MERN

Coding Boot Camp

Module 21

What Is the MERN Stack?

What Is the MERN Stack?

The MERN stack is a a group of four technologies that, when used together, create the "stack." There are other stacks, but the MERN stack uses technologies that we already know:

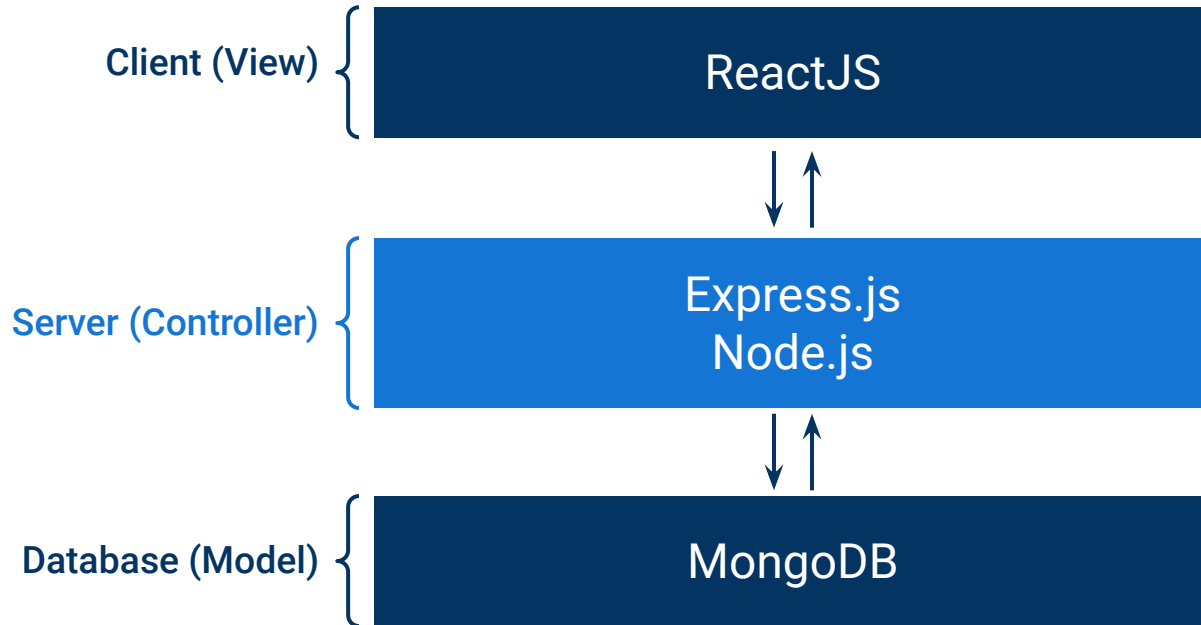MongoDB

Express.js

ReactJS

Node.js

How Does the MERN Stack Work?

How Does the MERN Stack Work?

The MERN stack has a three-layer architecture based on the Model-View-Controller design pattern. Each interconnected layer performs a specific function in the application.

Client (View) — ReactJS

↓ ↑

Server (Controller) — Express.js / Node.js
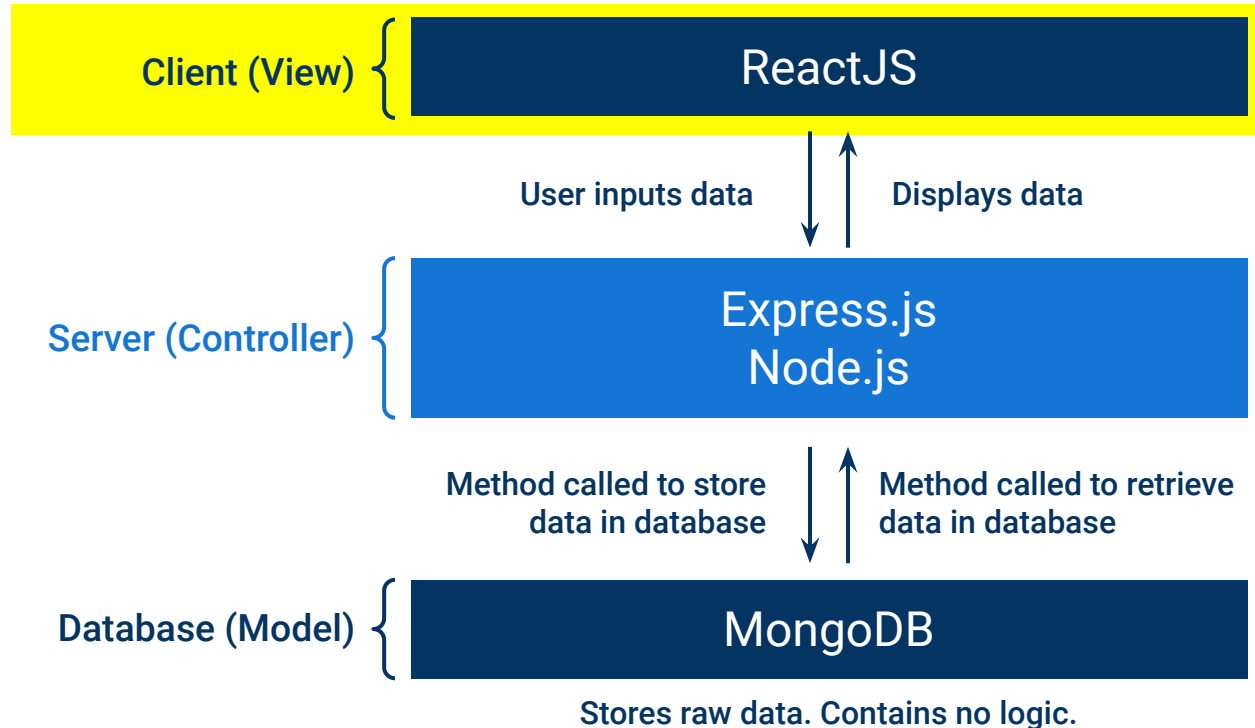
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Database (Model) — MongoDB

