LAPORAN PRAKTIKUM
PRAKTIK PEMROGRAMAN PYTHON

PRAKTIKUM
LATIHAN MEMBUAT DATABASE

Disusun oleh :
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Dosen
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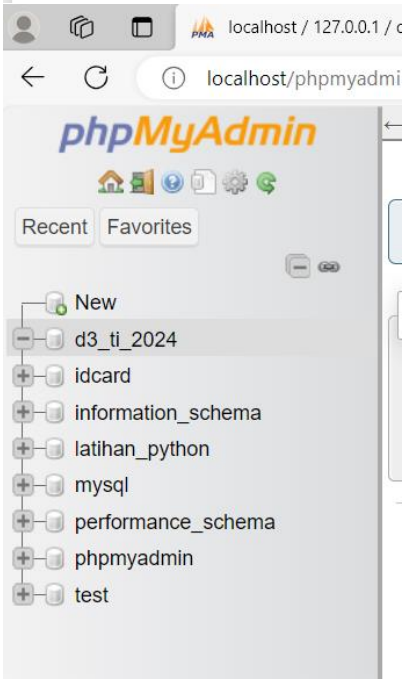
PS D-III TEKNIK INFORMATIKA
SEKOLAH VOKASI
UNIVERSITAS SEBELAS MARET
2024

A. HASIL DAN PEMBAHASAN PRAKTIKUM MEMBUAT DATABASE

LATIHAN DATABASE

1. Buat database dengan nama D3_TI_2024

```
In [9]:
import mysql.connector

database = mysql.connector.connect(
    host ="localhost",
    user ="root",
    passwd =""

)

cursorObject = database.cursor()

cursorObject.execute("CREATE DATABASE D3_TI_2024")
```



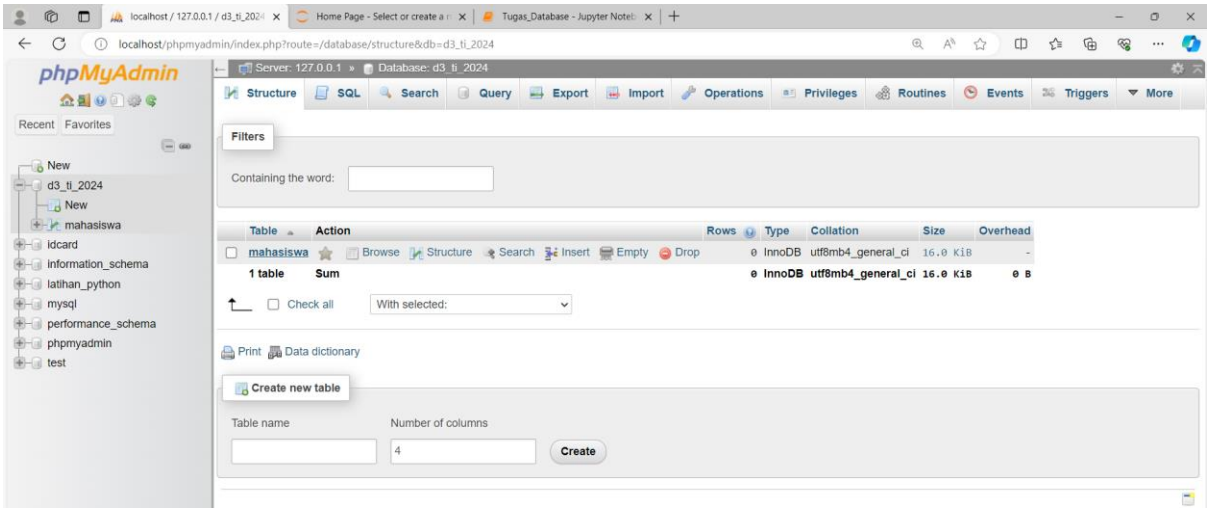
2. Database diisi dengan 3 tabel, yaitu : 1. Tabel Mahasiswa, Tabel Dosen, Tabel Mata Kuliah.
3. Berikut data wajib di tabel Mahasiswa :
   a. NIM - Varchar (10) (Primary key)
   b. Nama - Varchar (30)
   c. Alamat - Varchar (255)
   d. Mata kuliah yang diikuti – Varchar (10)** (Foreign key kode MK)
   e. Boleh ditambahkan sendiri …..

