Software Development

MERN and Authentication

Module 18

What is the **MERN Stack?**

What Is the MERN Stack?

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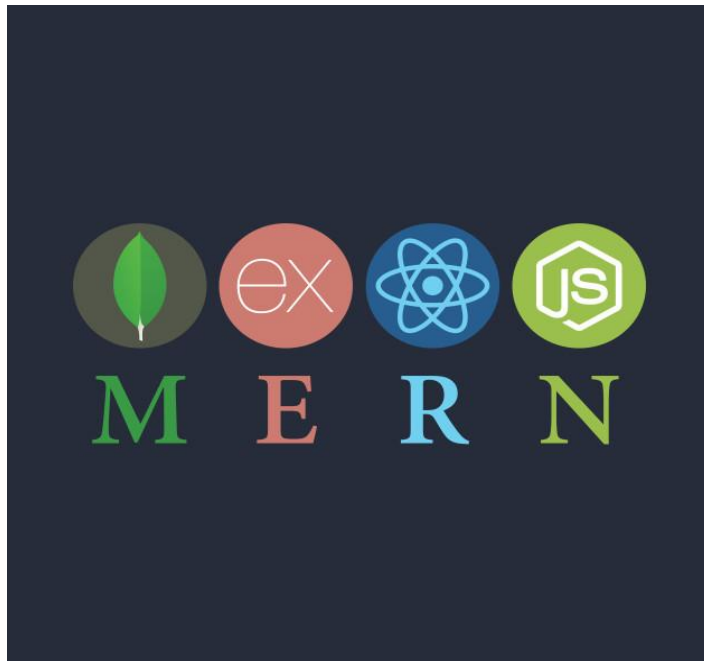
01 MongoDB

02 Express.js
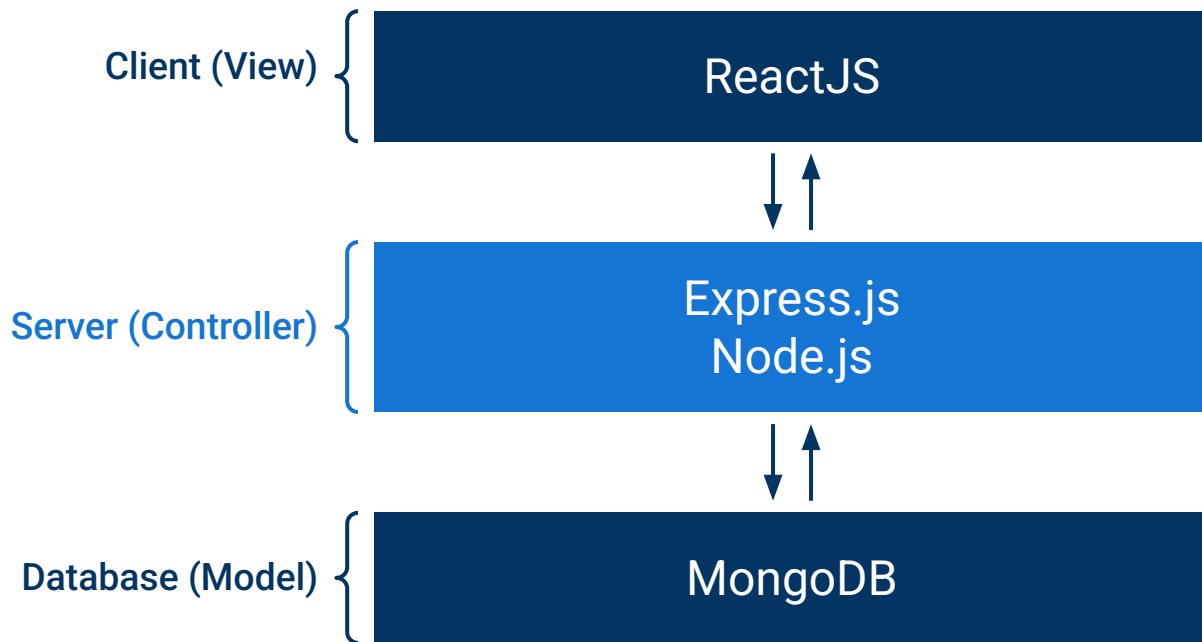
03 ReactJS

04 Node.js

How does the **MERN stack** work?

