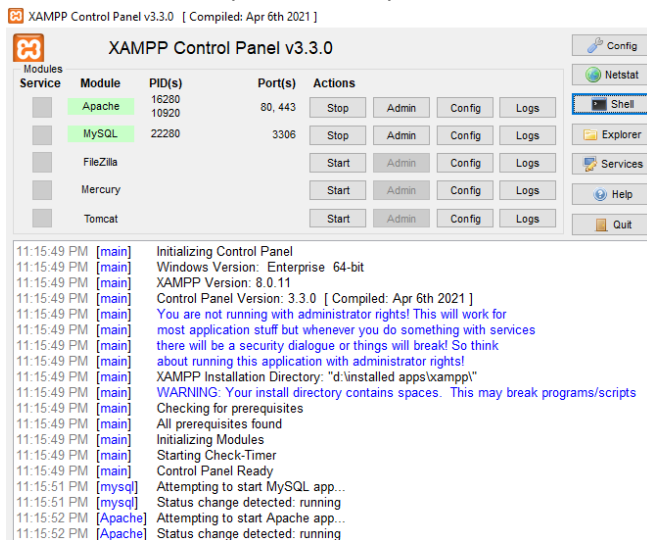


Nama : Yohanes Dimas Pratama
NIM : A11.2021.13254
Kelompok : 4207

Tugas DDL & DML

1. Jalankan module Apache dan MySQL lalu klik Shell.



2. Mengkoneksikan MySQL di Shell.

```
# mysql -u root
```

```
Setting environment for using XAMPP for Windows.  
User@DESKTOP-VS5KIH0 d:\installed apps\xampp  
# mysql -u root  
Welcome to the MariaDB monitor.  Commands end with ; or \g.  
Your MariaDB connection id is 49  
Server version: 10.4.21-MariaDB mariadb.org binary distribution
```

3. Membuat database data_kuliah.

```
create database data_kuliah;
```

```
MariaDB [(none)]> create database data_kuliah;  
Query OK, 1 row affected (0.001 sec)
```

4. Mengambil database data_kuliah untuk melakukan pembuatan table.

```
use data_kuliah;
```

```
MariaDB [(none)]> use data_kuliah;  
Database changed
```

5. Membuat tabel data_dosen.

```
create table data_dosen(
```

```
-> id_dosen int primary key auto_increment,
```

```
-> nama_dosen varchar(50),
```

```
-> email_dosen varchar(50),
-> mata_kuliah varchar(50));
```

```
MariaDB [data_kuliah]> create table data_dosen(
-> id_dosen int primary key auto_increment,
-> nama_dosen varchar(50),
-> email_dosen varchar(50),
-> mata_kuliah varchar(50));
Query OK, 0 rows affected (0.252 sec)
```

6. Menampilkan struktur tabel data_dosen.

```
desc data_dosen;
```

```
MariaDB [data_kuliah]> desc data_dosen;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id_dosen | int(11) | NO | PRI | NULL | auto_increment |
| nama_dosen | varchar(50) | YES | | NULL | |
| email_dosen | varchar(50) | YES | | NULL | |
| mata_kuliah | varchar(50) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.007 sec)
```

7. Mengisi data kedalam tabel data_dosen.

```
insert into data_dosen(id_dosen, nama_dosen, email_dosen, mata_kuliah) values
```

```
-> ('', 'Dr.Heribertus Himawan M.Kom', 'Basis Data', 'himawan26@dsn.dinus.ac.id'),
```

```
-> ('', 'Nurul Anisa Sri Winarsih S.Kom, M.Cs', 'Algoritma dan Pemrograman',
```

```
'nurulanisasw@dsn.dinus.ac.id'),
```

```
-> ('', 'Dr.Ahmad Zainul Fanani SSi, M.Kom', 'Logika Informatika',
```

```
'a.zainul.fanani@dsn.dinus.ac.id');
```

```
MariaDB [data_kuliah]> insert into data_dosen(id_dosen,nama_dosen,email_dosen,mata_kuliah) values
-> ('', 'Dr.Heribertus Himawan M.Kom', 'Basis Data', 'himawan26@dsn.dinus.ac.id'),
-> ('', 'Nurul Anisa Sri Winarsih S.Kom, M.Cs', 'Algoritma dan Pemrograman', 'nurulanisasw@dsn.dinus.ac.id'),
-> ('', 'Dr.Ahmad Zainul Fanani SSi, M.Kom', 'Logika Informatika', 'a.zainul.fanani@dsn.dinus.ac.id');
Query OK, 3 rows affected, 3 warnings (0.307 sec)
Records: 3 Duplicates: 0 Warnings: 3
```

