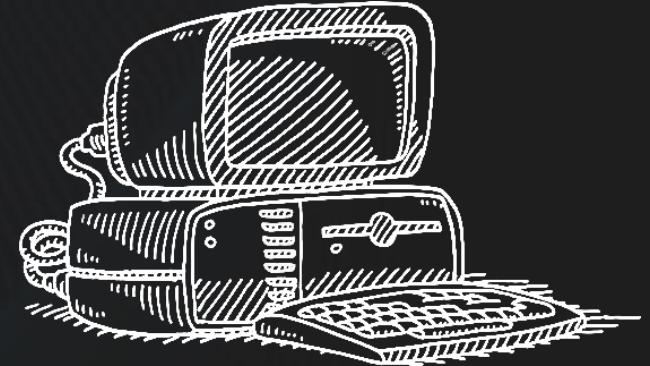


PENGENALAN BASIS DATA

Aryana Diaz Cakasana

Muhammad Isa Senoaji

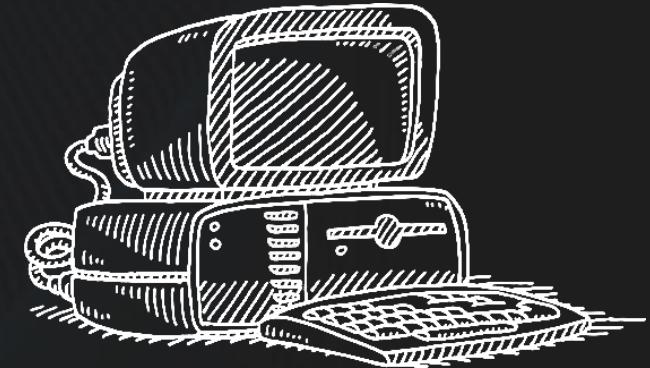
Apa Itu Data Base?



Apa Itu Data Base?



Apa Itu Data Base?

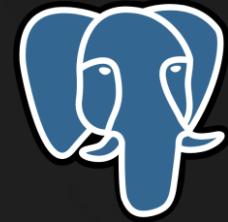


Macam-Macam Database

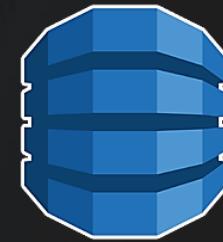
SQL



Microsoft
SQL Server



Non SQL



redis



- Nama Siswa
- Nomor Induk Siswa Nasional
- Nomor Induk Siswa
- Nomor Absen
- Pendataan Kelas
- Nilai Siswa

Strukutur Tabel

Tabel Nilai

NIS	Kelas	UTS	UAS	Quiz	Tugas
153 🔑	12A 🔒	95	100	88	78

Tabel Siswa

NISN	NIS	Kelas	Nama
1926 🔑	153 🔒	12A 🔒	Arya

Tabel Kelas

id_kelas	Pengajar
12A 🔑	Sugianto Mukito. S, Pd

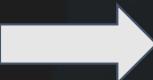
JSON Document

```
{  
    "NISN" : "1926"  
    "NIS" : "153",  
    "Nama" : "Diaz",  
    "data" : [  
        {  
            "kelas" : "12A",  
            "pengajar" : "Sugianto Mukito. S, Pd"  
            "nilai" : [  
                "UTS" : "95",  
                "UAS" : "100",  
                "quiz" : "88",  
                "tugas" : "78"  
            ]  
        }  
    ]  
}
```

Document

```
{  
    "_id" : "1"  
    "NISN" : "1926"  
    "NIS" : "153",  
    "Nama" : "Diaz",  
    "data" : [  
        {  
            "kelas" : "12A",  
            "pengajar" :  
                "Sugianto"  
            "nilai" : [  
                "UTS" : "95",  
                "UAS" : "100",  
                "quiz" : "88",  
                "tugas" : "78"  
            ]  
        }  
    ]  
}
```

