

PRAKTIKUM 1 BASIS DATA

1. Buatlah database **akademik** di mysql menggunakan command Prompt
2. Dengan menggunakan command prompt, pada database akademik, buatlah beberapa table dibawah ini:

a.table mahasiswa

```
MariaDB [(none)]> create database Akademik;
Query OK, 1 row affected (0.009 sec)

MariaDB [(none)]> use Akademik;
Database changed
MariaDB [Akademik]> Create table Mahasiswa(Nik char(10),nama varchar(50) not null,jk char(1),tgl_lhr Date,jurusan varchar(30),umur int,primary key(Nik));
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near '(1),tgl_lhr Date,jurusan varchar(30),umur int,primary key(Nik))' at line 1
MariaDB [Akademik]> Create table Mahasiswa(Nik char(10),nama varchar(50) not null,jk char(1),tgl_lhr Date,jurusan varchar(30),umur int,primary key(Nik));
Query OK, 0 rows affected (0.035 sec)

MariaDB [Akademik]> desc mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Nik    | char(10) | NO   | PRI | NULL    |       |
| nama   | varchar(50) | NO   |     | NULL    |       |
| jk     | char(1) | YES  |     | NULL    |       |
| tgl_lhr | date | YES  |     | NULL    |       |
| jurusan | varchar(30) | YES  |     | NULL    |       |
| umur   | int(11) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.020 sec)
```

b.Table matakuliah

```
MariaDB [Akademik]> Create Table Matakuliah (kd_matakuliah char(10),Nm_mataKuliah varchar(30) not null,sks char(10),primary key(kd_matakuliah));
Query OK, 0 rows affected (0.038 sec)

MariaDB [Akademik]> desc Matakuliah;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| kd_matakuliah | char(10) | NO   | PRI | NULL    |       |
| Nm_mataKuliah | varchar(30) | NO   |     | NULL    |       |
| sks           | char(10) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.022 sec)
```

c Table nilai

```
MariaDB [(none)]> use Akademik;
Database changed
MariaDB [Akademik]> Create Table nilai(NPM char(16 ),kd_matakuliah char(10),Nilai_latihan int,Nilai_tugas int,Nilai_Kuis int,Nilai_Uts int,Nilai_Uas int;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near '' at line 1

MariaDB [Akademik]> Create Table nilai(NPM char(16 ),kd_matakuliah char(10),Nilai_latihan int,Nilai_tugas int,Nilai_Kuis int,Nilai_Uts int,Nilai_Uas int);
Query OK, 0 rows affected (0.044 sec)

MariaDB [Akademik]> desc nilai;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'desc nilai'
at line 1

MariaDB [Akademik]> desc nilai;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NPM    | char(16) | YES |     | NULL    |       |
| kd_matakuliah | char(10) | YES |     | NULL    |       |
| Nilai_latihan | int(11) | YES |     | NULL    |       |
| Nilai_tugas   | int(11) | YES |     | NULL    |       |
| Nilai_Kuis    | int(11) | YES |     | NULL    |       |
| Nilai_Uts     | int(11) | YES |     | NULL    |       |
| Nilai_Uas     | int(11) | YES |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.036 sec)
```

d.table prodi

```
MariaDB [Akademik]> create Table Prodi(kd_prodi char(10),Nm_prodi varchar(30),Primary key(kd_prodi));
Query OK, 0 rows affected (0.041 sec)

MariaDB [Akademik]> desc prodi;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| kd_prodi | char(10) | NO | PRI | NULL |       |
| Nm_prodi | varchar(30) | YES |     | NULL |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.037 sec)
```

Pada table Prodi tambahkan kolom Ketua Prodi dengan Type Data Varchar dengan maksimal karakter adalah 30

```
MariaDB [Akademik]> ALTER TABLE `prodi` ADD `ketua_prodi` VARCHAR(30) NOT NULL AFTER `Nm_prodi`;
Query OK, 0 rows affected (0.030 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Akademik]> desc prodi;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| kd_prodi | char(10) | NO | PRI | NULL |       |
| Nm_prodi | varchar(30) | YES |     | NULL |       |
| ketua_prodi | varchar(30) | NO |     | NULL |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.030 sec)
```

