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KELAS : C

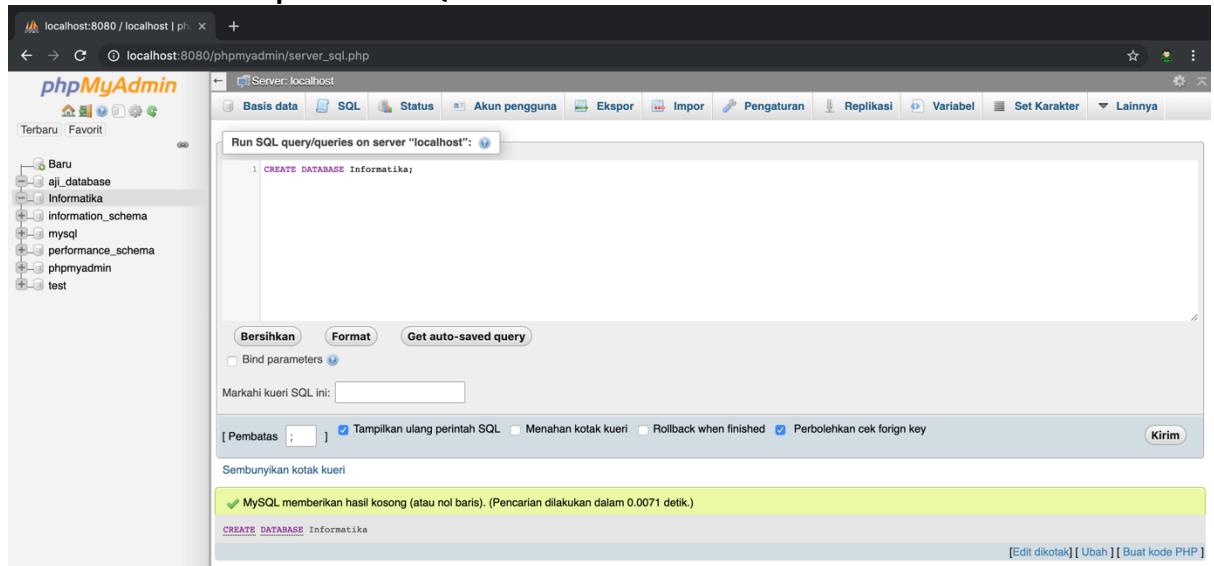
Praktikum Pemrograman Web / Web Programming Laboratory Work

MODUL 04

SQL (STRUCTURED QUERY LANGUAGE)

Percobaan 1 :