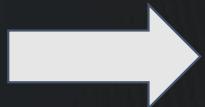
Collection



Query si Pelayanan Data

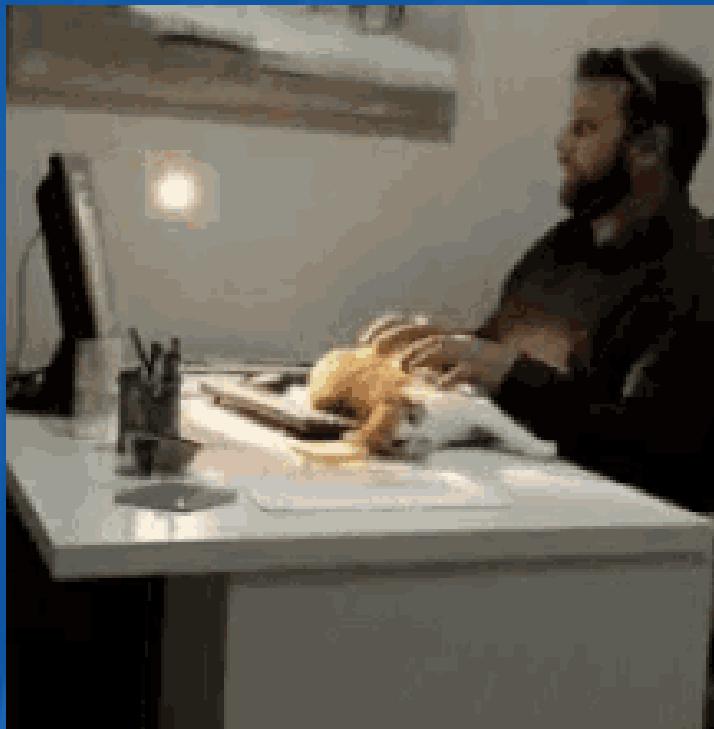


db.siswa.find({'_id' : 1})

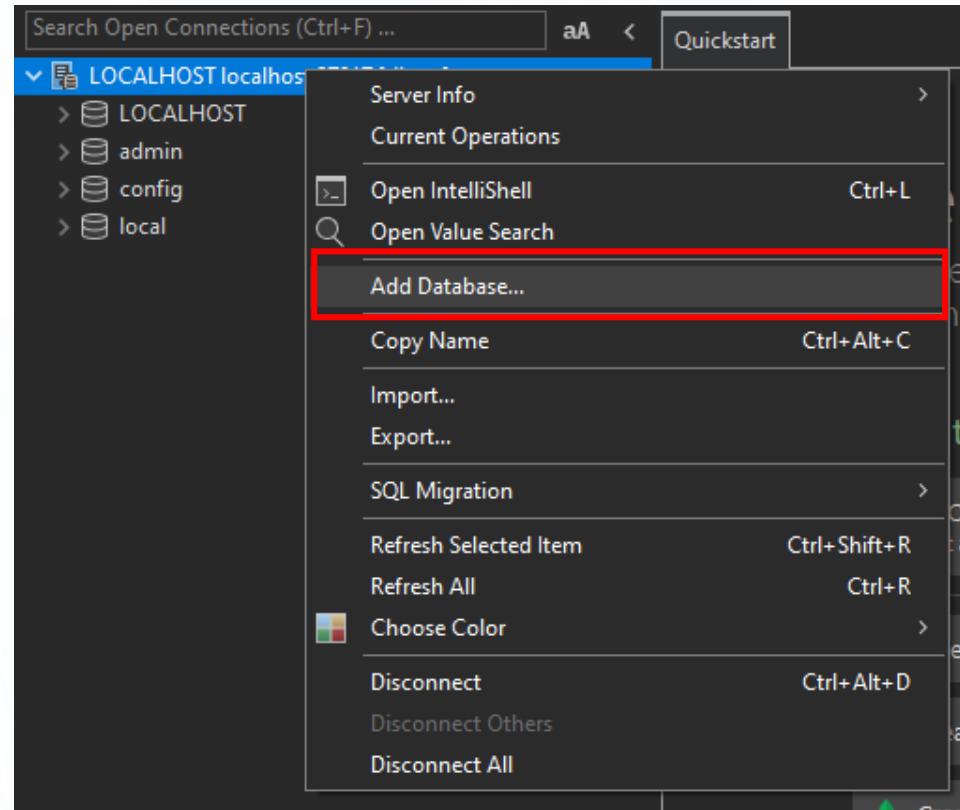


```
{  
    "_id" : "1"  
    "NISN" : "1926"  
    "NIS" : "153",  
    "Nama" : "Diaz",  
    "data" : [  
        {  
            "kelas" : "12A",  
            "pengajar" : "Sugianto"  
            "nilai" : [  
                "UTS" : "95",  
                "UAS" : "100",  
                "quiz" : "88",  
                "tugas" : "78"  
            ]  
        }  
    ]  
}
```