4. Pada table mahasiswa, tambahkan kolom alamat dengan Type Data Varchar dengan maksimal karakter adalah 60, diletakan setelah tanggal_lhr

```
MariaDB [Akademik]> ALTER TABLE `Mahasiswa` ADD `Alamat` VARCHAR(60) NOT NULL AFTER `tgl_lhr`;
Query OK, 0 rows affected (0.028 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Akademik]> desc mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Nik    | char(10)      | NO   | PRI | NULL    |       |
| nama   | varchar(50)   | NO   |     | NULL    |       |
| jk     | char(1)       | YES  |     | NULL    |       |
| tgl_lhr | date          | YES  |     | NULL    |       |
| Alamat | varchar(60)   | NO   |     | NULL    |       |
| jurusan | varchar(30)   | YES  |     | NULL    |       |
| umur   | int(11)       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.019 sec)
```

5. Pada Table nilai, ubah semua nama kolom yang memiliki kata **nilai** menjadi (kosong), contoh: **Nilai_UAS** menjadi **UAS**

```
MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_latihan` `latihan` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.026 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_Uts` `UTS` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.021 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_Uas` `UAS` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.023 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_kuis` `kuis` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.021 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Akademik]> desc nilai;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NPM            | char(16)      | YES  |     | NULL    |       |
| kd_matakuliah | char(10)      | YES  |     | NULL    |       |
| latihan        | int(11)       | YES  |     | NULL    |       |
| Nilai_tugas    | int(11)       | YES  |     | NULL    |       |
| kuis           | int(11)       | YES  |     | NULL    |       |
| UTS            | int(11)       | YES  |     | NULL    |       |
| UAS            | int(11)       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.018 sec)

MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_tugas` `tugas` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.023 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_kuis` `kuis` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.021 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [Akademik]> desc nilai;
```

Field	Type	Null	Key	Default	Extra
NPM	char(16)	YES		NULL	
kd_matakuliah	char(10)	YES		NULL	
latihan	int(11)	YES		NULL	
Nilai_tugas	int(11)	YES		NULL	
kuis	int(11)	YES		NULL	
UTS	int(11)	YES		NULL	
UAS	int(11)	YES		NULL	

```
7 rows in set (0.018 sec)
```

```
MariaDB [Akademik]> ALTER TABLE `nilai` CHANGE `Nilai_tugas` `tugas` INT(11) NULL DEFAULT NULL;
Query OK, 0 rows affected (0.023 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [Akademik]> desc nilai;
```

Field	Type	Null	Key	Default	Extra
NPM	char(16)	YES		NULL	
kd_matakuliah	char(10)	YES		NULL	
latihan	int(11)	YES		NULL	
tugas	int(11)	YES		NULL	
kuis	int(11)	YES		NULL	
UTS	int(11)	YES		NULL	
UAS	int(11)	YES		NULL	

```
7 rows in set (0.019 sec)
```

VI TUGAS PRAKTIKUM 2

1. Buatlah database **universitas** di mysql menggunakan command Prompt
2. Dengan menggunakan command prompt, pada database akademik, buatlah table dibawah ini:
 - a. Table mahasiswa

```
MariaDB [universitas]> USE universitas;
Database changed
MariaDB [universitas]> create table Mahasiswa(NIM char(12),Nama varchar(25),Alamat
varchar(50),Email char(15),Telephone char(15),primary key(NIM));
Query OK, 0 rows affected (0.015 sec)

MariaDB [universitas]> show tables;
+-----+
| Tables_in_universitas |
+-----+
| mahasiswa              |
+-----+
1 row in set (0.001 sec)

MariaDB [universitas]> desc mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| NIM        | char(12)      | NO   | PRI | NULL    |       |
| Nama       | varchar(25)   | YES  |     | NULL    |       |
| Alamat     | varchar(50)   | YES  |     | NULL    |       |
| Email      | char(15)      | YES  |     | NULL    |       |
| Telephone  | char(15)      | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.009 sec)
```

