

NAMA : HANA ZAHRINA

KELAS : SI 32

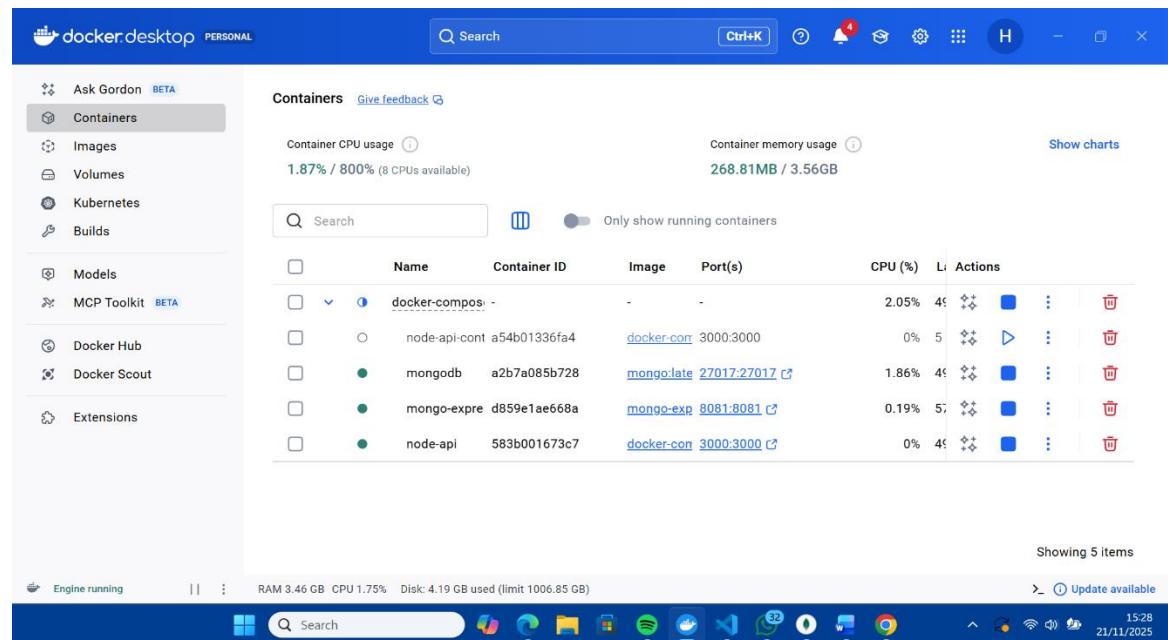
NIM : 2457201049

MATKUL : SISTEM BASIS DATA

TUGAS : Instalasi dan Project Mini : Sistem Informasi (Mongo Express GUI, MongoDB Compass, Visual Studio Code)