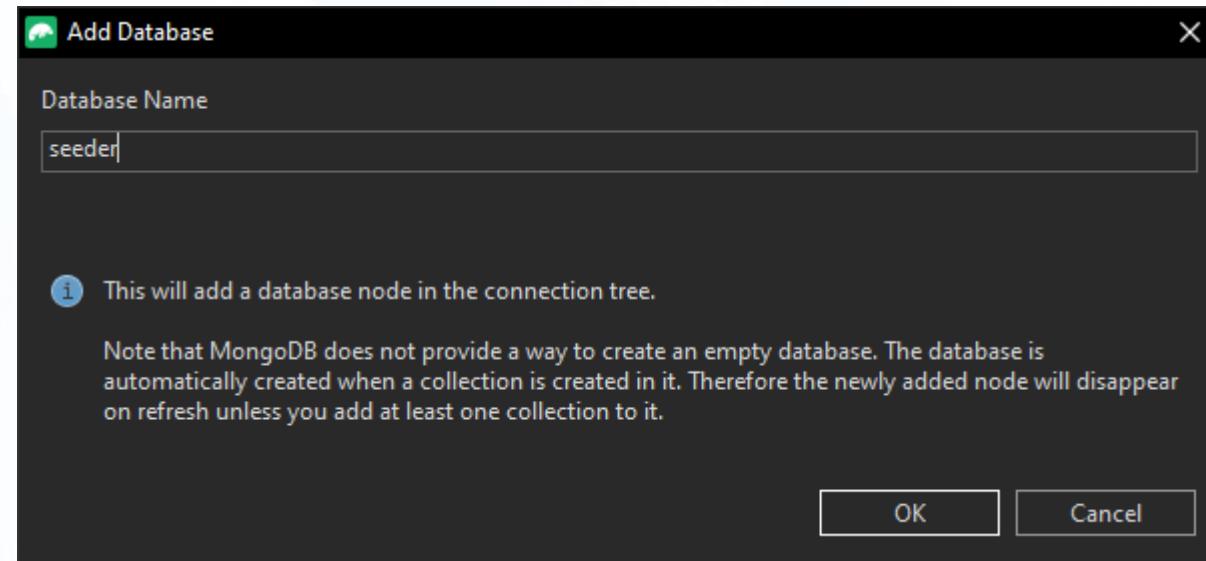
Waktunya Demonstrasi Query !!!



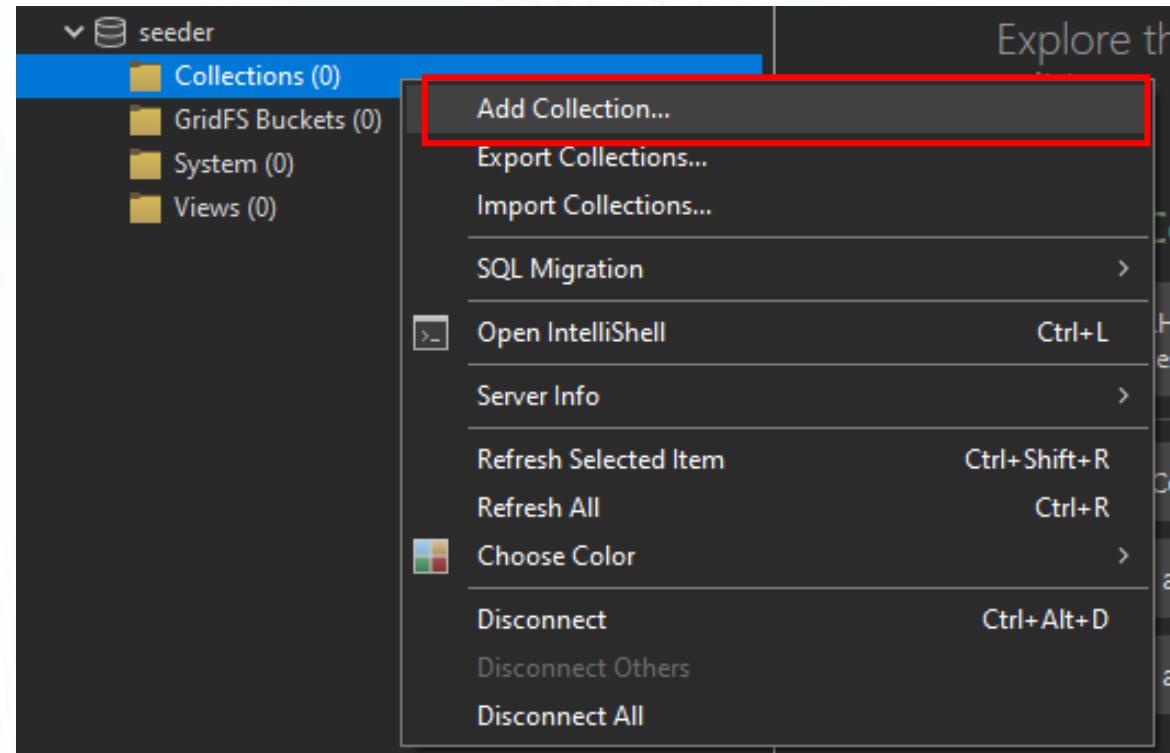
Menjalankan aplikasi **Studio 3T**, klik kanan pada connection yang telah dibuat dan pilih **Add Database...**



