	teacher	2	20000	NULL
3	Monika	doctor	3	30000	NULL
4	Apekshya	developer	4	40000	NULL
5	Dinesh	tester	5	50000	NULL
6	Simran	DBA	6	60000	NULL
7	Hari	manager	7	70000	NULL
8	Ashim	CTO	8	64000	NULL
9	Govinda	CFO	9	45000	NULL

```
| 10 | Samundra | CEO      | 10 | 100000 | NULL |
```

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

10 rows in set (0.001 sec)

MariaDB [gaurav]> delete from newtable where empno=1;

Query OK, 1 row affected (0.009 sec)

MariaDB [gaurav]> select \* from newtable;

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

```
| empno | ename   | job    | deptno | sal   | phone_no |
```

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

```
| 2 | Rahul   | teacher | 2 | 20000 | NULL |
```

```
| 3 | Monika  | doctor  | 3 | 30000 | NULL |
```

```
| 4 | Apekshya | developer | 4 | 40000 | NULL |
```

```
| 5 | Dinesh  | tester  | 5 | 50000 | NULL |
```

```
| 6 | Simran  | DBA     | 6 | 60000 | NULL |
```

```
| 7 | Hari    | manager | 7 | 70000 | NULL |
```

```
| 8 | Ashim   | CTO     | 8 | 64000 | NULL |
```

```
| 9 | Govinda | CFO     | 9 | 45000 | NULL |
```

```
| 10 | Samundra | CEO     | 10 | 100000 | NULL |
```

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

9 rows in set (0.001 sec)

MariaDB [gaurav]> update newtable set sal=sal\*1.10;

Query OK, 9 rows affected (0.010 sec)

Rows matched: 9 Changed: 9 Warnings: 0

MariaDB [gaurav]> select \* from newtable;

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

```
| empno | ename   | job    | deptno | sal   | phone_no |
```

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



	2		Rahul		teacher		2		22000		NULL	
	3		Monika		doctor		3		33000		NULL	
	4		Apekshya		developer		4		44000		NULL	
	5		Dinesh		tester		5		55000		NULL	
	6		Simran		DBA		6		66000		NULL	
	7		Hari		manager		7		77000		NULL	
	8		Ashim		CTO		8		70400		NULL	
	9		Govinda		CFO		9		49500		NULL	
	10		Samundra		CEO		10		110000		NULL	

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

9 rows in set (0.001 sec)

MariaDB [gaurav]> delete from newtable where sal<20000;

Query OK, 0 rows affected (0.007 sec)

MariaDB [gaurav]> select \* from newtable;

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

empno	ename	job	deptno	sal	phone_no
-------	-------	-----	--------	-----	----------

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

	2		Rahul		teacher		2		22000		NULL	
	3		Monika		doctor		3		33000		NULL	
	4		Apekshya		developer		4		44000		NULL	
	5		Dinesh		tester		5		55000		NULL	
	6		Simran		DBA		6		66000		NULL	
	7		Hari		manager		7		77000		NULL	
	8		Ashim		CTO		8		70400		NULL	
	9		Govinda		CFO		9		49500		NULL	
	10		Samundra		CEO		10		110000		NULL	

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

9 rows in set (0.001 sec)

MariaDB [gaurav]> select \* from newtable where ename='a%';

Empty set (0.007 sec)

MariaDB [gaurav]> select \* from newtable where ename='b%';

Empty set (0.001 sec)

MariaDB [gaurav]> select \* from newtable where ename='B%';

Empty set (0.002 sec)

MariaDB [gaurav]> select \* from newtable where ename='A%';

Empty set (0.001 sec)

MariaDB [gaurav]> select \* from newtable where ename like 'A%';

empno	ename	job	deptno	sal	phone_no
4	Apekshya	developer	4	44000	NULL
8	Ashim	CTO	8	70400	NULL

2 rows in set (0.002 sec)

MariaDB [gaurav]> select \* from newtable where ename like '%a';

empno	ename	job	deptno	sal	phone_no
3	Monika	doctor	3	33000	NULL
4	Apekshya	developer	4	44000	NULL
9	Govinda	CFO	9	49500	NULL
10	Samundra	CEO	10	110000	NULL

4 rows in set (0.001 sec)

MariaDB [gaurav]> select \* from newtable;

empno	ename	job	deptno	sal	phone_no
2	Rahul	teacher	2	22000	NULL
3	Monika	doctor	3	33000	NULL
4	Apekshya	developer	4	44000	NULL
5	Dinesh	tester	5	55000	NULL
6	Simran	DBA	6	66000	NULL
7	Hari	manager	7	77000	NULL
8	Ashim	CTO	8	70400	NULL
9	Govinda	CFO	9	49500	NULL
10	Samundra	CEO	10	110000	NULL

9 rows in set (0.001 sec)

MariaDB [gaurav]> select \* from newtable where ename like '%1';

Empty set (0.000 sec)

MariaDB [gaurav]> select \* from newtable where ename like 's%a';

empno	ename	job	deptno	sal	phone_no
10	Samundra	CEO	10	110000	NULL

1 row in set (0.001 sec)

MariaDB [gaurav]> select \* from newtable where ename like '\_a%';

empno	ename	job	deptno	sal	phone_no
-------	-------	-----	--------	-----	----------

```
+-----+-----+-----+-----+-----+
|  2 | Rahul | teacher |  2 | 22000 |  NULL |
|  7 | Hari  | manager |  7 | 77000 |  NULL |
| 10 | Samundra | CEO   | 10 | 110000 |  NULL |
+-----+-----+-----+-----+-----+
```

3 rows in set (0.001 sec)

MariaDB [gaurav]>