A.DOKUMENTASI INSTALASI

1.Tampilan Docker

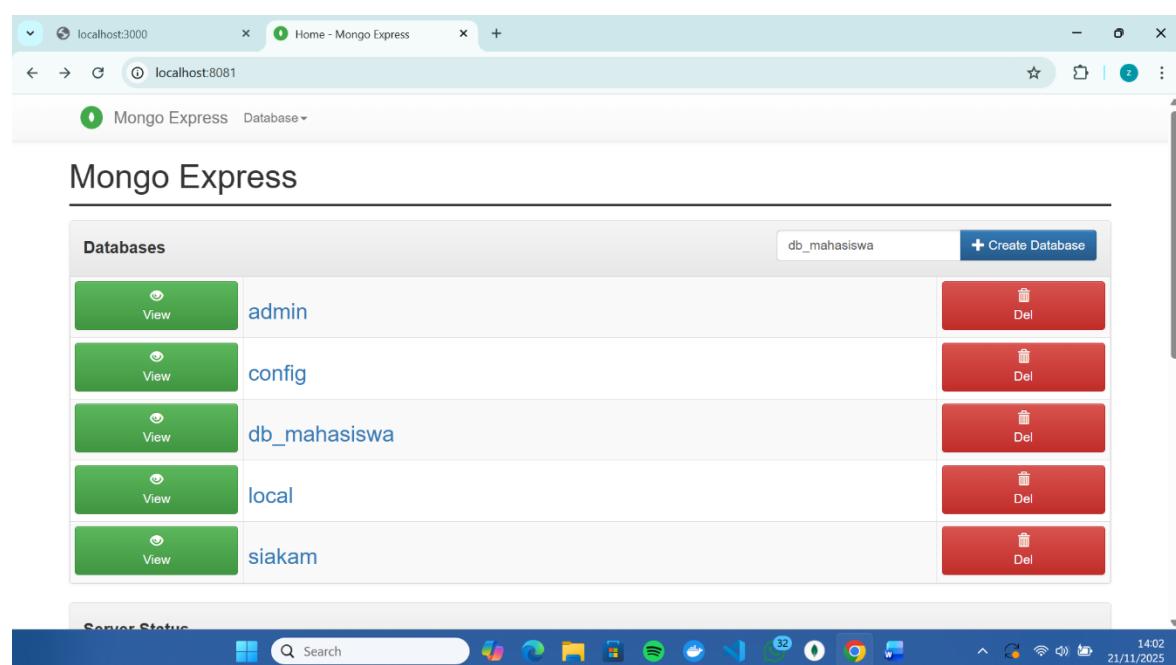


The screenshot shows the Docker Desktop application interface. On the left, there's a sidebar with various options like Ask Gordon, Containers (which is selected), Images, Volumes, Kubernetes, Builds, Models, MCP Toolkit, Docker Hub, Docker Scout, and Extensions. The main area is titled 'Containers' with a 'Give feedback' link. It displays container usage statistics: Container CPU usage (1.87% / 800% (8 CPUs available)) and Container memory usage (268.81MB / 3.56GB). A 'Show charts' button is also present. Below these stats is a search bar and a filter toggle for 'Only show running containers'. A table lists five running containers:

	Name	Container ID	Image	Port(s)	CPU (%)	Memory (MB)	Actions
1	docker-compose	-	-	-	2.05%	49	
2	node-api-cont	a54b01336fa4	node:latest	3000:3000	0%	5	
3	mongodb	a2b7a085b728	mongo:latest	27017:27017	1.86%	49	
4	mongo-expre	d859e1ae668a	mongo-express:8081	8081:8081	0.19%	5	
5	node-api	583b001673c7	node:latest	3000:3000	0%	49	

At the bottom, it says 'Showing 5 items'. The status bar at the bottom shows 'Engine running', system resources (RAM 3.46 GB, CPU 1.75%, Disk 4.19 GB used / limit 1006.85 GB), and the date/time (21/11/2025, 15:28).

2. Tampilan Mongo Express GUI



The screenshot shows the Mongo Express GUI interface. At the top, there are two tabs: 'localhost:3000' and 'localhost:8081'. The main title is 'Mongo Express Database'. The page displays a list of databases:

	Databases	Action
1	admin	
2	config	
3	db_mahasiswa	
4	local	
5	siakam	

At the bottom, there's a 'Server Status' section with various icons and the date/time (21/11/2025, 14:02).

3. Tampilan Vscode

The screenshot shows the VS Code interface with the following details:

- EXPLORER:** Shows the project structure under "DOCKER-COMPOSEYML".
- EDITOR:** Displays the contents of "docker-compose.yml".
- TERMINAL:** Shows the command "docker-compose up -d" being run, and the output indicates the containers are starting.
- STATUS BAR:** Shows the current file path as "C:\docker-compose.yml", line count (Ln 17), column count (Col 32), and encoding (UTF-8).