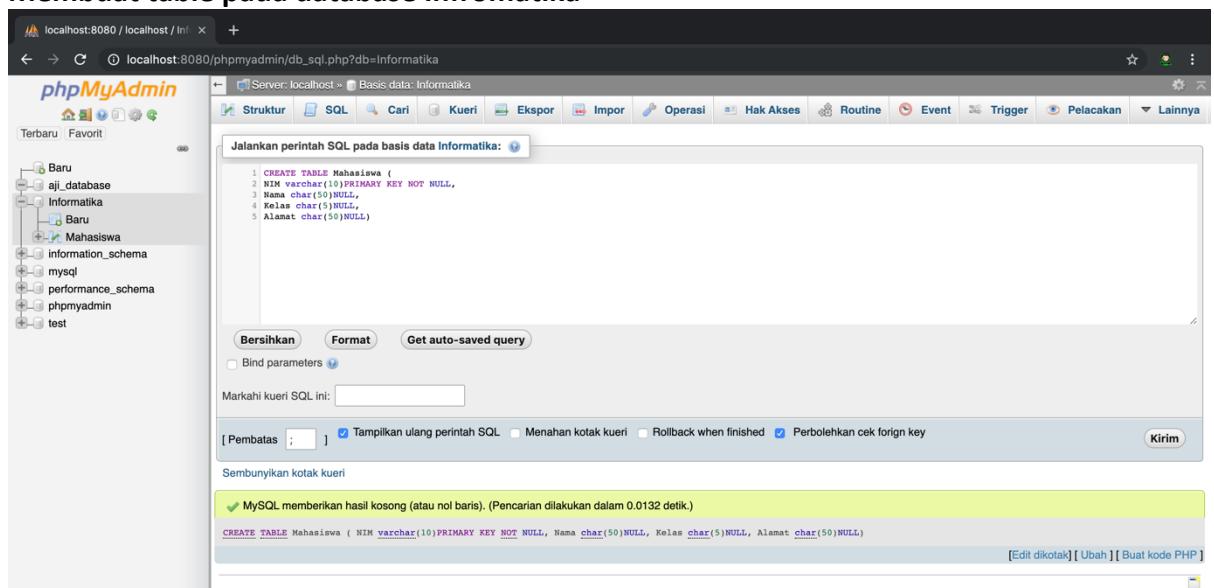
- **Membuat database pada TAB SQL**



The screenshot shows the phpMyAdmin interface on a local host. In the left sidebar, under the 'Basis data' section, there is a list of databases including 'Baru', 'ajj_database', 'Informatika', 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', and 'test'. The 'Informatika' database is selected. In the main query window, the SQL command 'CREATE DATABASE Informatika;' is entered. Below the command, there are several buttons: 'Bersihkan', 'Format', 'Get auto-saved query', 'Bind parameters', 'Markahi kueri SQL ini:', and 'Pembatas'. There are also checkboxes for 'Tampilkan ulang perintah SQL', 'Menahan kotak kueri', 'Rollback when finished', and 'Perbolehkan cek foreign key'. At the bottom of the query window, a green message box indicates that MySQL has returned an empty result set. The status bar at the bottom right shows '[Edit dikotak] [Ubah] [Buat kode PHP]'.

Percobaan 2:

- **Membuat table pada database Infromatika**



The screenshot shows the phpMyAdmin interface on a local host. The 'Informatika' database is selected in the sidebar. In the main query window, the SQL command 'CREATE TABLE Mahasiswa (' is entered, followed by five columns definitions: 'NIM varchar(10) PRIMARY KEY NOT NULL', 'Nama char(50)NULL', 'Kelas char(5)NULL', and 'Alamat char(50)NULL'. Below the command, there are several buttons: 'Bersihkan', 'Format', 'Get auto-saved query', 'Bind parameters', 'Markahi kueri SQL ini:', and 'Pembatas'. There are also checkboxes for 'Tampilkan ulang perintah SQL', 'Menahan kotak kueri', 'Rollback when finished', and 'Perbolehkan cek foreign key'. At the bottom of the query window, a green message box indicates that MySQL has returned an empty result set. The status bar at the bottom right shows '[Edit dikotak] [Ubah] [Buat kode PHP]'.

Percobaan 3:

- Memasukan data ke-1 ke dalam table Mahasiswa di database Informatika :

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. The left sidebar shows the database structure with 'Mahasiswa' selected. The main area has a SQL query editor with the following content:

```
1 INSERT INTO Mahasiswa VALUES ('L200080001', 'Ari Wibowo', 'A', 'Solo')
```

Below the query, there are several buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Bersihkan, Format. A 'Kirim' button is at the bottom right. To the right of the query editor, a 'Kolom' (Columns) panel lists 'NIM', 'Nama', 'Kelas', and 'Alamat'. At the bottom, a message says '1 baris ditambahkan. (Pencarian dilakukan dalam 0.0061 detik.)' and shows the inserted row: 'INSERT INTO Mahasiswa VALUES ('L200080001', 'Ari Wibowo', 'A', 'Solo')'.

- Melihat hasil memasukan data pertama

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. The left sidebar shows the database structure with 'Mahasiswa' selected. The main area has a SQL query editor with the following content:

```
1 SELECT * FROM Mahasiswa
```

Below the query, there are several buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Bersihkan, Format. A 'Kirim' button is at the bottom right. To the right of the query editor, a 'Kolom' (Columns) panel lists 'NIM', 'Nama', 'Kelas', and 'Alamat'. At the bottom, a message says 'Menampilkan baris 0 - 0 (total 1, Pencarian dilakukan dalam 0.0007 detik.)' and shows the inserted row: 'SELECT * FROM Mahasiswa'.

Below the message, there is a table with one row:

Opsi	NIM	Nama	Kelas	Alamat
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	L200080001	Ari Wibowo	A	Solo

At the bottom, there are buttons for 'Tampilkan semua', 'Jumlah baris: 25', 'Saring baris: Cari di tabel ini', and 'Profil [Edit dikotak] [Ubah] [Jelaskan SQL] [Buat kode PHP] [Segarkan]'.