How the MERN Stack Works

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
Database (Model)	MongoDB

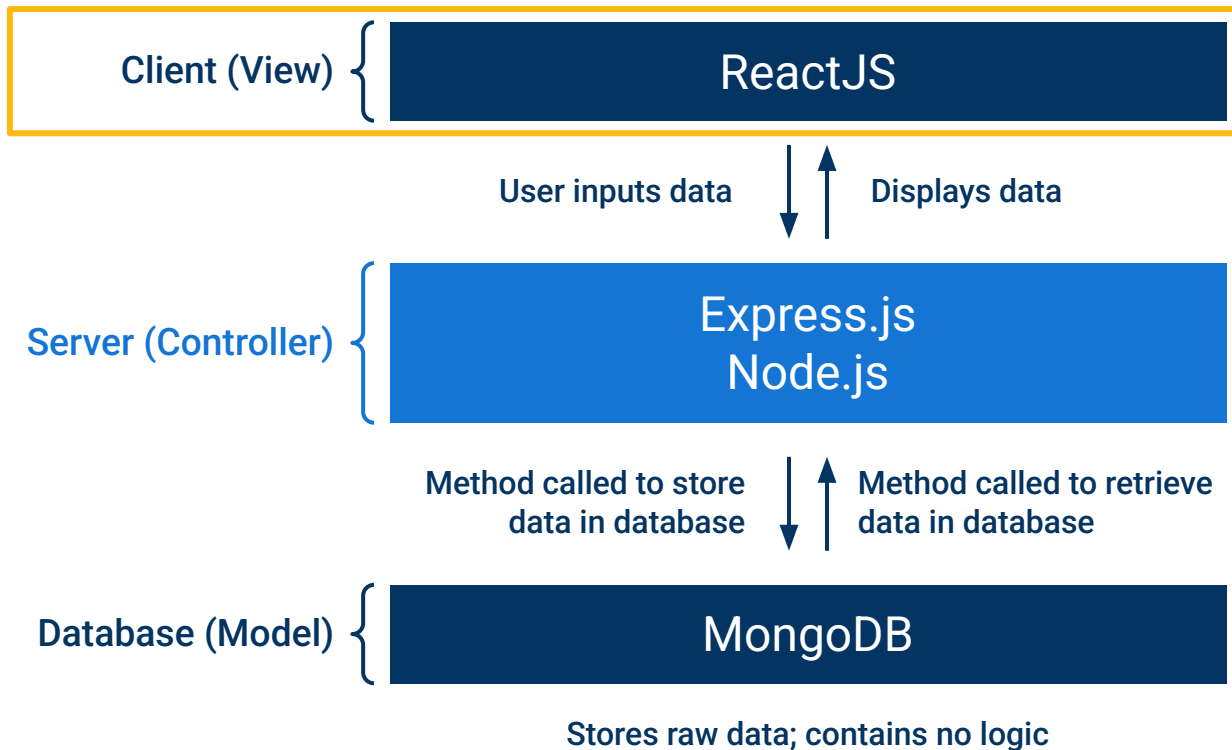What is the **function** of the **client layer?**

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

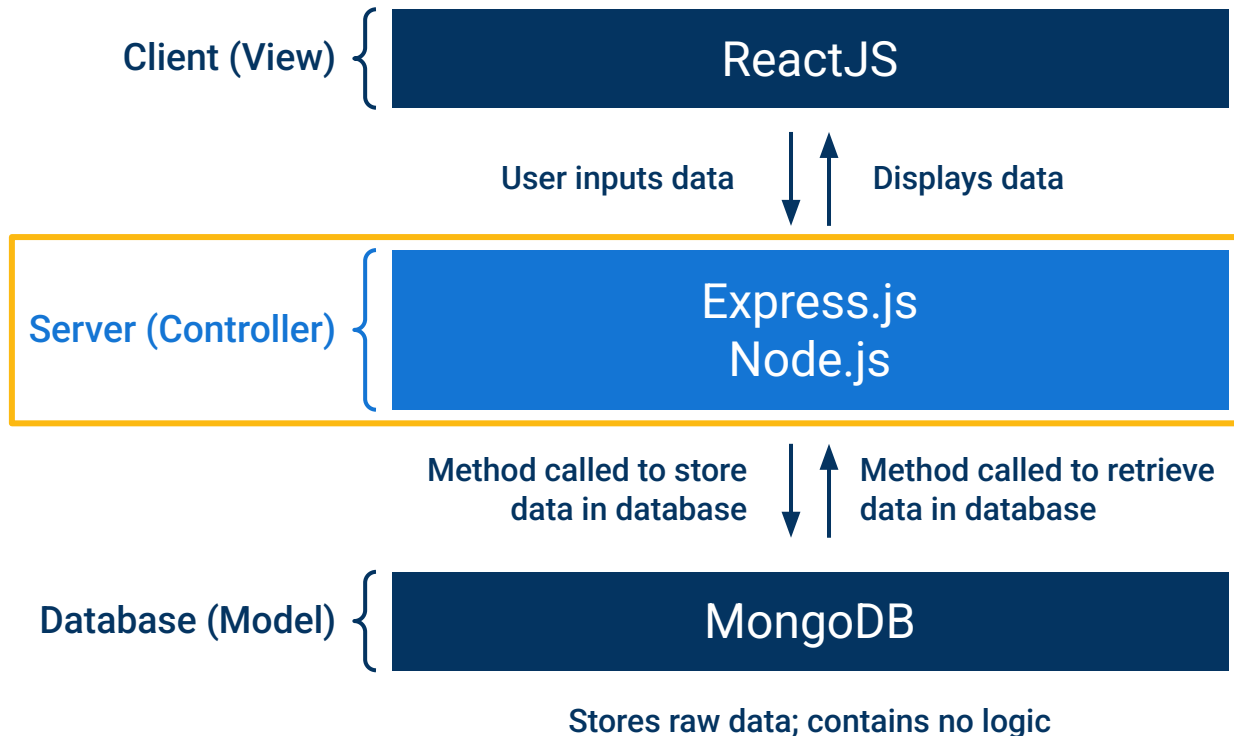What is the **function** of the **server layer?**