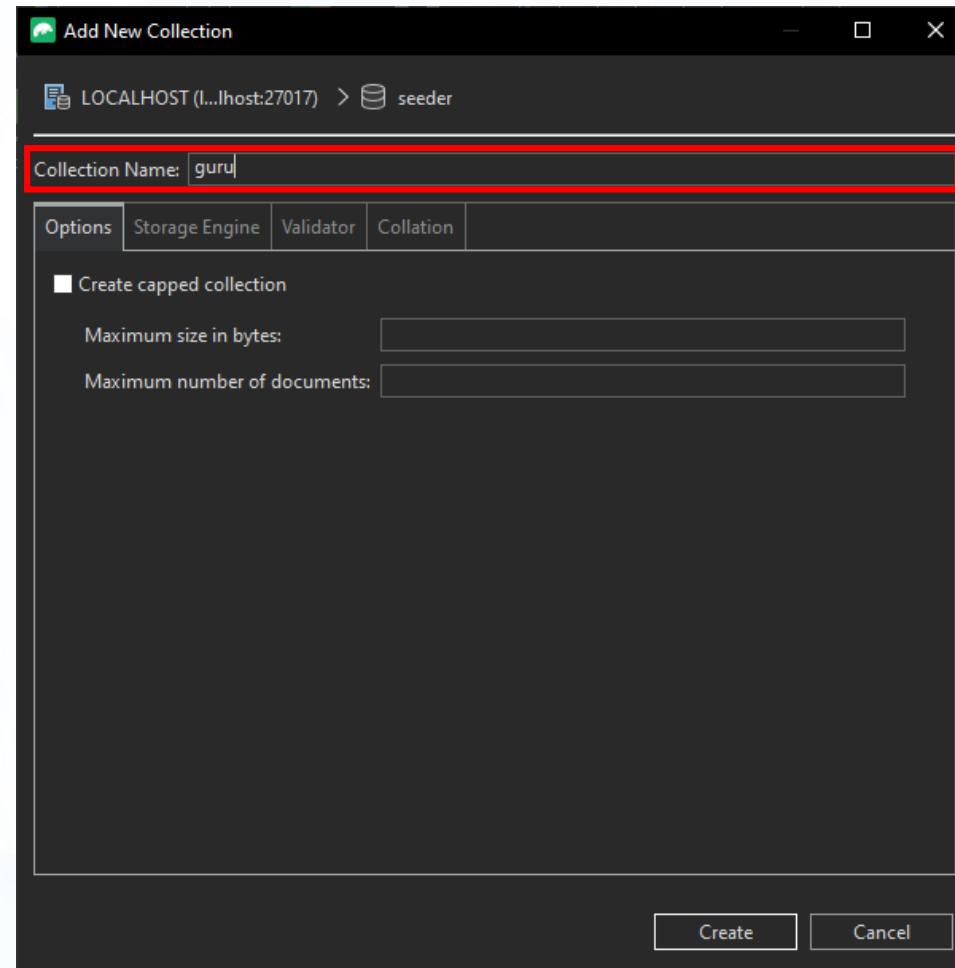
Menambahkan nama database pada form **Database Name**, sebagai contoh tambahkan dengan nama *seeder*. Kemudian klik **OK**



