MERN STACK
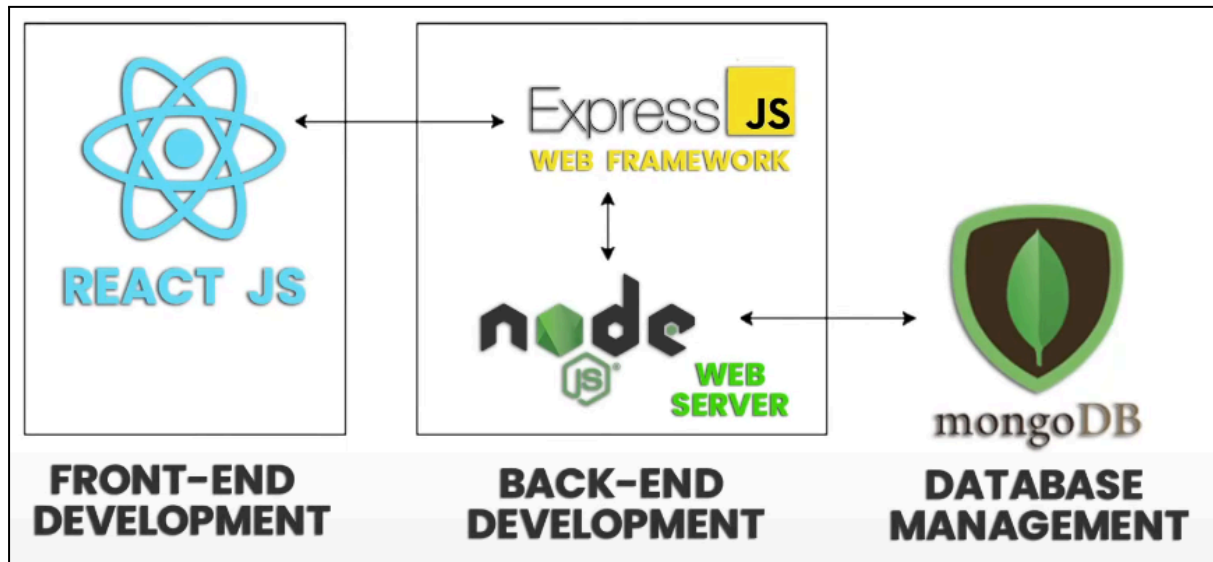
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MongoDB Express.js React.js Node.js

React JS:

- FrontEnd Library
- Reusable Component
- Virtual DOM
  - Programming concept where an idea/virtual representation of a UI is kept in memory and synced with the real DOM by a library such as ReactDOM
  - Keeps UI Components already pre-rendered in memory
  - Therefore makes the website super fast
- Superfast

Node JS:
- JavaScript Runtime built on Chrome V8 Engine
- Scalable Web Server
  - Managing APIs
  - Connecting the Frontend with the database
- Node Package Manager
  - Contains all of the packages that are built with help of node or javascript
- Develop Real Time Systems
  - Eg. Chat Application

Express JS:
- Node JS Framework
- Powerful Routing APIs
- Detailed Documentation
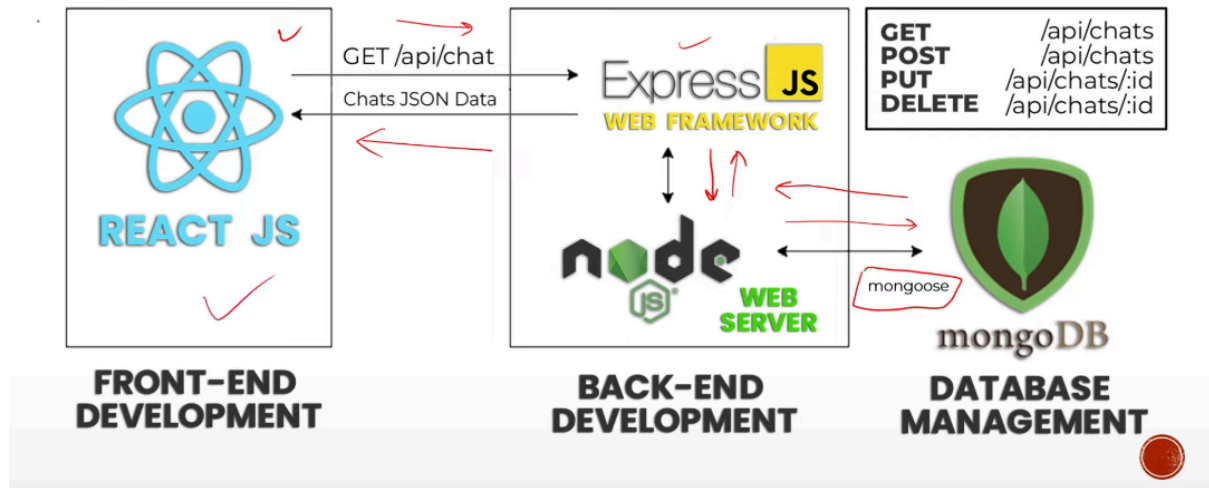- High Performance
- Many third party plugins

Mongo DB:
- Cross Platform, NoSQL and Document-oriented
- Always On
  - Not hosted on server
- Highly scalable
- Flexible Schema

SQL vs NoSQL

	SQL Databases	NoSQL Databases
Data Storage Model	Table with fixed rows and columns	Document: JSON documents, Key-value: key-value pairs, Wide-column: tables with rows and dynamic columns, Graph: nodes and edges
Development History	Developed in 70s with focus on reducing data duplications	Developed in 00s with focus on scaling and allowing for rapid application change driven by agile and DevOps practices
Examples	Oracle MySQL Microsoft SQL Server PostegreSQL	MongoDB CouchDB Redis DynamoDB Cassandra HBase Neo4j Amazon Neptune
Primary Purpose	General Purpose	General Purpose Large amounts of data with sample lookup queries
Schemas	Rigid	Flexible

TYPES OF REQUESTS:

GET:
- Used when we want to get something from the **backend** but **NOT** send to the backend

POST:
- Send something to our backend
  - Eg Create a new chat

PUT:
- Usually used for updating something
- Providing and taking the ID to search in the database and update that particular chat
  - Eg. Update the name of the chat

DELETE:
- Deleting a particular chat or anything in our database