PROJECT MINI

1. Insert 5 mahasiswa dengan jurusan berbeda

The screenshot shows a MongoDB browser interface with the following details:

- URL:** "localhost:8081/db/siakam/mahasiswa?skip=0"
- Search Bar:** Key, Value, String, Find.
- Action Bar:** Delete all 5 documents retrieved.
- Table:** Displays student data with columns: nim, nama_depan, nama_belakang, tanggal_lahir, email, program_studi, semester, status, mata_kulia.
- Rows:**
 - nim: 2023001, nama_depan: Budi, nama_belakang: Santoso, tanggal_lahir: 2002-03-15, email: budi.santoso@universitas.ac.id, program_studi: {"kode": "TI", "nama": "Teknik Informatika", "fakultas": "FTI"}, semester: 4, status: aktif.
 - nim: 2023002, nama_depan: Siti, nama_belakang: Rahmawati, tanggal_lahir: 2003-07-02, email: siti.rahmawati@universitas.ac.id, program_studi: {"kode": "SI", "nama": "Sistem Informasi", "fakultas": "FTI"}, semester: 3, status: aktif.

Mahasiswa - Mongo Express

localhost:8081/db/siakam/mahasiswa?skip=0

Mongo Express Database: siakam Collection: mahasiswa

ID	Nama	Nim	Tanggal Lahir	Email	Kode Fakultas	Status	Aksi
2023003	Ahmad Putra	2001-11-20	ahmad.putra@universitas.ac.id	<pre>{ "kode": "TK", "nama": "Teknik Komputer", "fakultas": "FTI" }</pre>	6	aktif	<pre>{ } []</pre>
2023004	Nadia Kurnia	2004-01-05	nadia.kurnia@universitas.ac.id	<pre>{ "kode": "TI", "nama": "Teknik Informatika", "fakultas": "FTI" }</pre>	2	aktif	<pre>{ } []</pre>
2023005	Rizky Wicaksono	2002-05-18	rizky.wicaksono@universitas.ac.id	<pre>{ "kode": "SI", "nama": "Sistem Informasi", "fakultas": "FTI" }</pre>	5	cuti	<pre>{ } []</pre>

Search 16:12 21/11/2025

2. Cari mahasiswa dengan ipk > 3.5

Mahasiswa - Mongo Express

localhost:8081/db/siakam/mahasiswa?query=%7B%0D%0A++"ipk">%3A+%7B+"%24gt%"3A+3.5+%7D%0D%0A%7D%0D%0A&projection=

Mongo Express Database: siakam Collection: mahasiswa

Projection

Aggregate query

Find

Delete all 2 documents retrieved

ID	Email	Program Studi	Semester	Status	Mata Kuliah Dambil	IPK	Prestasi	Create At	Update At
budi.santoso@universitas.ac.id	<pre>{ "kode": "TI", "nama": "Teknik Informatika", "fakultas": "FTI" }</pre>	4	Aktif	<pre>{ } []</pre>	3.65	Juara 2 Hackathon 2023, Asisten Lab Basis Data	2023-09-01T10:00:00Z	2024-01-01T14:30:00Z	
nadia.kurnia@universitas.ac.id	<pre>{ "kode": "TI", "nama": "Teknik Informatika", "fakultas": "FTI" }</pre>	2	Aktif	<pre>{ } []</pre>	3.85	Juara 1 Lomba Coding	2024-07-01T12:00:00Z	2024-11-01T12:00:00Z	

Search 13:45 21/11/2025

3. Update status mahasiswa menjadi "Lulus"

The screenshot shows two separate instances of the Mongo Express interface, each displaying a table of student information from a database collection named 'mahasiswa'.

Table 1 (Top):