8. Menampilkan hasil input data pada tabel data_dosen.

```
select * from data_dosen;
```

```
MariaDB [data_kuliah]> select * from data_dosen;
+-----+-----+-----+-----+
| id_dosen | nama_dosen | email_dosen | mata_kuliah |
+-----+-----+-----+-----+
| 1 | Dr.Heribertus Himawan M.Kom | Basis Data | himawan26@dsn.dinus.ac.id |
| 2 | Nurul Anisa Sri Winarsih S.Kom, M.Cs | Algoritma dan Pemrograman | nurulanisasw@dsn.dinus.ac.id |
| 3 | Dr.Ahmad Zainul Fanani SSi, M.Kom | Logika Informatika | a.zainul.fanani@dsn.dinus.ac.id |
+-----+-----+-----+-----+
3 rows in set (0.000 sec)
```

9. Membuat tabel data_mahasiswa.

```
create table data_mahasiswa(
```

```
-> nim varchar(14) primary key,
```

```
-> nama_mahasiswa varchar(50),
```

```
-> alamat_mahasiswa varchar(50),
```

-> tanggal_lahir_mahasiswa date,
-> email_mahasiswa varchar(50));

```
MariaDB [data_kuliah]> create table data_mahasiswa(
-> nim varchar(14) primary key,
-> nama_mahasiswa varchar(50),
-> alamat_mahasiswa varchar(50),
-> tanggal_lahir_mahasiswa date,
-> email_mahasiswa varchar(50));
Query OK, 0 rows affected (0.242 sec)
```

10. Menampilkan struktur tabel data_mahasiswa.

desc data_mahasiswa;

```
MariaDB [data_kuliah]> desc data_mahasiswa;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| nim | varchar(14) | NO | PRI | NULL | |
| nama_mahasiswa | varchar(50) | YES | | NULL | |
| alamat_mahasiswa | varchar(50) | YES | | NULL | |
| tanggal_lahir_mahasiswa | date | YES | | NULL | |
| email_mahasiswa | varchar(50) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.007 sec)
```

11. Mengisi data kedalam tabel data_mahasiswa.

insert into data_mahasiswa(nim, nama_mahasiswa, alamat_mahasiswa, tanggal_lahir_mahasiswa, email_mahasiswa) values

-> ('A11.2021.13254', 'Yohanes Dimas Pratama', 'Kokosan II No 126', '2003-01-10', 'dimaspratama@gmail.com'),
-> ('A11.2021.13312', 'Ricky Dirgantara', 'Pemalang Asri No 21', '2003-09-17', 'rickydirgantara@gmail.com'),
-> ('A11.2021.13477', 'William Dwiputra', 'Wedi Birit No 74', '2003-03-01', 'williamdwiputra@gmail.com'),
-> ('A11.2021.13541', 'Hikari Aufa Yafi', 'Sekawan Raya No 09', '2003-12-15', 'hikariaufa@gmail.com');

```
MariaDB [data_kuliah]> insert into data_mahasiswa(nim,nama_mahasiswa,alamat_mahasiswa,tanggal_lahir_mahasiswa,email_mahasiswa) values
-> ('A11.2021.13254','Yohanes Dimas Pratama','Kokosan II No 126','2003-01-10','dimaspratama@gmail.com'),
-> ('A11.2021.13312','Ricky Dirgantara','Pemalang Asri No 21','2003-09-17','rickydirgantara@gmail.com'),
-> ('A11.2021.13477','William Dwiputra','Wedi Birit No 74','2003-03-01','williamdwiputra@gmail.com'),
-> ('A11.2021.13541','Hikari Aufa Yafi','Sekawan Raya No 09','2003-12-15','hikariaufa@gmail.com');
Query OK, 4 rows affected (0.041 sec)
Records: 4 Duplicates: 0 Warnings: 0
```

12. Menampilkan hasil input data pada tabel data_mahasiswa.

select * from data_mahasiswa;

```
MariaDB [data_kuliah]> select * from data_mahasiswa;
+-----+-----+-----+-----+-----+
| nim | nama_mahasiswa | alamat_mahasiswa | tanggal_lahir_mahasiswa | email_mahasiswa |
+-----+-----+-----+-----+-----+
| A11.2021.13254 | Yohanes Dimas Pratama | Kokosan II No 126 | 2003-01-10 | dimaspratama@gmail.com |
| A11.2021.13312 | Ricky Dirgantara | Pemalang Asri No 21 | 2003-09-17 | rickydirgantara@gmail.com |
| A11.2021.13477 | William Dwiputra | Wedi Birit No 74 | 2003-03-01 | williamdwiputra@gmail.com |
| A11.2021.13541 | Hikari Aufa Yafi | Sekawan Raya No 09 | 2003-12-15 | hikariaufa@gmail.com |
+-----+-----+-----+-----+-----+
4 rows in set (0.000 sec)
```

