

UAS BASIS DATA

Nama: Manuel Johansen Dolok Saribu

Nim: 312410493

Kelas: TI.24.A5

Struktur Tabel

The screenshot shows the phpMyAdmin interface for the 'db_akademik' database. The left sidebar displays the database structure, including tables like 'dosen', 'jadwalmengajar', 'krsmahasiswa', 'mahasiswa', and 'matakuliah'. The main panel shows the 'Structure' tab for the 'db_akademik' database. It lists the following tables:

Table	Action	Rows	Type	Collation	Size	Overhead
dosen	[Browse] [Structure] [Search] [Insert] [Empty] [Drop]	6	InnoDB	utf8mb4_general_ci	16.0 KiB	-
jadwalmengajar	[Browse] [Structure] [Search] [Insert] [Empty] [Drop]	5	InnoDB	utf8mb4_general_ci	48.0 KiB	-
krsmahasiswa	[Browse] [Structure] [Search] [Insert] [Empty] [Drop]	25	InnoDB	utf8mb4_general_ci	64.0 KiB	-
mahasiswa	[Browse] [Structure] [Search] [Insert] [Empty] [Drop]	5	InnoDB	utf8mb4_general_ci	32.0 KiB	-
matakuliah	[Browse] [Structure] [Search] [Insert] [Empty] [Drop]	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	Sum	46	InnoDB	utf8mb4_general_ci	176.0 KiB	0 B

Below the table list, there is a 'Create new table' section with fields for 'Table name' and 'Number of columns' (set to 4), and a 'Create' button.

The screenshot shows the phpMyAdmin interface for the 'dosen' table in the 'db_akademik' database. The left sidebar displays the database structure, including tables like 'dosen', 'jadwalmengajar', 'krsmahasiswa', 'mahasiswa', and 'matakuliah'. The main panel shows the 'Table structure' tab for the 'dosen' table. It lists the following columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	kd_ds	varchar(10)	utf8mb4_general_ci		No	None			[Change] [Drop] [More]
2	nama	varchar(100)	utf8mb4_general_ci		Yes	NULL			[Change] [Drop] [More]

Below the column list, there is a 'Indexes' section. It shows a primary index named 'PRIMARY' of type 'BTREE' on the 'kd_ds' column. The 'Indexes' section also includes a 'Create an index on' form with fields for 'Index name', 'Columns', and 'Go'.

localhost / 127.0.0.1 / db_akademik

localhost/phpmyadmin/index.php?route=/table/structure&db=db_akademik&table=jadwalmengajar

phpMyAdmin

Recent Favorites

New

data1

db_akademik

Functions

Tables

New

dosen

jadwalmengajar

krsmahasiswa

mahasiswa

matakuliah

information_schema

mysql

performance_schema

phpmyadmin

praktikum 11

rayzal*9878

test

Server: 127.0.0.1 Database: db_akademik Table: jadwalmengajar

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id_jadwal	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	kd_mk	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	kd_ds	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	hari	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	jam	time			Yes	NULL			Change Drop More
6	ruang	varchar(20)	utf8mb4_general_ci		Yes	NULL			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

Add to central columns Remove from central columns

Print Propose table structure Track table Move columns Normalize

Add 1 column(s) after ruang Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Rename Drop	PRIMARY	BTREE	Yes	No	id_jadwal	5	A	No	
Edit Rename Drop	kd_mk	BTREE	No	No	kd_mk	5	A	Yes	
Edit Rename Drop	kd_ds	BTREE	No	No	kd_ds	5	A	Yes	

Console

localhost / 127.0.0.1 / db_akademik

localhost/phpmyadmin/index.php?route=/table/structure&db=db_akademik&table=krsmahasiswa

phpMyAdmin

Recent Favorites

New

data1

db_akademik

Functions

Tables

New

dosen

jadwalmengajar

krsmahasiswa

mahasiswa

matakuliah

information_schema

mysql

performance_schema

phpmyadmin

praktikum 11

rayzal*9878

test

Server: 127.0.0.1 Database: db_akademik Table: krsmahasiswa

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id_krs	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	nim	bigint(20)			Yes	NULL			Change Drop More
3	kd_mk	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	kd_ds	varchar(10)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	semester	int(11)			Yes	NULL			Change Drop More
6	nilai	varchar(2)	utf8mb4_general_ci		Yes	NULL			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext