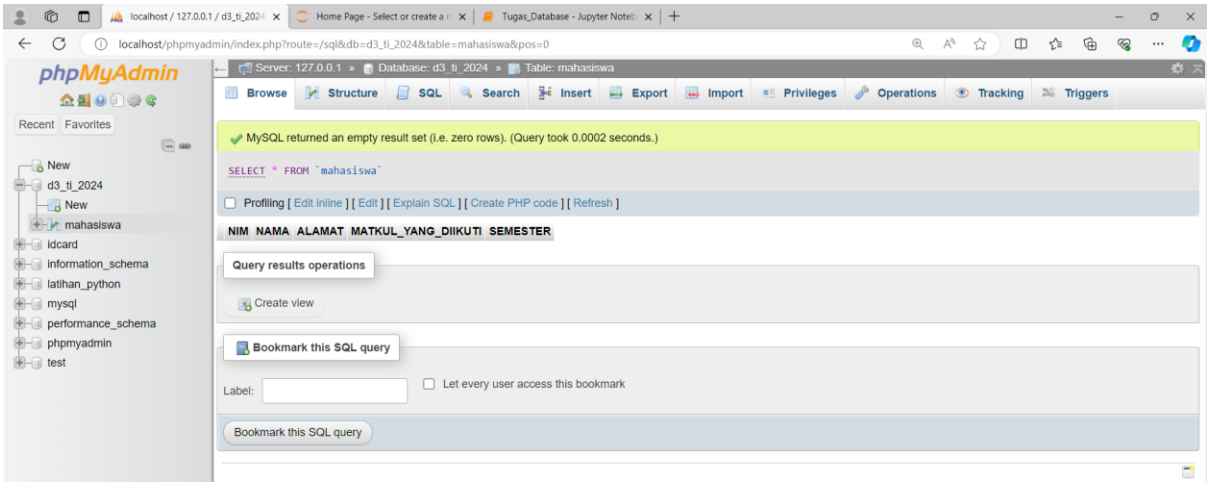
In [12]:

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host ="localhost",
    user ="root",
    passwd ="",
    database ="d3_ti_2024"
)

cursorObject = dataBase.cursor()

studentRecord = """CREATE TABLE Mahasiswa (
                    NIM VARCHAR(10) NOT NULL PRIMARY KEY,
                    NAMA VARCHAR(30) NOT NULL,
                    ALAMAT VARCHAR(255),
                    MATKUL_YANG_DIIKUTI VARCHAR(10),
                    SEMESTER INT NOT NULL
                    )"""

cursorObject.execute(studentRecord)

dataBase.close()
```

In [ ]:

```python

```





```
In [14]:
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "d3_ti_2024"
)

#preparing cursor
cursorObject = dataBase.cursor()

sql = "INSERT INTO Mahasiswa (NIM, NAMA, ALAMAT, MATKUL_YANG_DIIKUTI, SEMESTER) VALUES (%s, %s, %s, %s,%s)"
val = [("V3923004",  "Aulia Diva Sukmadevi", "Pilangkenceng", "Python","2"),
       ("V3923008",  "Erista Devi Fitriani", "Mejayan", "BasisData","2"),
       ("V3923009",  "Gita Latifa Dinar", "Ngawi", "Statistika","2"),
       ("V3923013",  "Lia Fitriani", "Sukoharjo", "Wireless","2"),
       ("V3923015",  "Puput Surya Ningtyas", "Saradan", "PromWeb","2")
      ]

cursorObject.executemany(sql, val)
dataBase.commit()