Menambahkan collections pada database dengan klik kanan pada **Collections** kemudian pilih **Add Collection...**



Menambahkan nama collection pada form **Collection Name**, sebagai contoh tambahkan dengan nama *guru*. Kemudian klik **Create**

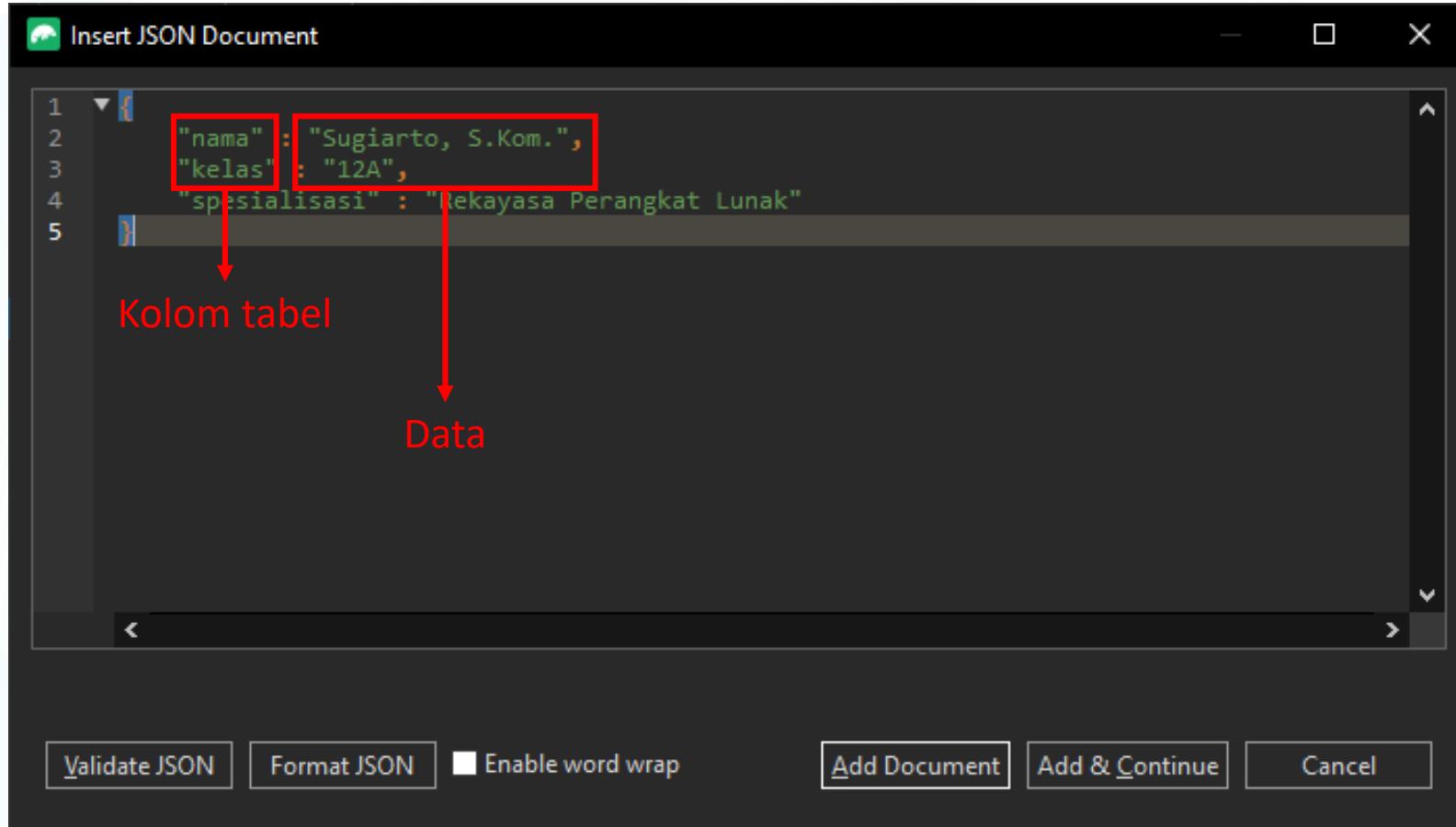


Menambahkan JSON Document dengan klik tombol **Add Document** yang ada seperti pada gambar