Add to central columns Remove from central columns

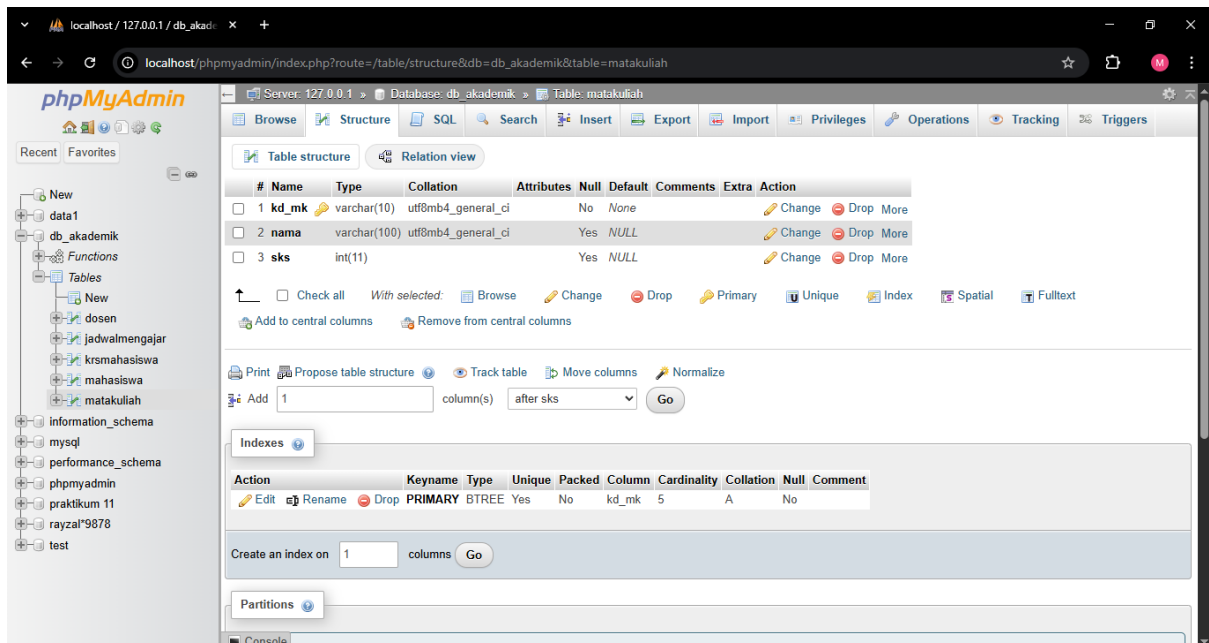
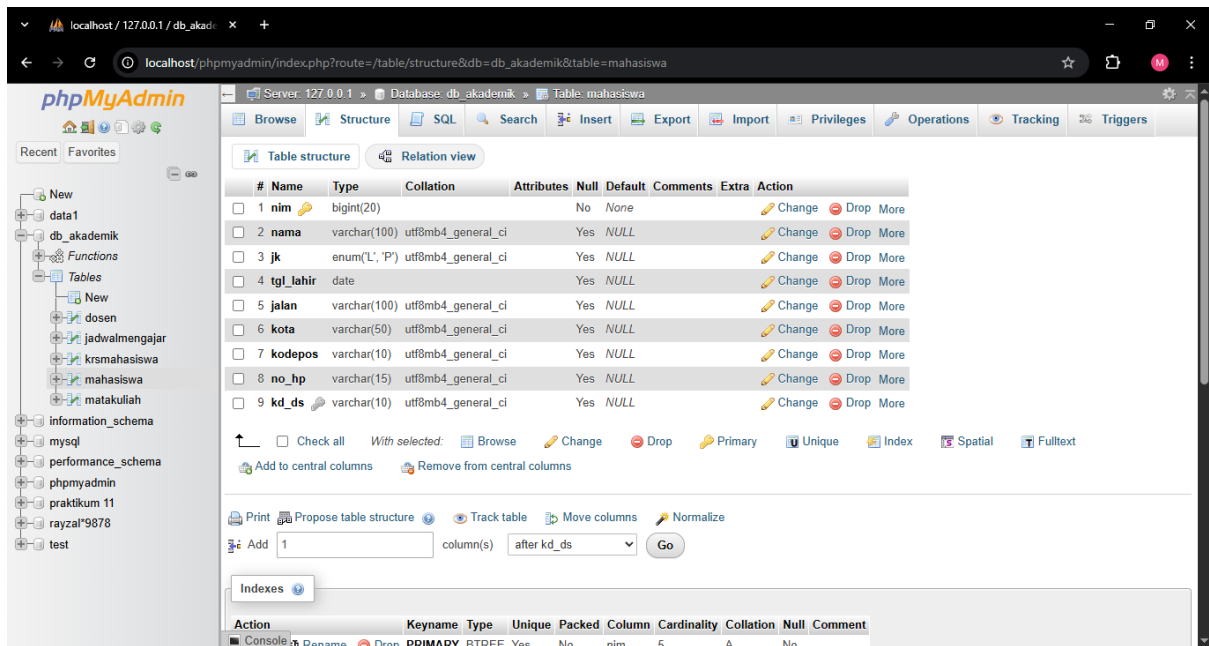
Print Propose table structure Track table Move columns Normalize

