



M C A

Advanced Web Application Development

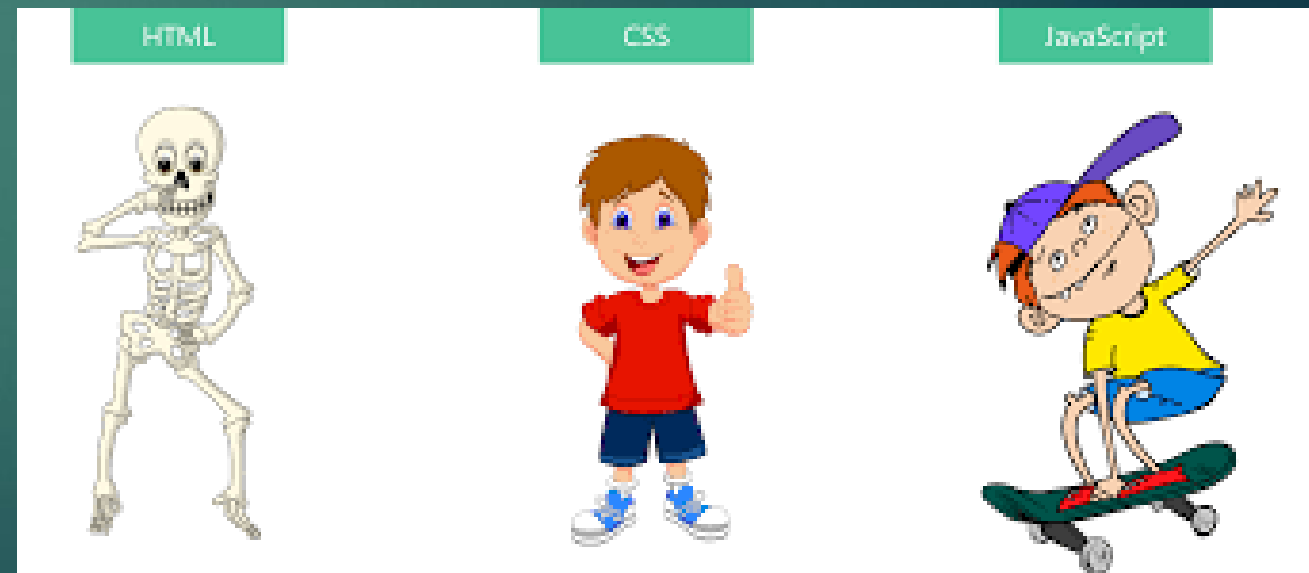
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Introduction to web technologies

HTML + CSS + Javascript

Introduction





HTML means Hyper Text Markup Language.

The HTML allow us to construct the visible part of a website.

HTML is NOT a programming language, it's a markup language, which means its purpose is to give structure to the content of the website.

CSS stands for Cascading Style Sheets

CSS is the language we use to style an HTML document.

CSS describes how HTML elements should be displayed.