- Memasukan data ke-2

The screenshot shows the phpMyAdmin interface with the following details:

- Left Panel:** Database tree showing databases like 'ajy_database', 'Informatika', and 'test'. The 'Mahasiswa' database is selected.
- Top Bar:** Shows the URL as 'localhost:8080/phpmyadmin/tbl_sql.php?db=Informatika&table=Mahasiswa'.
- Toolbar:** Includes 'Jelajahi', 'Struktur', 'SQL', 'Cari', 'Tambahkan', 'Ekspor', 'Import', 'Hak Akses', 'Operasi', 'Pelacakan', and 'Trigger'.
- SQL Query Area:** Contains the SQL command: `INSERT INTO Mahasiswa (NIM, Nama, Kelas) VALUES ('L200080001', 'Ari Wibowo', 'A')`.
- Result Area:** Shows the result of the insertion: `✓ 1 baris ditambahkan. (Pencarian dilakukan dalam 0.0060 detik.)`
- Bottom Buttons:** Includes 'Kirim', 'Edit dikotak', 'Ubah', and 'Buat kode PHP'.

- Hasilnya custom yang berati yang terisi hanya nim nama dan kelas

The screenshot shows the 'Mahasiswa' table content in the Informatika database:

	NIM	Nama	Kelas	Alamat
<input type="checkbox"/>	L200080001	Ari Wibowo	A	Solo
<input type="checkbox"/>	L200080080	Agustina	B	NULL

Below the table, there are navigation buttons: 'Pilih Semua', 'Dengan pilihan:', 'Ubah', 'Salin', 'Hapus', and 'Ekspor'.

Percobaan 4:

- Mengubah data yang sudah ada di table Mahasiswa

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. In the 'Tabel: Mahasiswa' section, an UPDATE query is being run:

```
1 UPDATE Mahasiswa SET Nama='Agustina Anggraini' WHERE Nama='Agustina'
```

The results show that 1 row was affected. The table structure for 'Mahasiswa' is visible on the right, listing columns: NIM, Nama, Kelas, and Alamat.

- Hasilnya

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. A SELECT query is run on the 'Mahasiswa' table:

```
1 SELECT * FROM Mahasiswa
```

The results show 2 rows of data:

NIM	Nama	Kelas	Alamat
L200080001	Ari Wibowo	A	Solo
L200080080	Agustina Anggraini	B	NULL

Membuat table Nilai

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. In the left sidebar, the 'Nilai' table is selected under the 'Mahasiswa' category. The main area displays the SQL query for creating the 'Nilai' table:

```
CREATE TABLE Nilai (
  NIM varchar(10) PRIMARY KEY NOT NULL,
  Nama_MK char(50) NULL,
  Nilai_Angka char(5) NULL,
  Nilai_Huruf char(50) NULL)
```

Below the query, there are several buttons: 'Bersihkan', 'Format', 'Get auto-saved query', 'Bind parameters', and 'Markah kueri SQL ini:'. At the bottom, there are checkboxes for 'Tampilkan ulang perintah SQL', 'Menahan kotak kueri', 'Rollback when finished', and 'Perbolehkan cek forign key'. A 'Kirim' button is also present.

Mengisi table Nilai

The screenshot shows the phpMyAdmin interface for the 'Nilai' table. The left sidebar shows the 'Nilai' table under the 'Mahasiswa' category. The main area displays the SQL query for inserting data into the 'Nilai' table:

```
INSERT INTO Nilai VALUES('L200080002', 'Kapita Selekt', '60', 'BC'), ('L200080010', 'Pemrograman Web', '87', 'A'), ('L200080080', 'Pemrograman Web', '90', 'A')
```

On the right, a 'Kolom' (Columns) panel lists the columns: NIM, Nama_MK, Nilai_Angka, and Nilai_Huruf. Below the query, there are buttons: 'SELECT', 'INSERT', 'UPDATE', 'DELETE', 'Bersihkan', 'Format', 'Get auto-saved query', and 'Bind parameters'. At the bottom, there are checkboxes for 'Tampilkan ulang perintah SQL', 'Menahan kotak kueri', 'Rollback when finished', and 'Perbolehkan cek forign key'. A 'Kirim' button is also present.

localhost:8080 / localhost / Infi

localhost:8080/phpmyadmin/sql.php?server=1&db=Informatika&table=Nilai&pos=0

phpMyAdmin

Terbaru Favorit

Jelajahi Struktur SQL Cari Tambahan Eksport Impor Hak Akses Operasi Pelacakan Trigger

Menampilkan baris 0 - 2 (total 3, Pencarian dilakukan dalam 0.0006 detik.)