Add 1 column(s) after nilai Go

Indexes

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
Edit Rename Drop	PRIMARY	BTREE	Yes	No	id_krs	25	A	No	
Edit Rename Drop	nim	BTREE	Yes	No	nim	12	A	Yes	
Edit Rename Drop	kd_mk	BTREE	Yes	No	kd_mk	25	A	Yes	
Edit Rename Drop	kd_ds	BTREE	Yes	No	kd_ds	25	A	Yes	

Console



Penjelasan Fitur

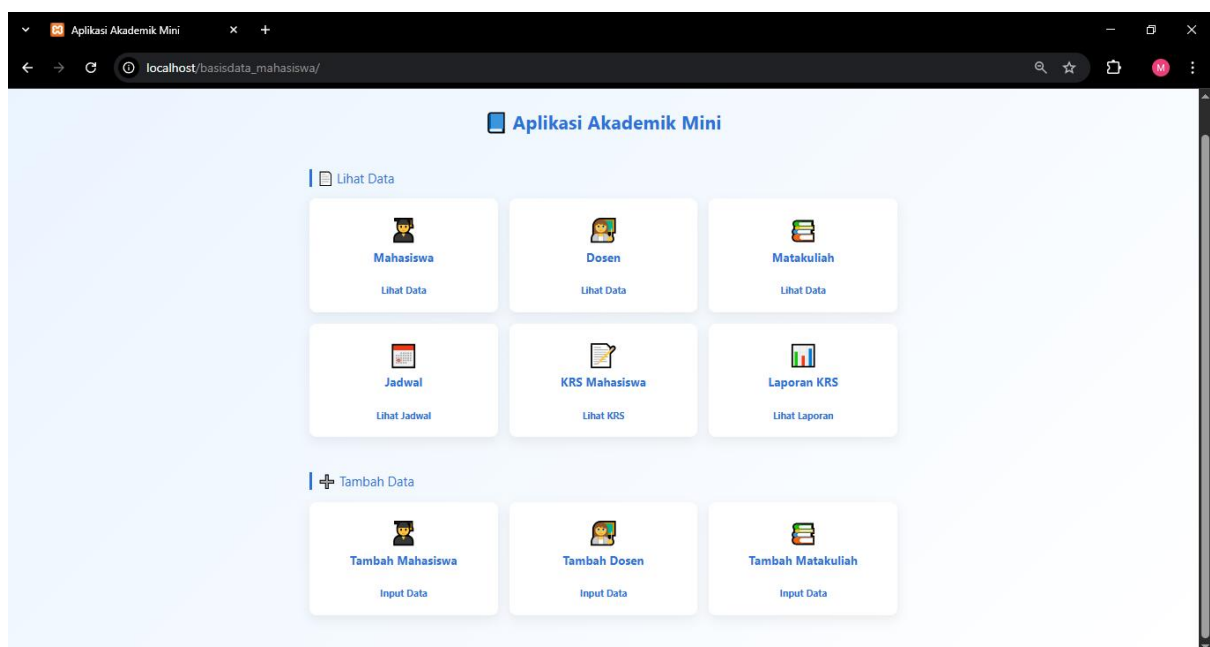
Aplikasi ini memiliki beberapa fitur inti yang mendukung pengelolaan data akademik kampus. Pengguna dapat menambahkan data **mahasiswa**, **dosen**, dan **matakuliah** melalui halaman input yang sudah disediakan, dengan tampilan form yang rapi dan responsif. Selain itu, terdapat fitur untuk menampilkan daftar data masing-masing entitas dalam bentuk **tabel HTML**, seperti daftar mahasiswa lengkap dengan dosen wali, data dosen, daftar matakuliah, serta **jadwal mengajar** yang menunjukkan keterkaitan antara dosen dan mata kuliah yang diampu.