B. tambahkan data

```
MariaDB [universitas]> INSERT INTO mahasiswa values('080911001','lala','JAKARTA','lala@gmail.com','08561009121'),('080911002','sari','pamulang','sari@gmail.com','08561009999'),('080911003','Tono','parung','tono@gmail.com','08561009888'),('080911004','iya','semarang','iya@gmail.com','085610099578'),('080911006','Toti','Ciputat','toti@gmail.com','085610095555'),('080911014','ida','serpong','dia@gmail.com','08561009777');
Query OK, 6 rows affected (0.004 sec)
Records: 6 Duplicates: 0 Warnings: 0

MariaDB [universitas]> select * from mahasiswa;
+-----+-----+-----+-----+-----+
| NIM      | Nama  | Alamat  | Email      | Telephone |
+-----+-----+-----+-----+-----+
| 080911001 | lala  | JAKARTA | lala@gmail.com | 08561009121 |
| 080911002 | sari  | pamulang | sari@gmail.com | 08561009999 |
| 080911003 | Tono  | parung  | tono@gmail.com | 08561009888 |
| 080911004 | iya   | semarang | iya@gmail.com  | 085610099578 |
| 080911006 | Toti  | Ciputat | toti@gmail.com | 085610095555 |
| 080911014 | ida   | serpong | dia@gmail.com  | 08561009777 |
+-----+-----+-----+-----+-----+
6 rows in set (0.001 sec)
```

C. menambahkan data sesuai dengan nim

```
MariaDB [universitas]> INSERT INTO mahasiswa VALUES ('191011400107', 'Agung suseno', 'Jakarta', 'agungsuseno0811@gmail.com', '082268711260');
Query OK, 1 row affected (0.002 sec)
```

```
MariaDB [universitas]> select*from mahasiswa;
```

NIM	Nama	Alamat	Email	Telephone
080911001	lala	Jakarta	lala@gmail.com	08561000121
080911002	Sari	Pamulang	sari@gmail.com	08561009999
080911003	Tono	Parung	tono@gmail.com	08561009888
080911006	iya	semarang	iya@gmail.com	085610099578
080911014	ida	serpong	dia@gmail.com	08561009777
191011400107	Agung suseno	Jakarta	agungsuseno0811@gmail.com	082268711260
191011400107	Agung suseno	Jakarta	agungsuseno0811@gmail.com	082268711260

7 rows in set (0.001 sec)

3.a mengubah email tono@gmail.com menjadi tono25@yahoo.com

```
MariaDB [universitas]> update mahasiswa SET Email='tono25@yahoo.com' WHERE mahasiswa.NIM='080911003';
Query OK, 1 row affected, 1 warning (0.004 sec)
Rows matched: 1 Changed: 1 Warnings: 1
```

```
MariaDB [universitas]> select * from mahasiswa;
```

NIM	Nama	Alamat	Email	Telephone
080911001	lala	JAKARTA	lala@gmail.com	08561009121
080911002	sari	pamulang	sari@gmail.com	08561009999
080911003	Tono	parung	tono25@yahoo.co	08561009888
080911004	iya	semarang	iya@gmail.com	085610099578
080911006	Toti	Ciputat	toti@gmail.com	085610095555
080911014	ida	serpong	dia@gmail.com	08561009777

6 rows in set (0.001 sec)

B merubah alamat ida menjadi pamulang

```
MariaDB [universitas]> update mahasiswa SET Alamat='pamulang' WHERE mahasiswa.NIM='080911014';
Query OK, 1 row affected (0.004 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
MariaDB [universitas]> select* from mahasiswa;
```