Java Script

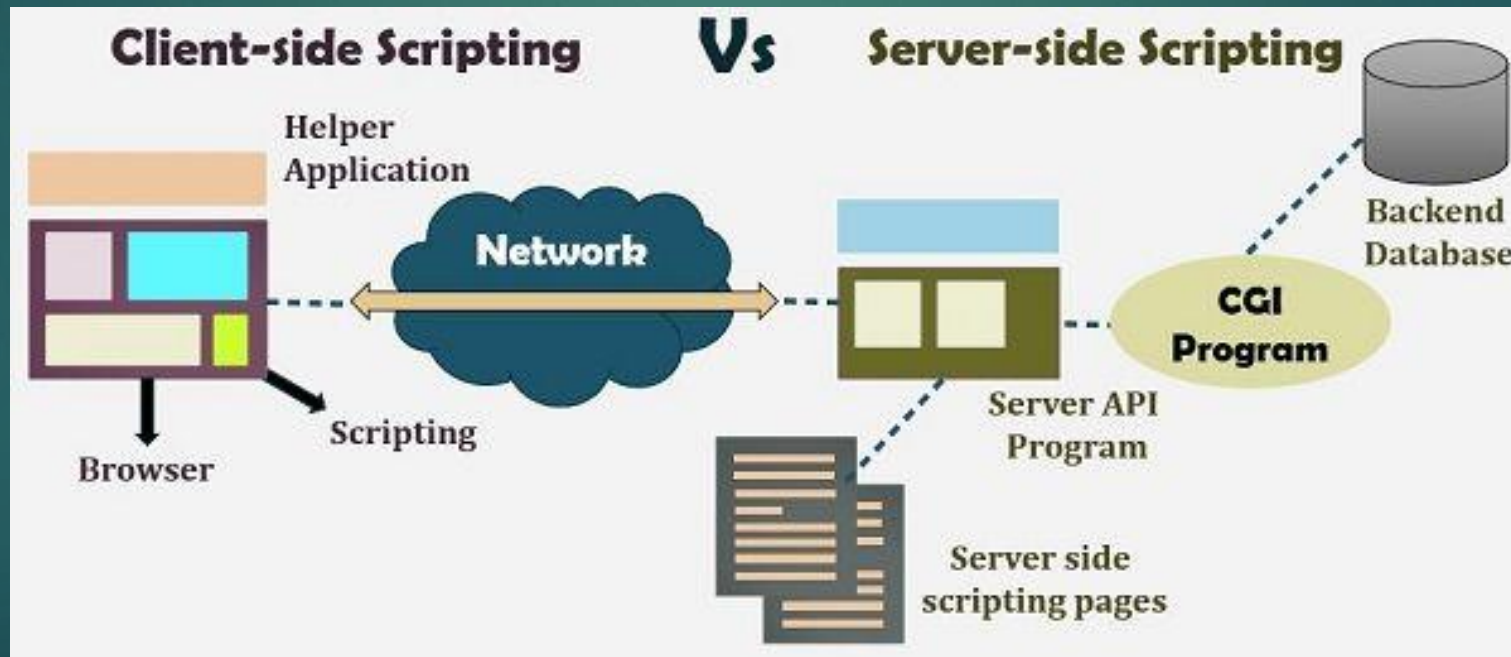


JavaScript is an open-source and most popular scripting language supported by all browsers.

JavaScript is mainly used for enhancing the interaction of the webpage with users by making it more lively and interactive

Why learn JavaScript Programming Language?

JavaScript is the most popular client-side programming language which is widely used for web application development



What is a framework

A framework is a **standardized set of concepts, practices and criteria for dealing with a common type of problem**, which can be used as a reference to help us approach and resolve new problems of a similar nature.

In the world of web design, to give a more straightforward definition, a framework is defined as **a package made up of a structure of files and folders of standardized code (HTML, CSS, JS documents etc.)** which can be used to support the development of websites

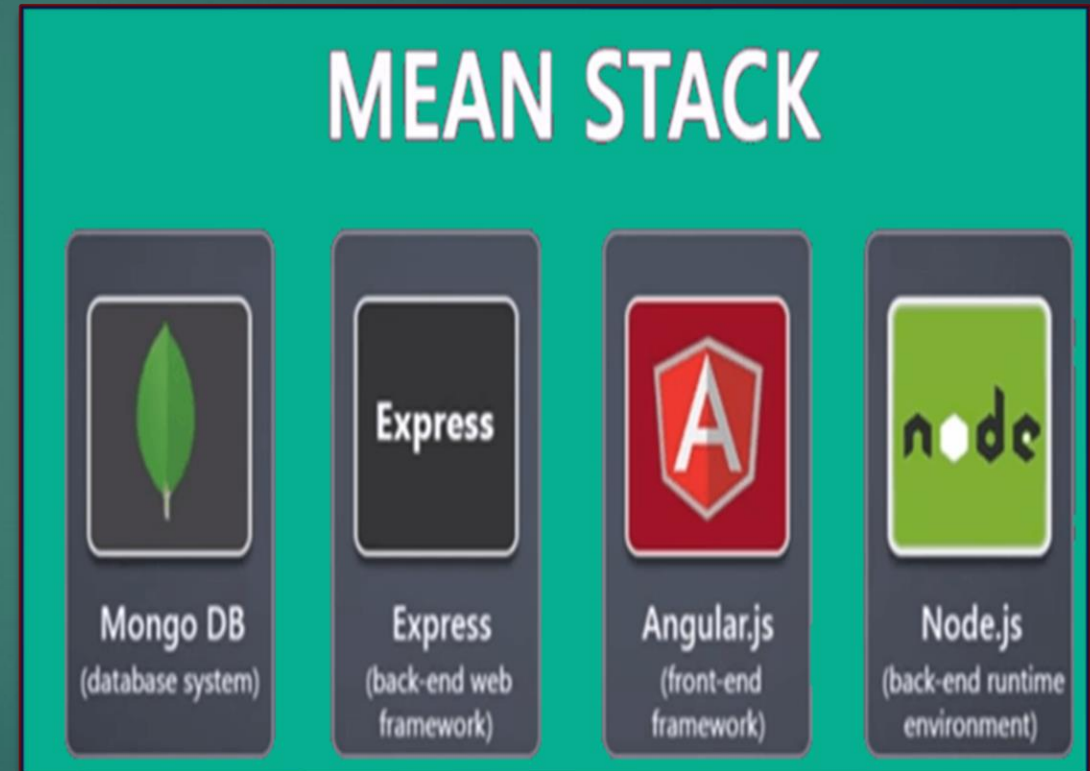


Unit-1

- MongoDB – Document database
- Express(.js) – Node.js Web framework
- Angular(.js) – Client-side JavaScript framework
- Node(.js) – JavaScript web server