Salah satu fitur utama dari aplikasi ini adalah **laporan KRS (Kartu Rencana Studi)** yang menampilkan data lengkap mahasiswa beserta matakuliah yang diambil, dosen pengajar,

jadwal kelas, dan nilai. Semua data ini ditampilkan dalam tampilan yang terstruktur dan mudah dibaca. Aplikasi ini juga memiliki halaman **dashboard utama** yang menyajikan navigasi menuju seluruh fitur, serta dibagi dalam dua bagian yaitu untuk melihat data dan menambah data. Desain dashboard dan tabel menggunakan warna yang konsisten dan profesional untuk mendukung presentasi visual yang nyaman.

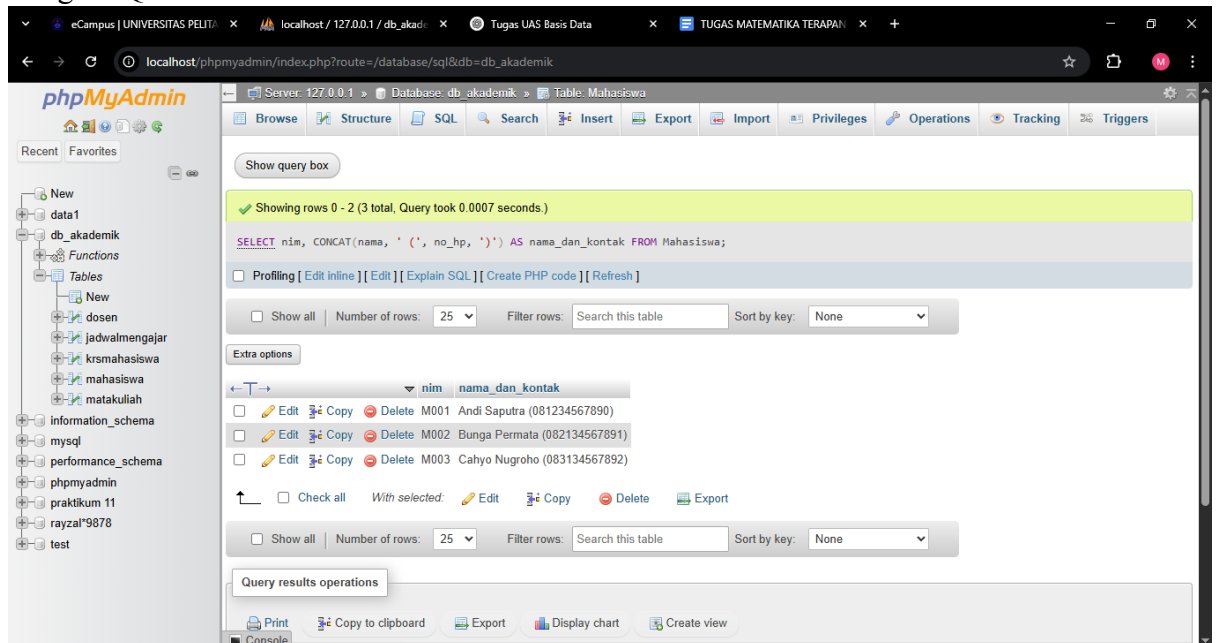
Sebagai tambahan, aplikasi ini telah mendukung **relasi antar tabel** di database, sehingga saat data dimasukkan atau ditampilkan, semuanya saling terhubung secara dinamis. Dengan struktur menu yang jelas dan tampilan yang ringan, aplikasi ini cocok digunakan untuk kebutuhan akademik dasar di lingkungan kampus atau sekolah.

