

# SQL and Database Design

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## Structured Query Language

### Different Types of Database Languages:

- NoSQL Databases:
  - With node, one of the biggest ones is MongoDB.
  - Allows for you to have a ton of flexibility in how you set up your Schema, OR how you change your schema depending on user/info given
  - Information can be stored as column-oriented, document-oriented, many others.
  - Has easy horizontal scalability which means you can grow faster in some cases.
- SQL Databases:
  - Tabular data
  - Everything is interconnected (or can be).
  - Doesn't allow for easy changing of Schema, but easy to follow when the schema is well built.
  - Simple to use data queries that follow mostly semantic key words.

### How To SQL

- Depending on what you want to do you start your **query** with one of several keywords:
  - Select
    - SELECT apples FROM fruits WHERE color = 'red'
  - Insert
    - INSERT INTO fruits VALUES (apples)
  - Update
    - UPDATE fruits SET name = 'apples' WHERE color = 'red'
  - Create Table
  - Alter Table
  - Drop Table
- From there you can easily define what you're going to access by table, column name, or conditional options.
- Conditional Keywords:
  - NOT NULL
  - WHERE
  - IN (x,y,z,...)
  - HAVING
  - LIKE (%hi%)