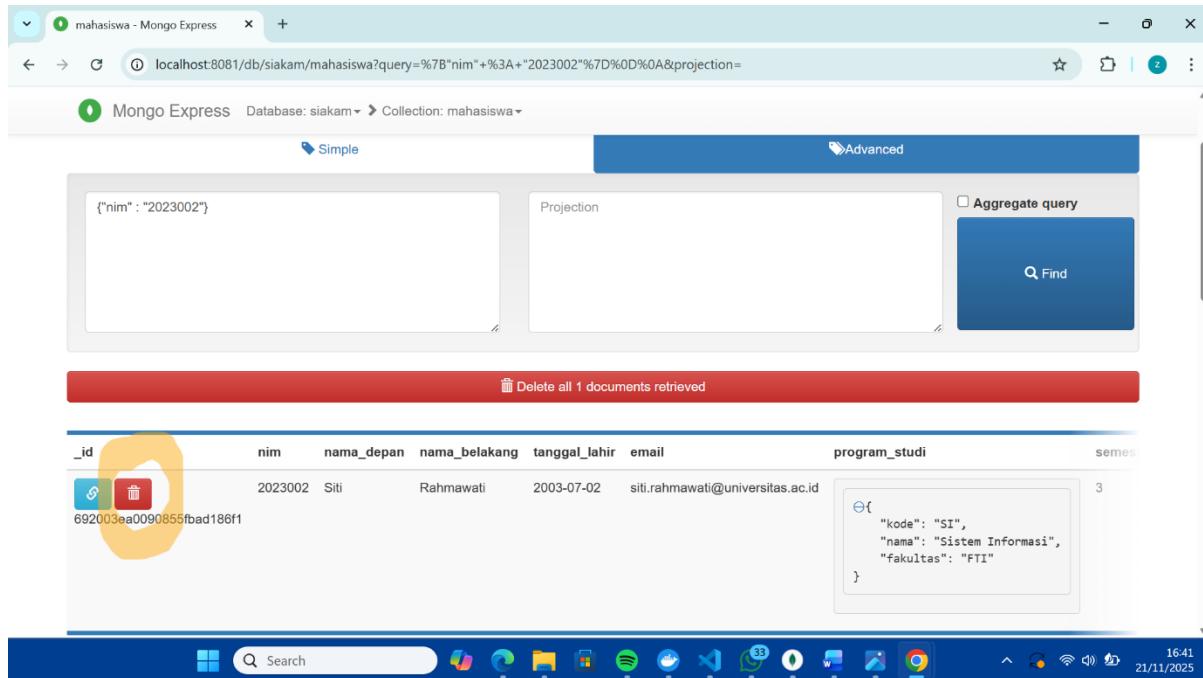
lakang	tanggal_lahir	email	program_studi	semester	status	mata_kuliah_dambil	ipk	prestasi	cre
	2002-03-15	budi.santoso@universitas.ac.id	<pre>θ{ "kode": "TI", "nama": "Teknik Informatika", "fakultas": "FTI" }</pre>	4	lulus	<pre>θ[⊕{4 items}, ⊕{4 items}]</pre>	3.65	Juara 2 Hackathon 2023, Asisten Lab Basis Data	20/01
ti	2003-07-02	siti.rahmawati@universitas.ac.id	<pre>θ{ "kode": "SI", "nama": "Sistem Informasi", "fakultas": "FTI" }</pre>	3	lulus	<pre>θ[⊕{4 items}, ⊕{4 items}]</pre>	3.35	Peserta Kompetisi UI/UX 2024	20/05

Table 2 (Bottom):

Ahmad	Putra	2001-11-20	ahmad.putra@universitas.ac.id			<pre>θ{ "kode": "TK", "nama": "Teknik Komputer", "fakultas": "FTI" }</pre>	6	lulus	<pre>θ[⊕{4 items}, ⊕{4 items}]</pre>
Nadia	Kurnia	2004-01-05	nadia.kurnia@universitas.ac.id			<pre>θ{ "kode": "TI", "nama": "Teknik Informatika", "fakultas": "FTI" }</pre>	2	lulus	<pre>θ[⊕{4 items}, ⊕{4 items}]</pre>
Rizky	Wicaksono	2002-05-18	rizky.wicaksono@universitas.ac.id			<pre>θ{ "kode": "SI", "nama": "Sistem Informasi", "fakultas": "FTI" }</pre>	5	lulus	<pre>θ[⊕{4 items}, ⊕{4 items}, ⊕{4 items}]</pre>

The interface includes standard browser controls (back, forward, search) and a status bar at the bottom showing the date and time (21/11/2025, 16:09).