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 data between the database and client layers.

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

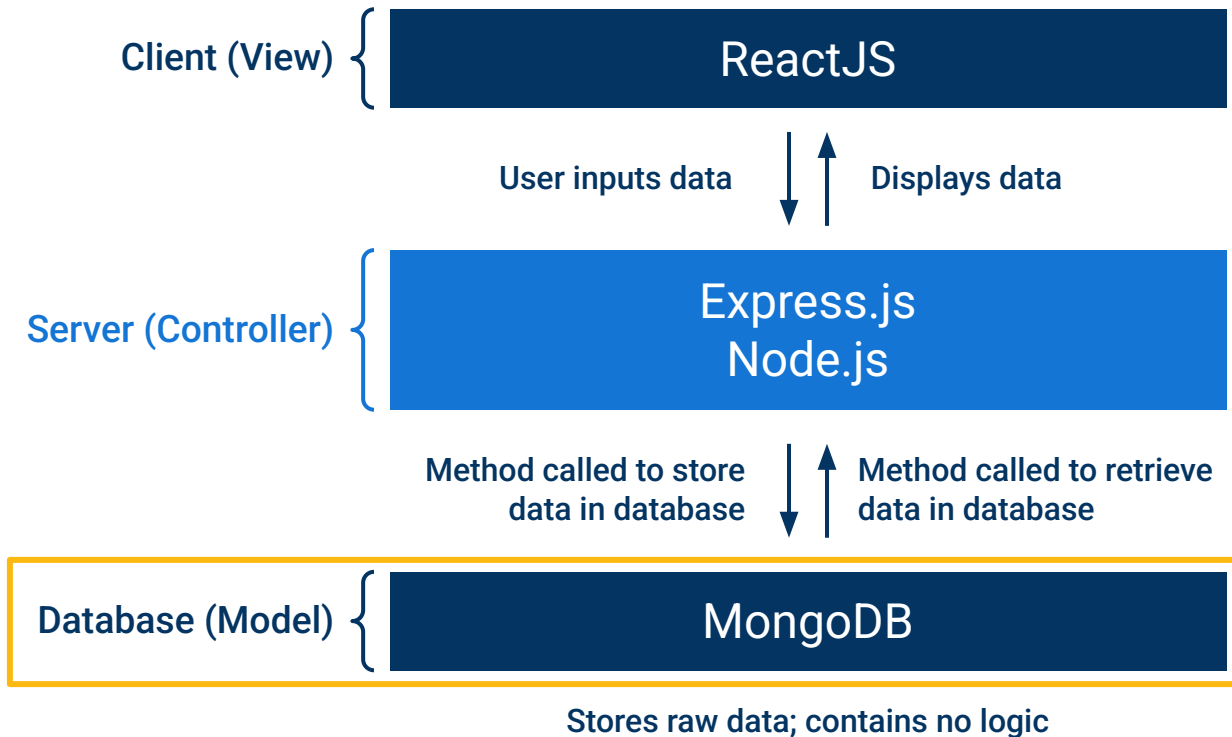What is the **function** of the **database layer?**

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?**

The Use of 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

The three-layer architecture of **MERN** makes it relatively easy to debug.

03

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

Instructor **Demonstration**

Questions?

The End