SELECT * FROM `Nilai`

Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini Urut berdasarkan kunci: Tidak ada

Opsi

	NIM	Nama_MK	Nilai_Angka	Nilai_Huruf
<input type="checkbox"/> Ubah	L20008002	Kapita Selekta	60	BC
<input type="checkbox"/> Ubah	L200080010	Pemrograman Web	87	A
<input type="checkbox"/> Ubah	L200080080	Pemrograman Web	90	A

Pilih Semua Dengan pilihan: Ubah Salin Hapus Eksport

Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini Urut berdasarkan kunci: Tidak ada

Operasi hasil kueri

Cetak Salin ke clipboard Eksport Tampilkan bagian Buat tampilan

Markahi kueri SQL ini

Judul: Izinkan semua pengguna untuk mengakses markah ini

Markahi kueri SQL ini

Konsol

Percobaan 5:

- Melakukan JOIN

localhost:8080 / localhost / Infi

localhost:8080/phpmyadmin/db_sql.php?db=Informatika

phpMyAdmin

Terbaru Favorit

Struktur SQL Cari Kueri Eksport Impor Operasi Hak Akses Routine Event Trigger Pelacakan Lainnya

Jalankan perintah SQL pada basis data Informatika:

1. SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa JOIN Nilai ON Mahasiswa.NIM=Nilai.NIM)

Bersihkan Format Get auto-saved query

Bind parameters

Markahi kueri SQL ini:

[Pembatas ;] Tampilkan ulang perintah SQL Menahan kotak kueri Rollback when finished Perbolehkan cek foreign key Kirim

Sembunyikan kotak kueri

Menampilkan baris 0 - 0 (total 1, Pencarian dilakukan dalam 0.0016 detik.)

SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa JOIN Nilai ON Mahasiswa.NIM=Nilai.NIM)

Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini

Opsi

NIM	Nama	Nama_MK	Nilai_Angka	Nilai_Huruf
L200080080	Agustina Anggraini	Pemrograman Web	90	A

Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini

Operasi hasil kueri

Konsol

Percobaan 6:

- Melakukan LEFT JOIN

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. A SQL query is entered in the query editor:

```
1 SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa LEFT JOIN Nilai ON Mahasiswa.NIM=Nilai.NIM)
```

The results show two rows of data:

NIM	Nama	Nama_MK	Nilai_Angka	Nilai_Huruf
L200080001	Ari Wibowo	NULL	NULL	NULL
L200080080	Agustina Anggraini	Pemrograman Web	90	A

Percobaan 7:

- Melakukan RIGHT JOIN

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. A SQL query is entered in the query editor:

```
1 SELECT Mahasiswa.NIM, Mahasiswa>Nama, Nilai>Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa RIGHT JOIN Nilai ON Mahasiswa.NIM=Nilai.NIM)
```

The results show three rows of data:

NIM	Nama	Nama_MK	Nilai_Angka	Nilai_Huruf
NULL	NULL	Kapita Selekta	60	BC
NULL	NULL	Pemrograman Web	87	A
L200080080	Agustina Anggraini	Pemrograman Web	90	A

Percobaan 9

- Menerapkan fungsi AVG

The screenshot shows the phpMyAdmin interface for the 'Nilai' table. The SQL query entered is:

```
1 SELECT AVG(Nilai_Angka) 'Rata-rata Nilai' FROM Nilai
```

The results show one row with the value 79.

Percobaan 10

- Menerapkan fungsi SUM

The screenshot shows the phpMyAdmin interface for the 'Nilai' table. The SQL query entered is:

```
1 SELECT SUM(Nilai_Angka) 'Total Nilai' FROM Nilai
```

The results show one row with the value 237.

