

Introduction to Web Development and the MEAN Stack



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Overview of Web Development

Web development support to create, build, and maintain websites. It also covers database management, web development, web publishing, and web design. It's developing an online application, such as a website.

"web development" is a combination of two words:

- Web: This term describes webpages, websites, and anything that operates online.
- Development: This is the process of creating an application from the ground up.

Classification of web Development

01

FrontEnd Development

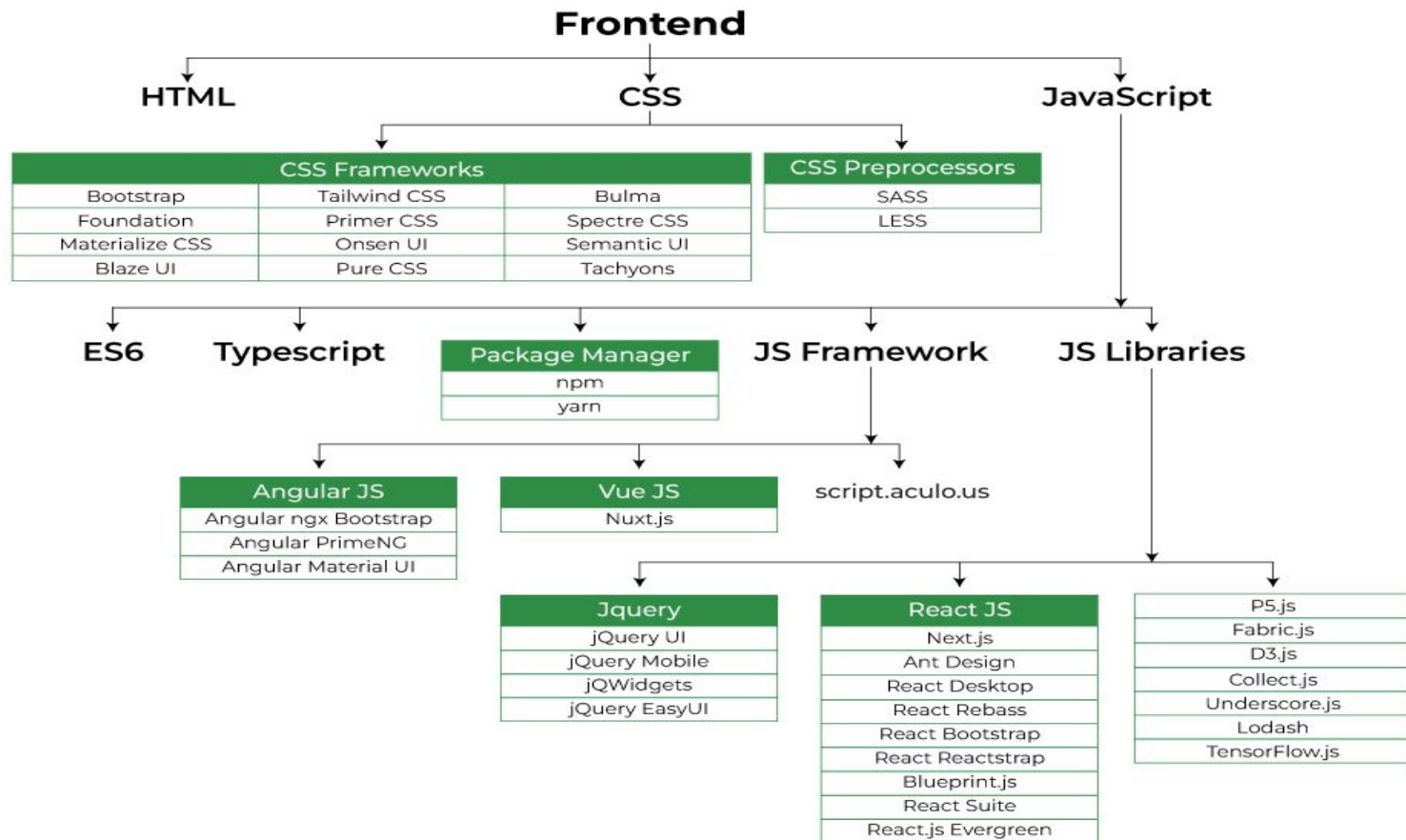
Front-end development, sometimes referred to as client-side development, is concerned with how a website or web application looks and feels to the user. Front-end developers design a website's visual and interactive elements using tools like HTML, CSS, and JavaScript.