Screenshot tampilan aplikasi



Cuplikan fungsi SQL/UDF yang digunakan

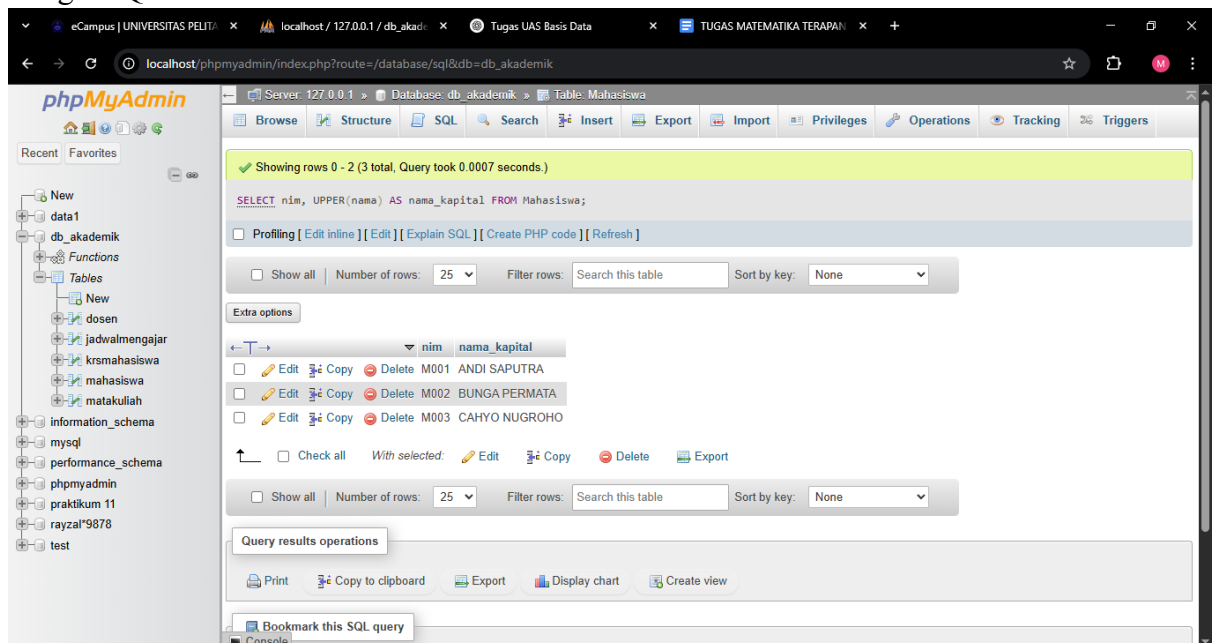
1. Fungsi SQL CONCAT



The screenshot shows the phpMyAdmin interface with the 'Mahasiswa' table selected. The SQL query executed is: `SELECT nim, CONCAT(nama, ' (', no_hp, ')') AS nama_dan_kontak FROM Mahasiswa;`. The result shows three rows of data where the student name and phone number are concatenated.

nim	nama_dan_kontak
M001	Andi Saputra (081234567890)
M002	Bunga Permata (082134567891)
M003	Cahyo Nugroho (083134567892)