Percobaan 10

- Menerapkan fungsi VIEW

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. In the left sidebar, under the 'View' category, there is a new entry named 'KHS'. The main area displays the SQL query for creating the view:

```
CREATE VIEW KHS AS SELECT Mahasiswa.NIM, Nilai.Nama_MK, Nilai.Nilai_Angka, Nilai.Nilai_Huruf FROM (Mahasiswa INNER JOIN Nilai ON Mahasiswa.NIM=Nilai.NIM)
```

Below the query, there are several buttons: 'Bersihkan', 'Format', 'Get auto-saved query', and checkboxes for 'Bind parameters', 'Tampilkan ulang perintah SQL', 'Menahan kotak kueri', 'Rollback when finished', and 'Perbolehkan cek foreign key'. At the bottom right is a 'Kirim' button.

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. The 'KHS' view has been created and is now listed in the 'View' category of the sidebar. The main area shows the results of a SELECT query:

```
SELECT * FROM KHS
```

A warning message at the top states: "⚠ Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in undesired behavior." Below the results, there is a search bar and a toolbar with various options like 'Ubah', 'Salin', 'Hapus', 'Ubah', 'Salin', 'Hapus', and 'Ekspor'.

TUGAS

1. Fungsi

- **Select**

Perintah yang sering digunakan pada SQL, sehingga istilah query yang dirujukan pada perintah **SELECT**, **SELECT** digunakan untuk menampilkan data dari satu atau lebih table, biasanya dalam sebuah basis data yang sama.

- **LEFT JOIN**

Digunakan apabila ingin menampilkan semua data pada table kiri dan data yang berhubungan atau berkaitan saja.

- **RIGHT JOIN**

Digunakan apabila ingin menampilkan semua data pada table kanan dan data yang berhubungan atau berkaitan saja.

- **AVG**

Digunakan untuk menampilkan nilai rata – rata dari suatu kolom.

- **SUM**

Digunakan untuk menghitung total nilai dari kolom tertentu.

2. Mengisi data alamat “Sragen” pada table Mahasiswa pada NIM L200080080.

The screenshot shows the phpMyAdmin interface for the 'Informatika' database. The left sidebar shows the database structure with 'Mahasiswa' selected under 'Tabel'. The main area has a 'Run SQL query/queries on table Informatika.Mahasiswa:' input field containing the following SQL code:

```
1 UPDATE Mahasiswa SET Alamat='Sragen' WHERE NIM='L200080080'
```

Below the code, there are several buttons: 'SELECT*', 'SELECT', 'INSERT', 'UPDATE', 'DELETE', 'Bersihkan', 'Format', 'Get auto-saved query', 'Bind parameters', and checkboxes for 'Tampilkan ulang perintah SQL', 'Menahan kotak kueri', 'Rollback when finished', and 'Perbolehkan cek forign key'. At the bottom, there are 'Simulasikan query' and 'Kirim' buttons. A message at the bottom indicates 1 row affected.

localhost:8080 / localhost / Infor... PWD/L200170072_MODULE4_C...

localhost:8080/phpmyadmin/sql.php?server=1&db=Informatika&table=Mahasiswa&pos=0

phpMyAdmin

Terbaru Favorit

Baru ajl_database Informatika Tabel Baru Mahasiswa View KHS information_schema mysql performance_schema phpmyadmin test

Jelajahi Struktur SQL Cari Tambahan Eksport Impor Hak Akses Operasi Pelacakan Trigger

Menampilkan baris 0 - 1 (total 2, Pencarian dilakukan dalam 0.0008 detik.)

SELECT * FROM `Mahasiswa`

Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini Urut berdasarkan kunci: Tidak ada

Opsi

	NIM	Nama	Kelas	Alamat
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	L200080001	Art Wibowo	A	Solo
<input type="checkbox"/> Ubah <input type="checkbox"/> Salin <input type="checkbox"/> Hapus	L200080080	Agustina Anggraini	B	Sragen

Pilih Semua Dengan pilihan: Ubah Salin Hapus Eksport

Tampilkan semua | Jumlah baris: 25 Saring baris: Cari di tabel ini Urut berdasarkan kunci: Tidak ada

Operasi hasil kueri

Cetak Salin ke clipboard Eksport Tampilkan bagan Buat tampilan

Markahi kueri SQL ini

Judul: Izinkan semua pengguna untuk mengakses markah ini

Markahi kueri SQL ini

Konsol