13. Membuat tabel data_matkul.

```
create table data_matkul(  
  -> kode_kuliah varchar(6) primary key,  
  -> mata_kuliah varchar(50),  
  -> sks int,  
  -> semester int,  
  -> id_dosen int,  
  -> constraint `fk_id_dosen`  
  -> foreign key(id_dosen) references data_dosen(id_dosen));
```

```
MariaDB [data_kuliah]> create table data_matkul(  
  -> kode_kuliah varchar(6) primary key,  
  -> mata_kuliah varchar(50),  
  -> sks int,  
  -> semester int,  
  -> id_dosen int,  
  -> constraint `fk_id_dosen`  
  -> foreign key(id_dosen) references data_dosen(id_dosen));  
Query OK, 0 rows affected (0.327 sec)
```

14. Menampilkan struktur tabel data_matkul.

```
desc data_matkul;
```

```
MariaDB [data_kuliah]> desc data_matkul;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| kode_kuliah | varchar(6) | NO   | PRI | NULL    |       |  
| mata_kuliah | varchar(50) | YES  |     | NULL    |       |  
| sks         | int(11)    | YES  |     | NULL    |       |  
| semester    | int(11)    | YES  |     | NULL    |       |  
| id_dosen    | int(11)    | YES  | MUL | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
5 rows in set (0.045 sec)
```

15. Mengisi data kedalam tabel data_matkul.

```
insert into data_matkul(kode_kuliah, mata_kuliah, sks, semester, id_dosen) values
```

```
-> ('MK-110', 'Basis Data', '3', '2', '1'),  
-> ('MK-101', 'Algoritma dan Pemrograman', '4', '2', '2'),  
-> ('MK-111', 'Logika Informatika', '2', '2', '3');
```

```
MariaDB [data_kuliah]> insert into data_matkul(kode_kuliah,mata_kuliah,sks,semester,id_dosen) values  
  -> ('MK-110','Basis Data','3','2','1'),  
  -> ('MK-101','Algoritma dan Pemrograman','4','2','2'),  
  -> ('MK-111','Logika Informatika','2','2','3');  
Query OK, 3 rows affected (0.053 sec)  
Records: 3 Duplicates: 0 Warnings: 0
```

16. Menampilkan hasil input data pada tabel_matkul.

```
MariaDB [data_kuliah]> select * from data_matkul;
```

kode_kuliah	mata_kuliah	sks	semester	id_dosen
MK-101	Algoritma dan Pemrograman	4	2	2
MK-110	Basis Data	3	2	1
MK-111	Logika Informatika	2	2	3

```
3 rows in set (0.000 sec)
```

17. Membuat tabel data_nilai.

```
MariaDB [data_kuliah]> create table data_nilai(
-> kode_kuliah varchar(6),
-> nim varchar(14),
-> indeks_nilai varchar(2),
-> constraint `fk_kode_kuliah`
-> foreign key(kode_kuliah) references data_matkul(kode_kuliah),
-> constraint `fk_nim`
-> foreign key(nim) references data_mahasiswa(nim));
```

```
MariaDB [data_kuliah]> create table data_nilai(
-> kode_kuliah varchar(6),
-> nim varchar(14),
-> indeks_nilai varchar(2),
-> constraint `fk_kode_kuliah`
-> foreign key(kode_kuliah) references data_matkul(kode_kuliah),
-> constraint `fk_nim`
-> foreign key(nim) references data_mahasiswa(nim));
Query OK, 0 rows affected (0.473 sec)
```

18. Menampilkan struktur tabel data_nilai.

```
desc data_nilai;
```

```
MariaDB [data_kuliah]> desc data_nilai;
```

Field	Type	Null	Key	Default	Extra
kode_kuliah	varchar(6)	YES	MUL	NULL	
nim	varchar(14)	YES	MUL	NULL	
indeks_nilai	varchar(2)	YES		NULL	

