

mongoDB



WHAT IS MONGO?

OUR FIRST DATABASE!

According to Mongo's homepage, it is "the most popular database for modern applications". It is commonly used in combination with Node.

Mongo is a **document database**, which we can use to store and retrieve complex data from.



WHY USE A DATABASE?

INSTEAD OF JUST SAVING TO A FILE?

- Databases can handle large amounts of data efficiently and store it compactly
- They provide tools for easy insertion, querying, and updating of data
- They generally offer security features and control over access to data
- They (generally) scale well.

SQL VS. NOSQL

SQL DATABASES



Structured Query Language databases are relational databases. We pre-define a schema of tables before we insert anything.

NO-SQL DATABASES



NoSQL databases do not use SQL. There are many types of no-sql databases, including document, key-value, and graph stores.

POPULAR DATABASES

SQL DATABASES

- MySQL
- Postgres
- SQLite
- Oracle
- Microsoft SQL Server

NO-SQL DATABASES

- MongoDB
- Couch DB
- Neo4j
- Cassandra
- Redis



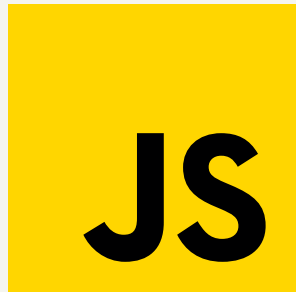
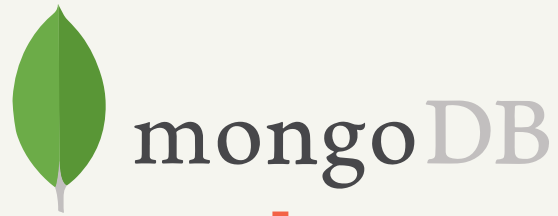
WHY ARE WE LEARNING MONGO?

- Mongo is very commonly used with Node and Express (MEAN & MERN stacks)
- It's easy to get started with (though it can be tricky to truly master)
- It plays particularly well with JavaScript
- Its popularity also means there is a strong community of developers using Mongo.



Mongoose

Express + Mongoose



ODM

OBJECT DATA MAPPER?

OBJECT DOCUMENT MAPPER?

ODMs like Mongoose map documents coming from a database into usable JavaScript objects.

Mongoose provides ways for us to model out our application data and define a schema. It offers easy ways to validate data and build complex queries from the comfort of JS.

MIDDLEWARE

REQUEST



RESPONSE



Express middleware are functions that run during the request/response lifecycle.

MIDDLEWARE

REQUEST



- Middleware are just functions
- Each middleware has access to the request and response objects
- Middleware can end the HTTP request by sending back a response with methods like `res.send()`
- OR middleware can be chained together, one after another by calling `next()`

RESPONSE



ERRORS!

REQUEST



RESPONSE



How do we handle errors in an Express application?