The screenshot shows the MongoDB Compass interface with the following details:

- Top Bar:** Shows two tabs: "Quickstart" and "guru".
- Breadcrumbs:** LOCALHOST (localhost:27017) > seeder > guru
- Query Panel:** Contains fields for Query, Projection, Sort, Skip, and Limit.
- Result Panel:** Has tabs for Result, Query Code, and Explain.
- Toolbar:** Includes icons for Refresh, Back, Forward, and a dropdown for document count (set to 50). It also has a lock icon, a red-bordered "Add Document" button (highlighted with a red box), and other icons for search, export, and delete.
- Data Preview:** Shows a table for the "guru" collection with one row visible: "_id".

Menambahkan sebuah data dengan sintaks untuk JSON Document sebagai berikut. Kemudian tambahkan beberapa data lagi untuk mempermudah melihat perbedaan saat melakukan **query**.



The screenshot shows a dark-themed dialog box titled "Insert JSON Document". Inside, a JSON document is displayed with the following code:

```
1 {  
2   "nama" : "Sugiarto, S.Kom.",  
3   "kelas" : "12A",  
4   "spesialisasi" : "Teknaya Perangkat Lunak"  
5 }
```

Two specific fields, "nama" and "kelas", are highlighted with red boxes. Red arrows point from the text "Kolom tabel" (Table Column) and "Data" to these highlighted fields respectively.

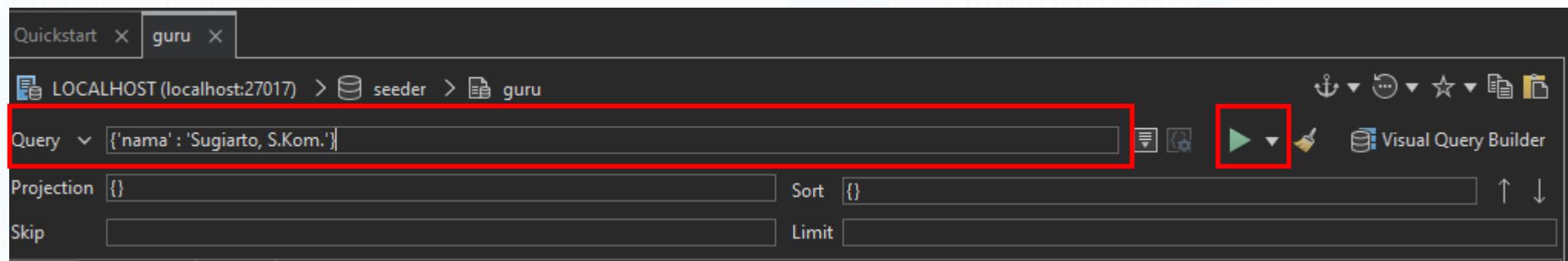
At the bottom of the dialog, there are several buttons: "Validate JSON", "Format JSON", "Enable word wrap", "Add Document", "Add & Continue", and "Cancel".

Mencoba melakukan query untuk mencari data tertentu. Sebagai contoh mencari data dari **“Sugiarto, S.Kom.”**

Pada form query menambahkan query

{‘nama’ : ‘Sugiarto, S.Kom.’}

Kemudian jalankan dengan klik tombol **Run** dan pastikan query yang dijalankan merupakan query **find()** dengan klik panah ke bawah disebelah tombol **Run**.



Pada tabel **Result** akan menampilkan hasil dari query tersebut.

The screenshot shows a MongoDB query results interface. At the top, there are tabs for "Result", "Query Code", and "Explain". Below the tabs are navigation icons (refresh, back, forward) and a dropdown for document count (set to 50). To the right are icons for file operations like download, edit, and delete, along with a "Table View" button and a settings gear icon. The main area is titled "guru" and displays a table with four columns: "_id", "nama", "kelas", and "spesialisasi". A single document is listed:

_id	nama	kelas	spesialisasi
<code>id 62e78711f48e31...</code>	Sugiarto, S.Kom.	12A	Rekayasa Pera...

Terima Kasih