



Step 1 - Types of Databases



What all we'll learn today -

Simple - SQL vs NoSQL, how to create Postgres Databases, How to do CRUD on them

Advance - Relationships, Joins, Transactions

There are a few types of databases, all service different types of use-cases

NoSQL databases

1. Store data in a **schema-less** fashion. Extremely lean and fast way to store data.
2. Examples - MongoDB,

populations.cities

DOCUMENTS 20 TOTAL SIZE 2.0KB AVG. SIZE 104B INDEXES 1 TOTAL SIZE 4.0KB AVG. SIZE 4.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { field: 'value' } OPTIONS FIND RESET ↺ ⋮

ADD DATA VIEW {}

Displaying documents 1 - 20 of 20 REFRESH

```

_id: ObjectId("617604944e16573d5867039b")
name: "Seoul"
country: "South Korea"
continent: "Asia"
population: 25.674

_id: ObjectId("617604944e16573d5867039c")
name: "Mumbai"
country: "India"
continent: "Asia"
population: 19.98

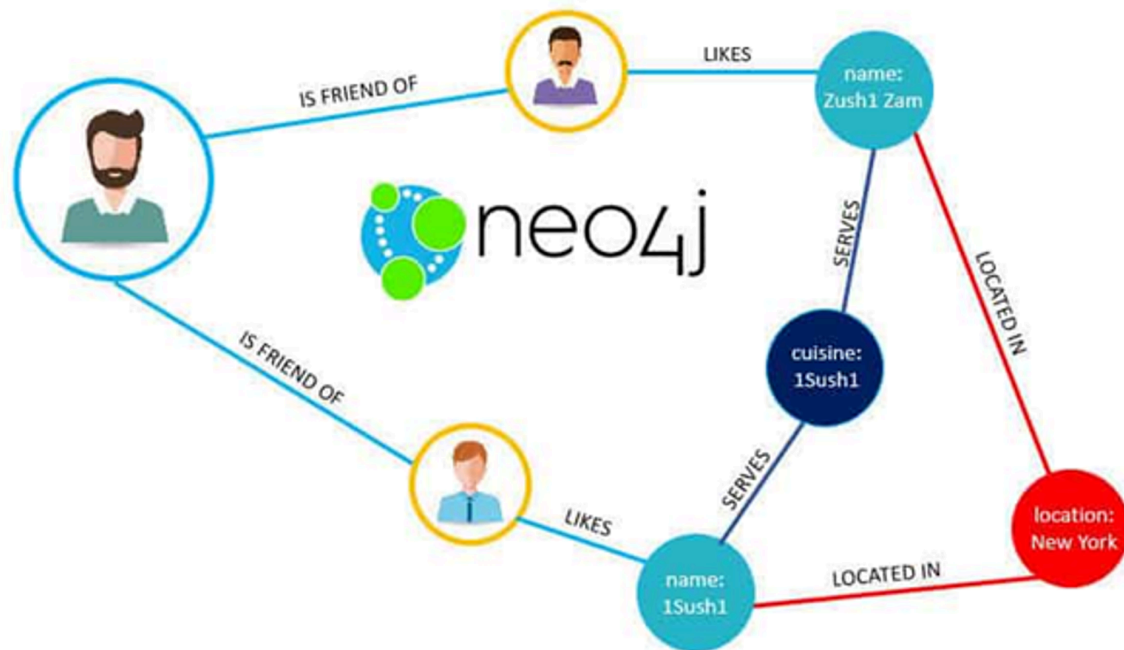
_id: ObjectId("617604944e16573d5867039d")
name: "Lagos"
country: "Nigeria"
continent: "Africa"
population: 13.463

_id: ObjectId("617604944e16573d5867039e")

```

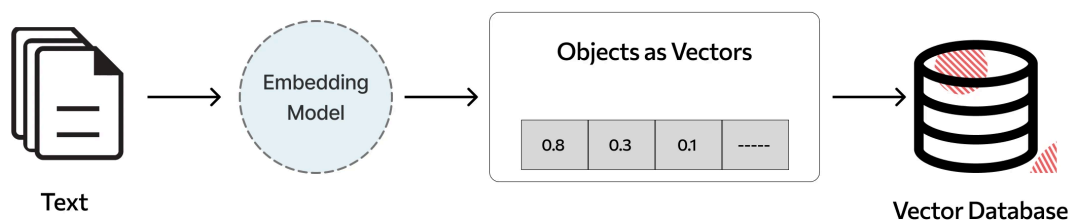
Graph databases

1. Data is stored in the form of a graph. Specially useful in cases where **relationships** need to be stored (social networks)
2. Examples - Neo4j



Vector databases

1. Stores data in the form of vectors
2. Useful in Machine learning
3. Examples - Pinecone



graft

SQL databases

1. Stores data in the form of rows
2. Most full stack applications will use this
3. Examples - MySQL, Postgres

Table: customers

| customer_id | first_name | last_name | phone | country |
|-------------|------------|-----------|--------------|---------|
| 1 | John | Doe | 817-646-8833 | USA |
| 2 | Robert | Luna | 412-862-0502 | USA |
| 3 | David | Robinson | 208-340-7906 | UK |
| 4 | John | Reinhardt | 307-242-6285 | UK |
| 5 | Betty | Taylor | 806-749-2958 | UAE |