02

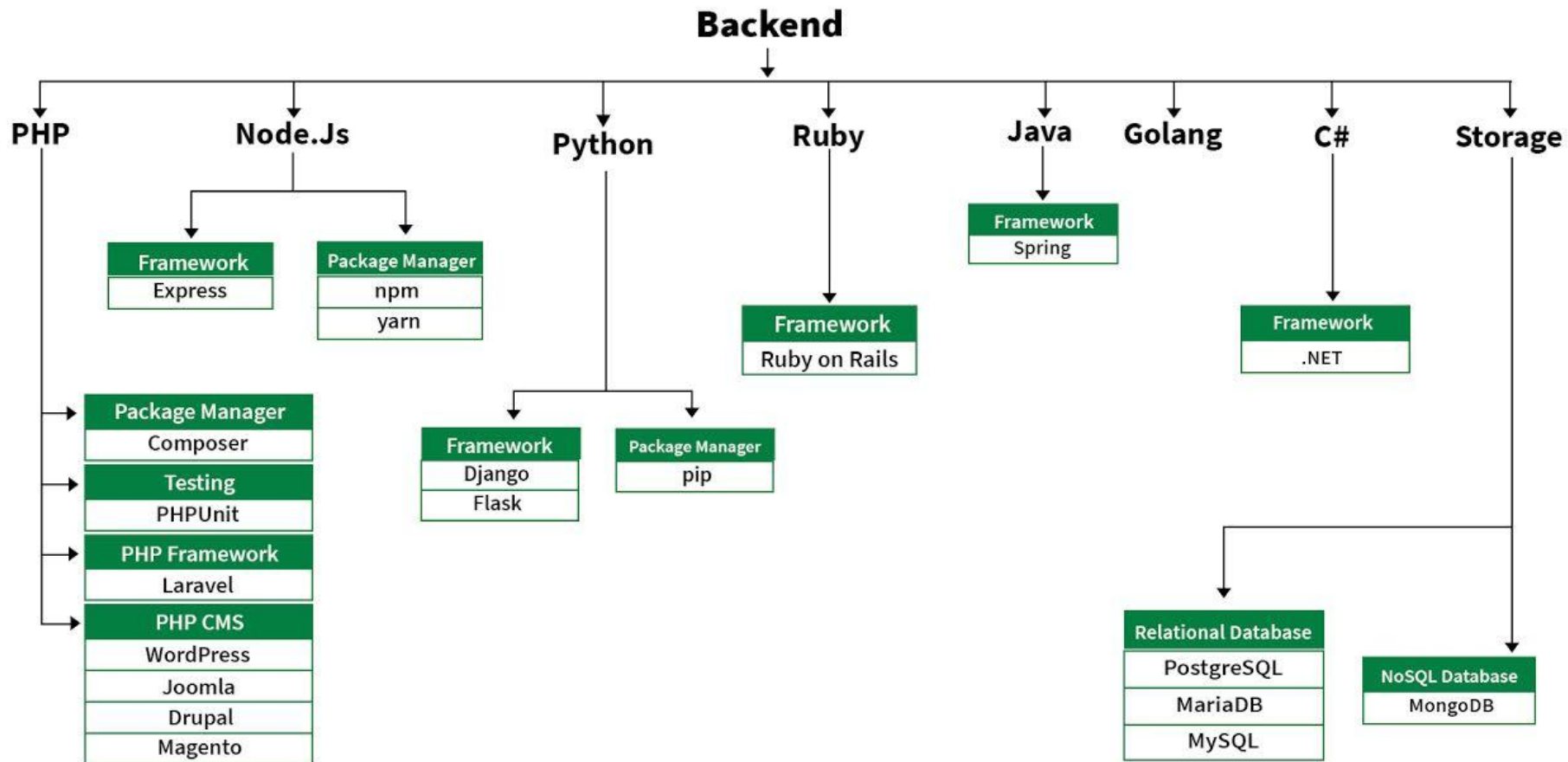
Backend Development

Developing the server and database components that drive a website or web application is known as back-end development, also referred to as server-side development. The logic, data storage, and server communication are handled by back-end developers.