#Disconnect
dataBase.close()
```

```
In [ ]:
```

Extra options

				NIM	NAMA	ALAMAT	MATKUL_YANG_DIIKUTI	SEMESTER
☐	Edit	Copy	Delete	V3923004	Aulia Diva Sukmadevi	Pilangkenceng	Python	2
☐	Edit	Copy	Delete	V3923008	Erista Devi Fitriani	Mejayan	BasisData	2
☐	Edit	Copy	Delete	V3923009	Gita Latifa Dinar	Ngawi	Statistika	2
☐	Edit	Copy	Delete	V3923013	Lia Fitriani	Sukoharjo	Wireless	2
☐	Edit	Copy	Delete	V3923015	Puput Surya Ningtyas	Saradan	PromWeb	2

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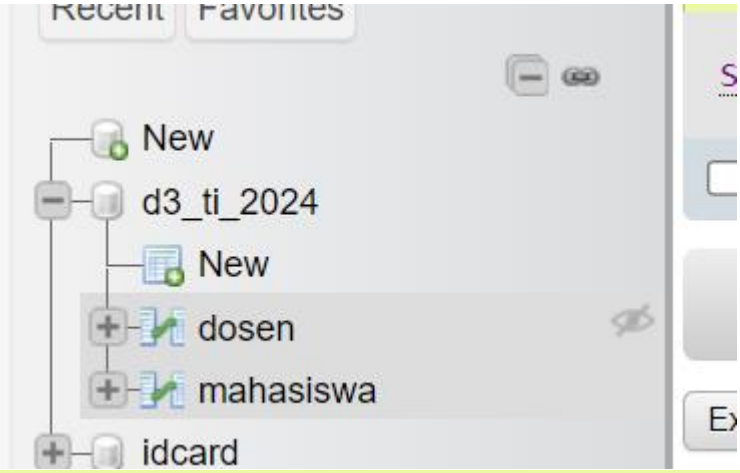
4. Berikut data wajib di tabel Dosen :
    a. NIP - Varchar (20) (Primary key)*
    b. Nama Dosen – Varchar (50)
    c. Mata Kuliah yang di ajar – Varchar (50)** (Foreign key kode MK)
    d. Boleh ditambahkan sendiri …..

```
In [15]:
import mysql.connector

dataBase = mysql.connector.connect(
    host ="localhost",
    user ="root",
    passwd ="",
    database ="d3_ti_2024"
)

cursorObject = dataBase.cursor()

studentRecord = """CREATE TABLE Dosen (
                    NIP VARCHAR(20) NOT NULL PRIMARY KEY,
                    NAMA_DOSEN VARCHAR(50) NOT NULL,
                    MATKUL_YANG_DIAJAR VARCHAR(50)
                    )"""

cursorObject.execute(studentRecord)

dataBase.close()
```



MySQL returned an empty result set (i.e. zero rows). (Query took 0.0006 seconds.)

```
SELECT * FROM `dosen`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

NIP	NAMA_DOSEN	MATKUL_YANG_DIAJAR

Query results operations

Create view

In [16]:

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "d3_ti_2024"
)

#preparing cursor
cursorObject = dataBase.cursor()

sql = "INSERT INTO Dosen (NIP, NAMA_DOSEN, MATKUL_YANG_DIAJAR) VALUES (%s, %s, %s)"
val = [("1991091420200801",  "Darmawan Lahru Riatma", "PBO"),
       ("1994062420210701",  "Yusuf Fadlila Rachman", "PYTHON"),
       ("1987052520200801",  "Masbahah", "BASIS DATA"),
       ("1993010520210701",  "Trisna Ari Roshinta","STATISTIKA DAN PROBABILITAS"),
       ("1992092420200901",  "Nur Azizul Haqimi", "PRAKTIK SISTEM OPERASI")
      ]

cursorObject.executemany(sql, val)
dataBase.commit()

#Disconnect
dataBase.close()
```

In [ ]:

```python

```

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

			NIP	NAMA_DOSEN	MATKUL_YANG_DIAJAR
Edit	Copy	Delete	1987052520200801	Masbahah	BASIS DATA
Edit	Copy	Delete	1991091420200801	Darmawan Lahru Riatma	PBO
Edit	Copy	Delete	1992092420200901	Nur Azizul Haqimi	PRAKTIK SISTEM OPERASI
Edit	Copy	Delete	1993010520210701	Trisna Ari Roshinta	STATISTIKA DAN PROBABILITAS
Edit	Copy	Delete	1994062420210701	Yusuf Fadlila Rachman	PYTHON

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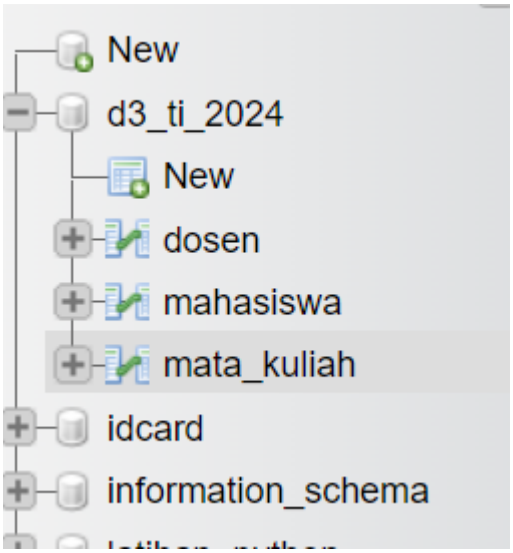
5. Berikut data wajib di tabel Mata Kuliah :
    a. Kode Mata Kuliah – Varchar (10)*
    b. Nama Mata Kuliah – Varchar (50)
    c. Waktu - Date
    d. Ruangan – Varchar (10)
    e. Boleh ditambahkan sendiri …

In [17]:
```python
import mysql.connector