What Is the Function of the Client Layer?

The Client Layer: ReactJS

ReactJS is a front-end JavaScript library that allows us to turn reusable components into interactive user interfaces.

The client layer controls what the user sees and how the user interacts with data.

In the client layer, data retrieved from the database can be displayed. Users can also input data using the user interface.

Client (View) { **ReactJS**

User inputs data | Displays data

Server (Controller) { **Express.js Node.js**

Method called to store data in database | Method called to retrieve data in database

Database (Model) { **MongoDB**

Stores raw data. Contains no logic.

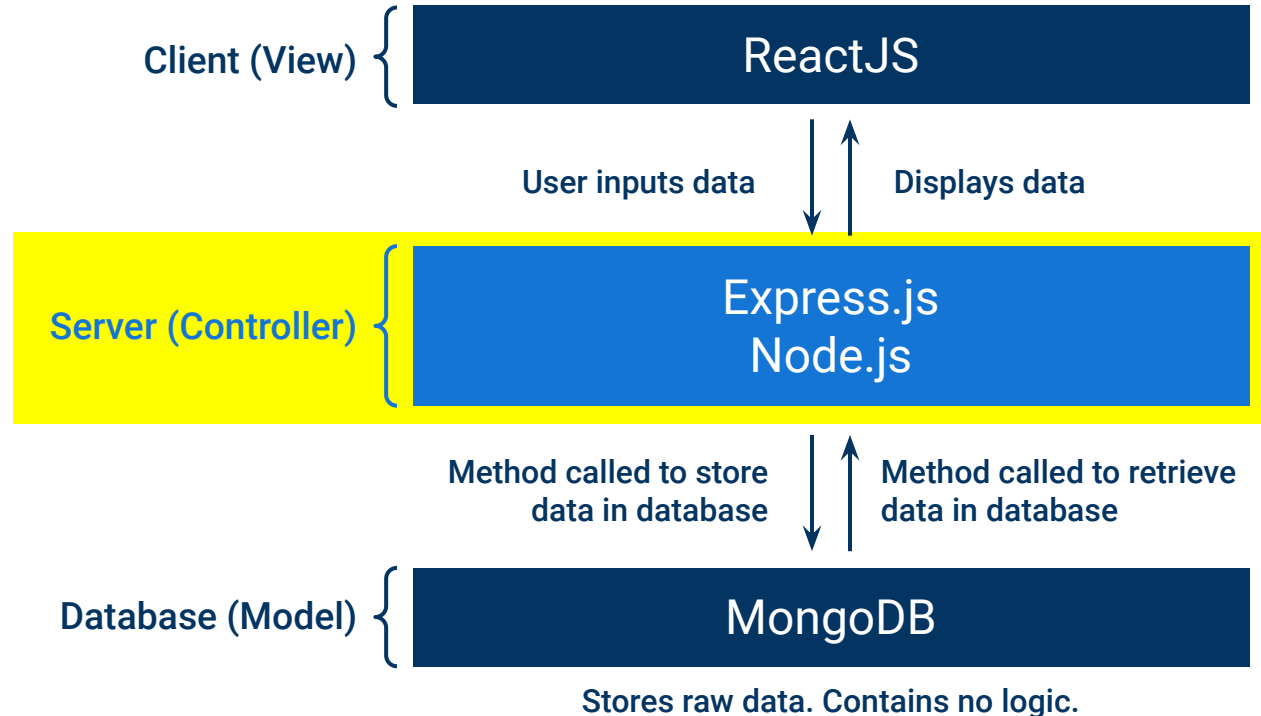# What Is the Function of the Server Layer?