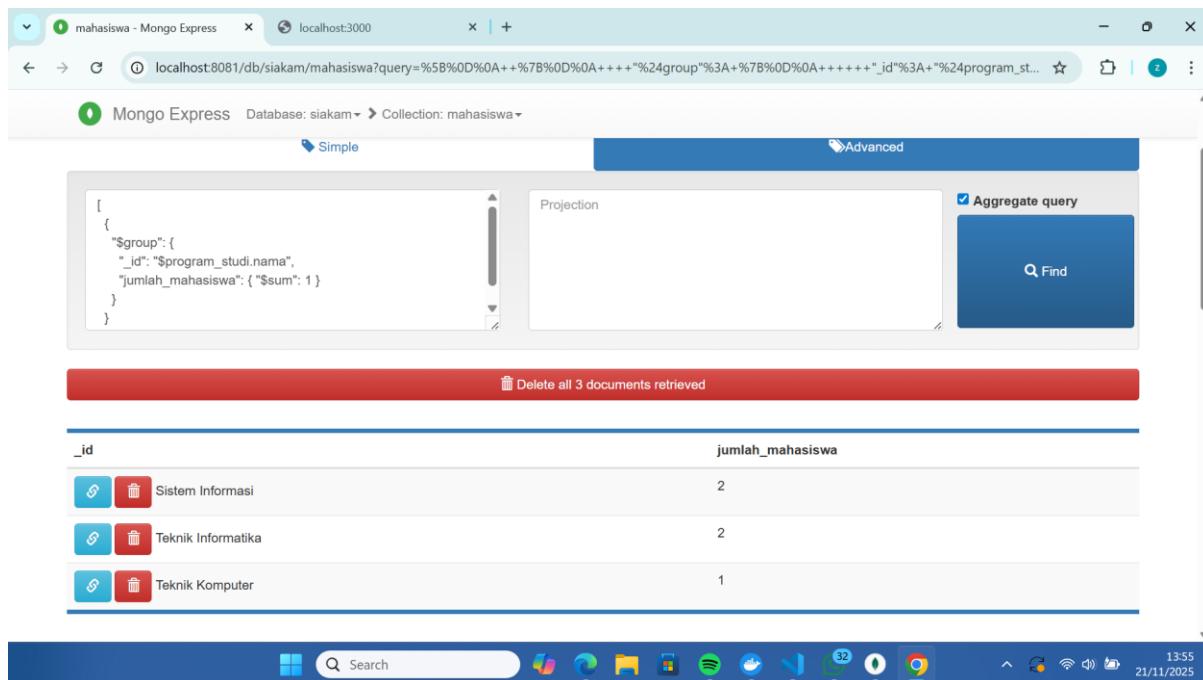
4. Hapus mahasiswa dengan NIM tertentu



The screenshot shows the Mongo Express interface for the 'mahasiswa' collection in the 'siakam' database. The 'Simple' tab is selected, displaying the query: {"nim": "2023002"}. The 'Projection' section is empty. The 'Aggregate query' section is expanded, showing the 'Find' button. A red banner at the bottom indicates "Delete all 1 documents retrieved". Below the table, there is a list of icons for file operations and a system status bar showing the date and time.

_id	nim	nama_depan	nama_belakang	tanggal_lahir	email	program_studi	semes
692003ea0090855fbad186f1	2023002	Siti	Rahmawati	2003-07-02	siti.rahmawati@universitas.ac.id	{ "kode": "SI", "nama": "Sistem Informasi", "fakultas": "FTI" }	3

5. Hitung jumlah mahasiswa per program prodi



The screenshot shows the Mongo Express interface for the 'mahasiswa' collection in the 'siakam' database. The 'Simple' tab is selected, displaying the aggregate query: [{"\$group": {"_id": "\$program_studi.nama", "jumlah_mahasiswa": {"\$sum": 1}}}], which translates to grouping by program name and summing the count. The 'Projection' section is empty. The 'Aggregate query' section is expanded, showing the 'Find' button. A red banner at the bottom indicates "Delete all 3 documents retrieved". Below the table, there is a list of icons for file operations and a system status bar showing the date and time.

_id	jumlah_mahasiswa
Sistem Informasi	2
Teknik Informatika	2
Teknik Komputer	1