dataBase = mysql.connector.connect(
    host ="localhost",
    user ="root",
    passwd ="",
    database ="d3_ti_2024"
)

cursorObject = dataBase.cursor()

studentRecord = """CREATE TABLE Mata_Kuliah (
                    KODE_MATKUL VARCHAR(10) NOT NULL PRIMARY KEY,
                    NAMA_MATKUL VARCHAR(50) NOT NULL,
                    NAMA_DOSEN VARCHAR(20),
                    WAKTU DATE,
                    RUANGAN VARCHAR(10)
                    )"""

cursorObject.execute(studentRecord)

dataBase.close()
```



In [19]:
```python
import mysql.connector

dataBase = mysql.connector.connect(
    host = "localhost",
    user = "root",
    passwd = "",
    database = "d3_ti_2024"
)

#preparing cursor
cursorObject = dataBase.cursor()

sql = "INSERT INTO Mata_kuliah (KODE_MATKUL, NAMA_MATKUL, NAMA_DOSEN, WAKTU, RUANGAN) VALUES (%s, %s, %s, %s, %s)"
val = [("242012",  "PBO", "Darmawan Lahru", "2024-3-7", "L2R1"),
       ("241020",  "PYTHON", "Yusuf Fadila", "2024-3-6", "L2R2"),
       ("241013",  "BASIS DATA", "Masbahah", "2024-3-5", "L2R3"),
       ("241008",  "STATISTIKA DAN PROBABILITAS", "Trisna Ari", "2024-3-4", "R. Mikro"),
       ("241018",  "PRAKTIK SISTEM OPERASI", "Nur Azizul", "2024-3-3", "L2R2")
      ]

cursorObject.executemany(sql, val)
dataBase.commit()

#Disconnect
dataBase.close()
```

In [ ]:
```python

```

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

Extra options

	KODE_MATKUL	NAMA_MATKUL	NAMA_DOSEN	WAKTU	RUANGAN
Edit Copy Delete	241008	STATISTIKA DAN PROBABILITAS	Trisna Ari	2024-03-04	R. Mikro
Edit Copy Delete	241013	BASIS DATA	Masbahah	2024-03-05	L2R3
Edit Copy Delete	241018	PRAKTIK SISTEM OPERASI	Nur Azizul	2024-03-03	L2R2
Edit Copy Delete	241020	PYTHON	Yusuf Fadila	2024-03-06	L2R2
Edit Copy Delete	242012	PBO	Darmawan Lahru	2024-03-07	L2R1

Check all *With selected:* Edit Copy Delete Export

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

6. Isikan minimal 5 data pada tiap – tiap tabel diatas.
7. Tampilkan data (SELECT) yang menunjukkan data mata kuliah yang diikuti oleh mahasiswa beserta dosen yang mengajar

In [24]:

```python
import mysql.connector

dataBase = mysql.connector.connect(
    host="localhost",
    user="root",
    passwd="",
    database="d3_ti_2024"
)

cursorObject = dataBase.cursor()

# executing the SELECT query for mahasiswa data
select_mahasiswa_query = """SELECT *
                            FROM MATA_KULIAH"""

cursorObject.execute(select_mahasiswa_query)

# fetching all rows
mahasiswa_rows = cursorObject.fetchall()

# displaying the data
for row in mahasiswa_rows:
    print(row)

# disconnecting from server
dataBase.close()
```

```
('241008', 'STATISTIKA DAN PROBABILITAS', 'Trisna Ari', datetime.date(2024, 3, 4), 'R. Mikro')
('241013', 'BASIS DATA', 'Masbahah', datetime.date(2024, 3, 5), 'L2R3')
('241018', 'PRAKTIK SISTEM OPERASI', 'Nur Azizul', datetime.date(2024, 3, 3), 'L2R2')
('241020', 'PYTHON', 'Yusuf Fadila', datetime.date(2024, 3, 6), 'L2R2')
('242012', 'PBO', 'Darmawan Lahru', datetime.date(2024, 3, 7), 'L2R1')
```