The Server Layer: Express.js and Node.js

Express.js is a web framework for Node.js that handles requests and connects the client layer with the database layer.

The server layer defines how data is handled in our apps and routes it between the database and client layer.

The server layer listens for events from the client layer and responds by executing methods that save and retrieve data from the database layer.

Client (View) { ReactJS

User inputs data   Displays data

Server (Controller) { Express.js Node.js

Method called to store data in database   Method called to retrieve data in database

Database (Model) { MongoDB
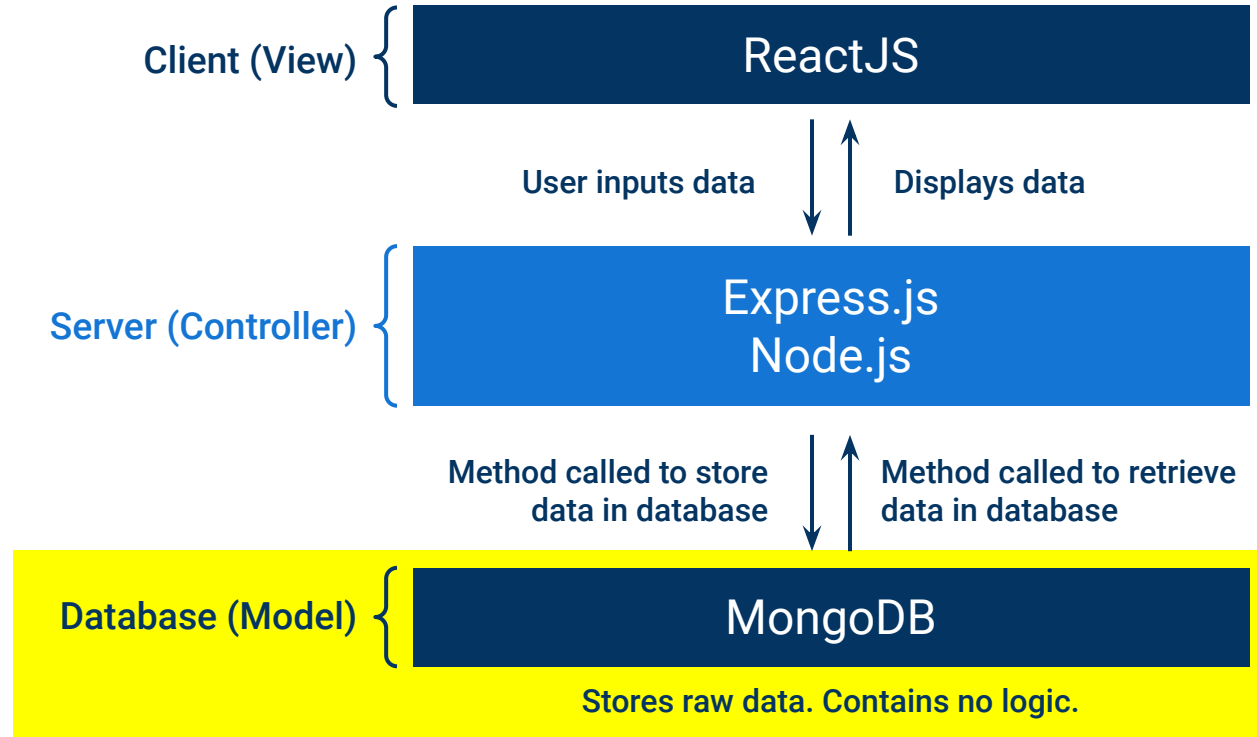
Stores raw data. Contains no logic.

What Is the Function of the Database Layer?

The Database Layer: MongoDB

MongoDB is a general purpose, document-based, distributed NoSQL database

The database layer stores all the data needed for your application to function.

MongoDB stores JSON natively (technically BSON), which makes it work easily with JavaScript apps.

Client (View) { ReactJS

User inputs data | Displays data

Server (Controller) { Express.js Node.js

Method called to store data in database | Method called to retrieve data in database

Database (Model) { MongoDB

Stores raw data. Contains no logic.

Why Use the MERN Stack?

Why Use the MERN Stack?

The MERN stack is a group of four technologies that, when used together, create the "stack."

01

MERN is built on widely used technologies and relies on a single programming language.

02

MERN's three-layer architecture makes it relatively easy to debug.

03

MERN is easily scalable and a great solution for data-heavy apps.

Instructor Demonstration

Mini-Project