FrontEnd Roadmap

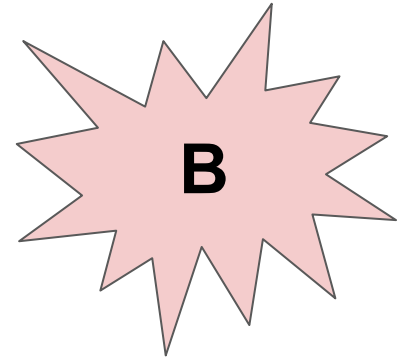


BackEnd Roadmap



Web development is?

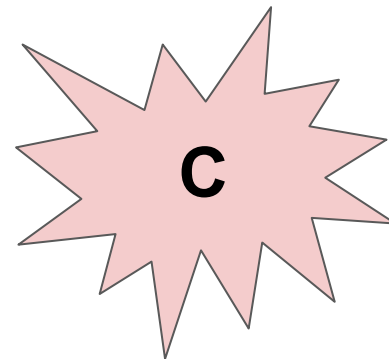
- A) method of creating logos
- b) building and managing websites and web apps
- c) social media marketing
- d) a specific kind of web hosting service



Remember

Which of the following is not a commonly used web development framework or library?

- a) React
- b) Django
- c) MySQL
- d) Angular



Introduction of MEAN stack

Among the most widely used technology stacks is MEAN Stack. It's employed in the creation of Full Stack Web Applications. Despite being a stack of several technologies, they are all built on the JavaScript language.

MEAN STACK



Mongo DB
(database system)



Express
(back-end web
framework)



Angular.js
(front-end
framework)



Node.js
(back-end runtime
environment)

Components of MEAN stack

MongoDB

NoSQL database is MongoDB. It has documents in JSON format. The database is document-oriented.

Requirements for learning MongoDB:

- DBMS
- The drawbacks of the SQL database

Express.js

Built on Node.js, Express is a web framework used to create online applications and APIs.

Required to learn Express are Node.js, JavaScript, and TypeScript.

Angular.js

The Google Team created the open-source front-end framework Angular. Backward compatibility is preserved in the revision of this framework. The Angular team's CLI (Command Line Interface) tool makes it easy to create Angular applications.

TypeScript CSS Preprocessor Template Code (Angular Material, HTML 5, etc.) are prerequisites for learning Angular

Node.js

Javascript Server Side Code is written with Node.js. The fact that the JavaScript code is executed outside of the browser is among its most crucial features. It is open source and cross-platform.

Required to learn Node.js: TypeScript and JavaScript.

Advantages of Mean Stack

JavaScript Everywhere

MEAN is a full JavaScript framework, which means you can use JavaScript for both server-side and client-side development.

This reduces the need to learn multiple programming languages, thereby streamlining the development process.

Simplicity and Consistency

With the MEAN stack, you can use a single language (JavaScript) across the entire development stack.

This results in a more consistent code base and a simplified development process.

Efficiency and Productivity

The MEAN stack simplifies development and reduces the time needed to build and maintain applications.

Using a single language and integrated components speeds up the development process.

Advantages of Mean Stack

Scalability

The MEAN stack is designed to be scalable and can handle high loads, making it suitable for applications with varying levels of traffic and usage.