NIM	Nama	Alamat	Email	Telephone
080911001	lala	JAKARTA	lala@gmail.com	08561009121
080911002	sari	pamulang	sari@gmail.com	08561009999
080911003	Tono	parung	tono25@yahoo.co	08561009888
080911004	iya	semarang	iya@gmail.com	085610099578
080911006	Toti	Ciputat	toti@gmail.com	085610095555
080911014	ida	pamulang	dia@gmail.com	08561009777

6 rows in set (0.001 sec)

c.mengubah email toti@gmail.Com menjadi toti89@rocketmail.com

```
MariaDB [universitas]> update mahasiswa SET Email='toti89@rocketmail.com' WHERE mahasiswa.NIM='080911006';
Query OK, 1 row affected, 1 warning (0.004 sec)
Rows matched: 1 Changed: 1 Warnings: 1
```

```
MariaDB [universitas]> select *from mahasiswa;
+-----+-----+-----+-----+-----+
| NIM      | Nama  | Alamat  | Email      | Telephone |
+-----+-----+-----+-----+-----+
| 080911001 | lala  | JAKARTA | lala@gmail.com | 08561009121 |
| 080911002 | sari  | pamulang | sari@gmail.com | 08561009999 |
| 080911003 | Tono  | parung  | tonos2@yahoo.co | 08561009888 |
| 080911004 | iya   | semarang | iya@gmail.com | 085610099578 |
| 080911006 | Toti  | Ciputat | toti89@rocketma | 085610095555 |
| 080911014 | ida   | pamulang | dia@gmail.com | 08561009777 |
+-----+-----+-----+-----+-----+
6 rows in set (0.001 sec)
```

4.a menampilkan mahasiswa dari pamulang

```
MariaDB [universitas]> select * from mahasiswa WHERE Alamat=pamulang;
ERROR 1054 (42S22): Unknown column 'pamulang' in 'where clause'
MariaDB [universitas]> select * from mahasiswa WHERE Alamat='pamulang';
+-----+-----+-----+-----+-----+
| NIM      | Nama  | Alamat  | Email      | Telephone |
+-----+-----+-----+-----+-----+
| 080911002 | sari  | pamulang | sari@gmail.com | 08561009999 |
| 080911014 | ida   | pamulang | dia@gmail.com | 08561009777 |
+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)
```

b.nenampiklan data email mahasiswa yg tidak mnnggunakan gmail

```
MariaDB [universitas]> select * from mahasiswa WHERE Email NOT LIKE '%gmail%';
+-----+-----+-----+-----+-----+
| NIM      | Nama  | Alamat  | Email      | Telephone |
+-----+-----+-----+-----+-----+
| 080911003 | Tono  | parung  | tonos2@yahoo.co | 08561009888 |
| 080911006 | Toti  | Ciputat | toti89@rocketma | 085610095555 |
+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)
```

c . menampilkan nama yg berawalan T

```
MariaDB [universitas]>
MariaDB [universitas]> select * from mahasiswa WHERE Nama LIKE 'T%';
+-----+-----+-----+-----+-----+
| NIM      | Nama  | Alamat  | Email      | Telephone |
+-----+-----+-----+-----+-----+
| 080911003 | Tono  | parung  | tonos2@yahoo.co | 08561009888 |
| 080911006 | Toti  | Ciputat | toti89@rocketma | 085610095555 |
+-----+-----+-----+-----+-----+
2 rows in set (0.001 sec)
```

5.menghapus data lala

```
uc line 1  
MariaDB [universitas]> delete from mahasiswa WHERE mahasiswa.NIM=080911001;  
Query OK, 1 row affected (0.004 sec)
```

```
MariaDB [universitas]> SELECT *FROM Mahasiswa;
```

NIM	Nama	Alamat	Email	Telephone
080911002	sari	pamulang	sari@gmail.com	08561009999
080911003	Tono	parung	tono25@yahoo.co	08561009888
080911004	iya	semarang	iya@gmail.com	085610099578
080911006	Toti	Ciputat	toti89@rocketma	085610095555
080911014	ida	pamulang	dia@gmail.com	08561009777

```
5 rows in set (0.001 sec)
```