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

19. Mengisi data kedalam tabel data_nilai.

```
insert into data_nilai(kode_kuliah, nim, indeks_nilai) values
-> ('MK-101', 'A11.2021.13254', 'A'),
-> ('MK-101', 'A11.2021.13312', 'A'),
-> ('MK-101', 'A11.2021.13477', 'A'),
-> ('MK-101', 'A11.2021.13541', 'A'),
-> ('MK-110', 'A11.2021.13254', 'AB'),
-> ('MK-110', 'A11.2021.13312', 'B'),
```

```

-> ('MK-111', 'A11.2021.13254', 'B'),
-> ('MK-111', 'A11.2021.13477', 'C');
MariaDB [data_kuliah]> insert into data_nilai(kode_kuliah,nim,indeks_nilai) values
-> ('MK-101', 'A11.2021.13254', 'A'),
-> ('MK-101', 'A11.2021.13312', 'A'),
-> ('MK-101', 'A11.2021.13477', 'A'),
-> ('MK-101', 'A11.2021.13541', 'A'),
-> ('MK-110', 'A11.2021.13254', 'AB'),
-> ('MK-110', 'A11.2021.13312', 'B'),
-> ('MK-111', 'A11.2021.13254', 'B'),
-> ('MK-111', 'A11.2021.13477', 'C');
Query OK, 8 rows affected (0.045 sec)
Records: 8 Duplicates: 0 Warnings: 0

```

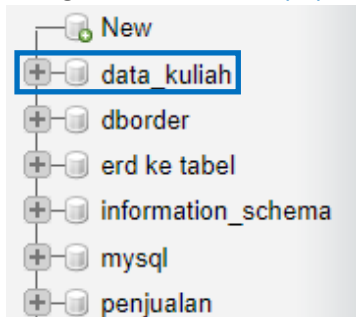
20. Menampilkan hasil input data pada tabel data_nilai.

```

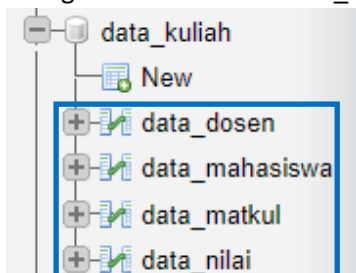
select * from data_nilai;
MariaDB [data_kuliah]> select * from data_nilai;
+-----+-----+-----+
| kode_kuliah | nim          | indeks_nilai |
+-----+-----+-----+
| MK-101      | A11.2021.13254 | A            |
| MK-101      | A11.2021.13312 | A            |
| MK-101      | A11.2021.13477 | A            |
| MK-101      | A11.2021.13541 | A            |
| MK-110      | A11.2021.13254 | AB           |
| MK-110      | A11.2021.13312 | B            |
| MK-111      | A11.2021.13254 | B            |
| MK-111      | A11.2021.13477 | C            |
+-----+-----+-----+
8 rows in set (0.000 sec)

```

21. Mengecek di <localhost/phpmyadmin> apakah database data_kuliah sudah terbuat.



22. Mengecek di database data_kuliah apakah sudah ada tabel yang terbuat.



23. Mengecek di database data_kuliah apakah disetiap table sudah terisi data.

Table data_dosen

				id_dosen	nama_dosen	email_dosen	mata_kuliah
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Dr.Heribertus Himawan M.Kom	Basis Data	himawan26@dsn.dinus.ac.id
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Nurul Anisa Sri Winarsih S.Kom, M.Cs	Algoritma dan Pemrograman	nurulanisasw@dsn.dinus.ac.id
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Dr.Ahmad Zainul Fanani SSi, M.Kom	Logika Informatika	a.zainul.fanani@dsn.dinus.ac.id

Table data_mahasiswa

				nim	nama_mahasiswa	alamat_mahasiswa	tanggal_lahir_mahasiswa	email_mahasiswa
<input type="checkbox"/>				A11.2021.13254	Yohanes Dimas Pratama	Kokosan II No 126	2003-01-10	dimaspratama@gmail.com
<input type="checkbox"/>				A11.2021.13312	Ricky Dirgantara	Pemalang Asri No 21	2003-09-17	rickydirgantara@gmail.com
<input type="checkbox"/>				A11.2021.13477	William Dwiputra	Wedi Birit No 74	2003-03-01	williamdwiputra@gmail.com
<input type="checkbox"/>				A11.2021.13541	Hikari Aufa Yafi	Sekawan Raya No 09	2003-12-15	hikariaufa@gmail.com

Table data_matkul







				kode_kuliah	mata_kuliah	sks	semester	id_dosen
<input type="checkbox"/>	 Edit	 Copy	 Delete	MK-101	Algoritma dan Pemrograman	4	2	2
<input type="checkbox"/>	 Edit	 Copy	 Delete	MK-110	Basis Data	3	2	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	MK-111	Logika Informatika	2	2	3

Table data_nilai

kode_kuliah	nim	indeks_nilai
MK-101	A11.2021.13254	A
MK-101	A11.2021.13312	A
MK-101	A11.2021.13477	A
MK-101	A11.2021.13541	A
MK-110	A11.2021.13254	AB
MK-110	A11.2021.13312	B
MK-111	A11.2021.13254	B
MK-111	A11.2021.13477	C

24. Menampilkan relationship database data_kuliah.