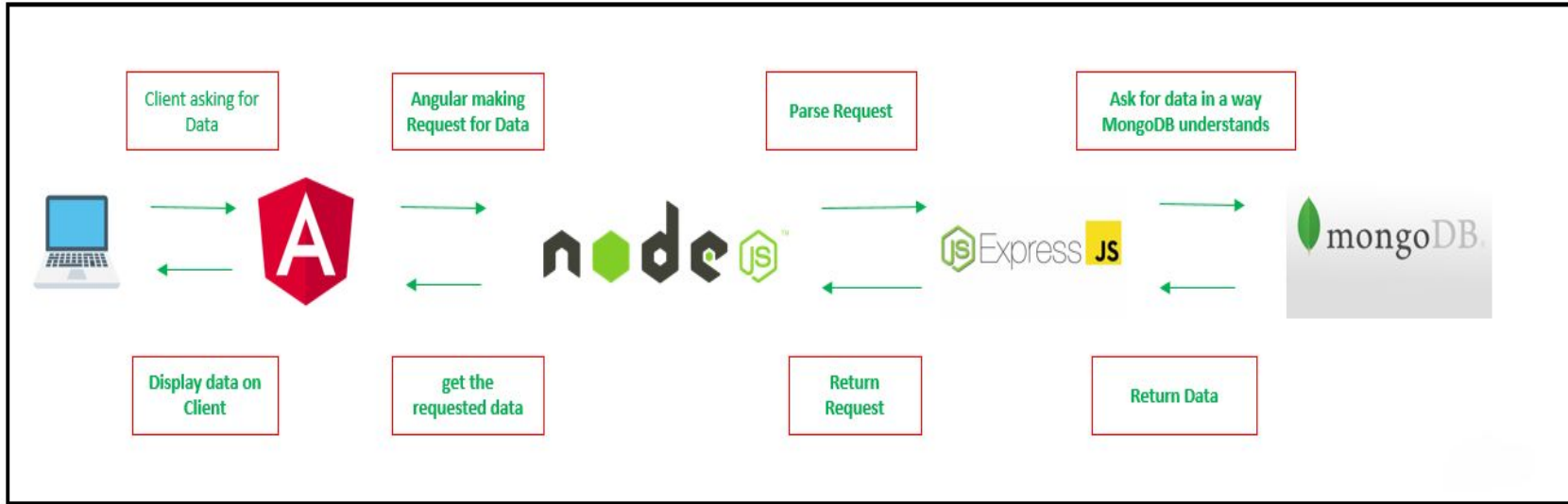
Cross-platform Compatibility

MEAN stack applications can be easily deployed on multiple platforms and environments, including cloud hosting services, which offer flexibility and accessibility.

Open Source

All components of the MEAN stack are open source, which means you can use them without incurring licensing costs.

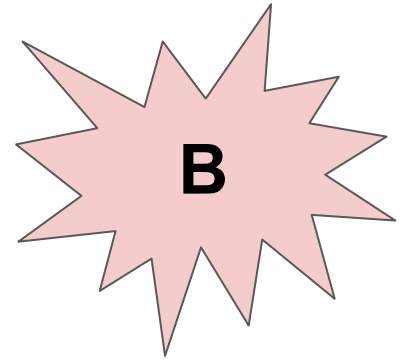
WorkFlow of the MEAN stack application



Understand

What is a NoSQL database system in the context of the MEAN stack?

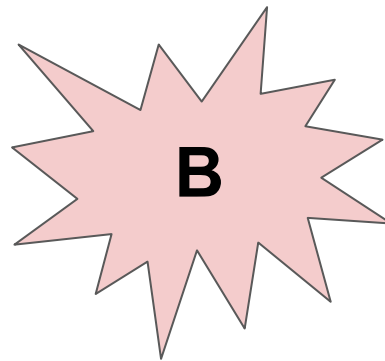
- a) Express.js
- b) Angular
- c) Node.js
- d) MongoDB



Remember

Which order is best for comprehending and learning the components of the MEAN stack?

- a) Node.js, Angular, Express.js, MongoDB
- b) MongoDB, Node.js, Express.js, Angular
- c) Angular, Node.js, Express.js, MongoDB
- d) Express.js, MongoDB, Angular, Node.js



Setting Up The Development Environment

Prerequisites

Install MongoDB

Installing MongoDB will be necessary before you can begin working with the MEAN stack to develop. MongoDB is available for download and installation on their official website. After installation, MongoDB can be used to manage and store the data for your application.

Setting Up The Development Environment

Prerequisites

Configuring Express.js

- The next step is to configure Express.js, which is the MEAN stack's web application framework.
- The Node Package Manager (npm), included with Node.js, is used to install Express.js.
- You can make a new Express.js application and set it up to meet the needs of your project.

Setting Up The Development Environment

Prerequisites

Setting Up AngularJS

You can download the AngularJS library from their website or utilize a Content Delivery Network (CDN) to reference it in your project if you want to use AngularJS. Once integrated, AngularJS may create dynamic and interactive web interfaces.

Setting Up The Development Environment

Prerequisites:

Installing Node.js

- You must install Node.js to execute your application, as it is a crucial part of the MEAN stack. The most recent version of Node.js is available for download and installation on their official website.
- Once installed, you can run your server-side JavaScript code and launch your MEAN stack application using Node.js.

Creating a Simple MEAN Stack Application

Plan and Design the Application

Create The Backend with Node.js and Express.js

Implement the Frontend with Angular JS

Integrate with MongoDB to perform Database Operations

Deploy the Mean Stack Application



First choose the hosting provider



Deploy the application on server



Scal the application for high traffic



Thank You