

 `github.com/jsonmaur/node-db2-guided`



Database Schema Design

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Database Management System (DBMS)

The software engine and SQL dialect used to store and access our data.

Relational

- SQLite
- PostgreSQL
- MySQL
- Oracle

Non-Relational

- MongoDB
- DynamoDB
- Cassandra
- Redis

Designing a Database Schema

- ▶ What fields, or columns, does a table need?
- ▶ What should the identifying column (or primary key) be?
- ▶ What type of data do we expect for each column?
- ▶ Are there any restrictions needed for each column?

Data Definition Language (DDL)

SQL commands that are used to modify the database structure.

```
CREATE TABLE <table> (  
    <column> <type> <constraints>,  
    <column> <type> <constraints>  
);
```

```
ALTER TABLE <table>  
<changes>;
```

```
DROP TABLE <table>;
```

Database Schema Migration

Code written to a file that programmatically changes a database schema over time. Such as adding new tables, new columns, changing data types, etc.



`migrations/1.js`

- Creates the fruits table

`migrations/2.js`

- Adds a column to the fruits table
- Removes a default value from an existing column

`migrations/3.js`

- Create a new vegetables table
- Deletes a column from the fruits table