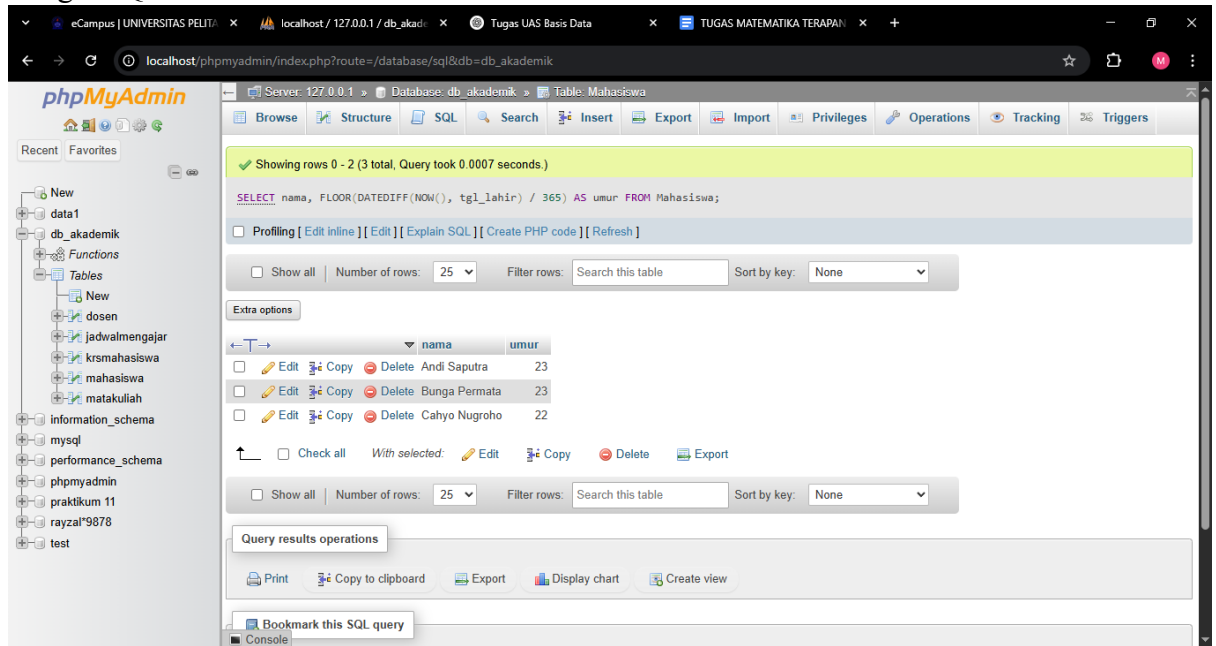
2. Fungsi SQL UPPER



The screenshot shows the phpMyAdmin interface with the 'Mahasiswa' table selected. The SQL query executed is: `SELECT nim, UPPER(nama) AS nama_kapital FROM Mahasiswa;`. The result shows three rows of data where the student name is converted to uppercase.

nim	nama_kapital
M001	ANDI SAPUTRA
M002	BUNGA PERMATA
M003	CAHYO NUGROHO

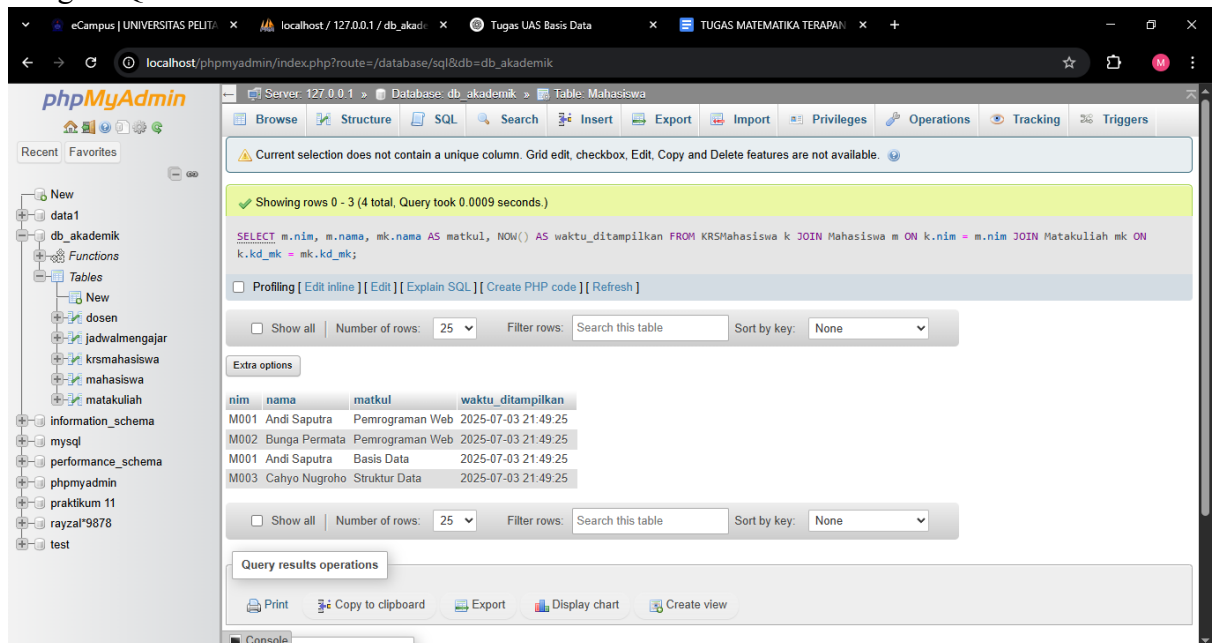
3. Fungsi SQL DATEDIFF



The screenshot shows the phpMyAdmin interface with the 'Mahasiswa' table selected. The SQL query is: `SELECT nama, FLOOR(DATEDIFF(NOW(), tgl_lahir) / 365) AS umur FROM Mahasiswa;`. The results show three rows of student data with their calculated ages.

nama	umur
Andi Saputra	23
Bunga Permata	23
Cahyo Nugroho	22

4. Fungsi SQL NOW



The screenshot shows the phpMyAdmin interface with the 'Mahasiswa' table selected. The SQL query is: `SELECT m.nim, m.nama, mk.nama AS matkul, NOW() AS waktu_ditampilkan FROM KRSMahasiswa k JOIN Mahasiswa m ON k.nim = m.nim JOIN Matakuliah mk ON k.kd_mk = mk.kd_mk;`. The results show four rows of student data with the current date and time.

nim	nama	matkul	waktu_ditampilkan
M001	Andi Saputra	Pemrograman Web	2025-07-03 21:49:25
M002	Bunga Permata	Pemrograman Web	2025-07-03 21:49:25
M001	Andi Saputra	Basis Data	2025-07-03 21:49:25
M003	Cahyo Nugroho	Struktur Data	2025-07-03 21:49:25

5. Fungsi SQL IFNULL

phpMyAdmin interface showing a query result for the 'Mahasiswa' table. The query is:

```
SELECT m.nama, mk.nama AS matkul, IFNULL(k.nilai, 'Belum dinilai') AS nilai_akhir FROM KRSMahasiswa k JOIN Mahasiswa m ON k.nim = m.nim JOIN Matakuliah mk ON k.kd_mk = mk.kd_mk;
```

The results show 4 rows (displaying 0-3):

nama	matkul	nilai_akhir
Andi Saputra	Pemrograman Web	A
Andi Saputra	Basis Data	B+
Bunga Permata	Pemrograman Web	Belum dinilai
Cahyo Nugroho	Struktur Data	A-

Fungsi UDF

phpMyAdmin interface showing a query result for the 'Mahasiswa' table. The query is:

```
SELECT label_mahasiswa(nama, nim) AS identitas FROM Mahasiswa;
```

The results show 3 rows (displaying 0-2):

identitas
Andi Saputra [NIM: M001]
Bunga Permata [NIM: M002]
Cahyo Nugroho [NIM: M003]

Browser tabs: eCampus | UNIVERSITAS PELITA, localhost / 127.0.0.1 / db_akademik, Tugas UAS Basis Data, TUGAS MATEMATIKA TERAPAN

Address bar: localhost/phpmyadmin/index.php?route=/database/sql&db=db_akademik

phpMyAdmin interface:

- Server: 127.0.0.1 » Database: db_akademik » Table: Mahasiswa
- Navigation tabs: Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, Triggers
- Recent/Favorites sidebar:

 - New
 - data1
 - db_akademik
 - Functions
 - Tables
 - New
 - dosen
 - jadwalmengajar
 - krsmahasiswa
 - mahasiswa
 - matakuliah
 - information_schema
 - mysql
 - performance_schema
 - phpmyadmin
 - praktikum 11
 - rayzal19878
 - test

- Main content area:
- Show query box
- Showing rows 0 - 2 (3 total, Query took 0.0011 seconds)
- SQL query: `SELECT nama, hitung_umur(tgl_lahir) AS umur FROM Mahasiswa;`
- Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
- Controls: ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None
- Extra options
- Table view:

	nama	umur
<input type="checkbox"/> Edit Copy Delete	Andi Saputra	23
<input type="checkbox"/> Edit Copy Delete	Bunga Permata	23
<input type="checkbox"/> Edit Copy Delete	Cahyo Nugroho	22
- Actions: ☐ Check all | With selected: Edit Copy Delete Export
- Controls: ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None
- Query results operations: Print Copy to clipboard Export Display chart Create view
- Console