The Four key technologies that make up the layers of MEAN

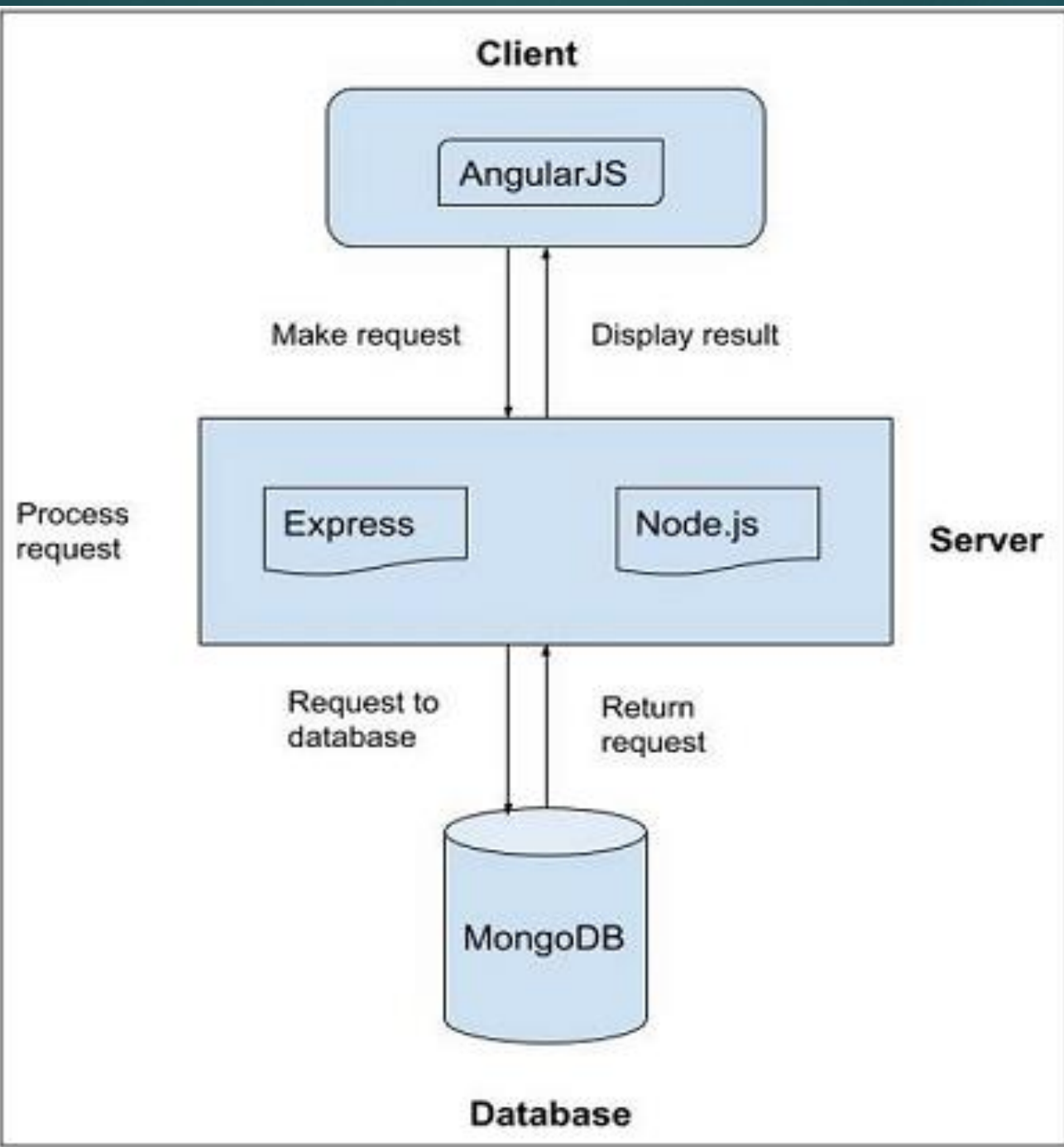
- MongoDB – document database
- Express.js – Node.js web framework
- Angular.js – a client-side JavaScript framework
- Node.js – the premier JavaScript web server



MEAN is an open source JavaScript framework, used for building dynamic websites and web applications.

It includes following four building blocks to build an application.

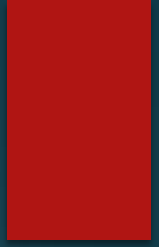
MEAN is named after MongoDB, Express, Angular, and Node,



- MongoDB – It is a document database, that stores data in flexible, JSON-like documents.
- Express – It is web application framework for Nodejs.
- Node.js – It is Web Server Platform. It provides rich library of various JavaScript modules which simplifies the development of web applications.
- AngularJS – It is a web frontend JavaScript framework. It allows creating dynamic, single page applications in a clean Model View Controller (MVC) way.

MongoDB

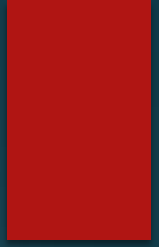
- In *MEAN* acronym, M stands for MongoDB, which is an open source NoSQL database that saves the data in JSON format. It uses the document oriented data model to store the data instead of using table and rows as we use in the relational databases. It stores data in binary JSON (JavaScript Serialized Object Notation) format to pass the data easily between client and server. MongoDB works on concept of collection and document. For more information, refer to this link [MongoDB](#).



- E stands for Express, which is a flexible Node.js web application framework used to make development process easier.
- It is easy to configure and customize, that allows building secure, modular and fast applications.
- It specifies the routes of an application depending on the HTTP methods and URLs. You can connect to databases such as MongoDB,

Angular.js Front End

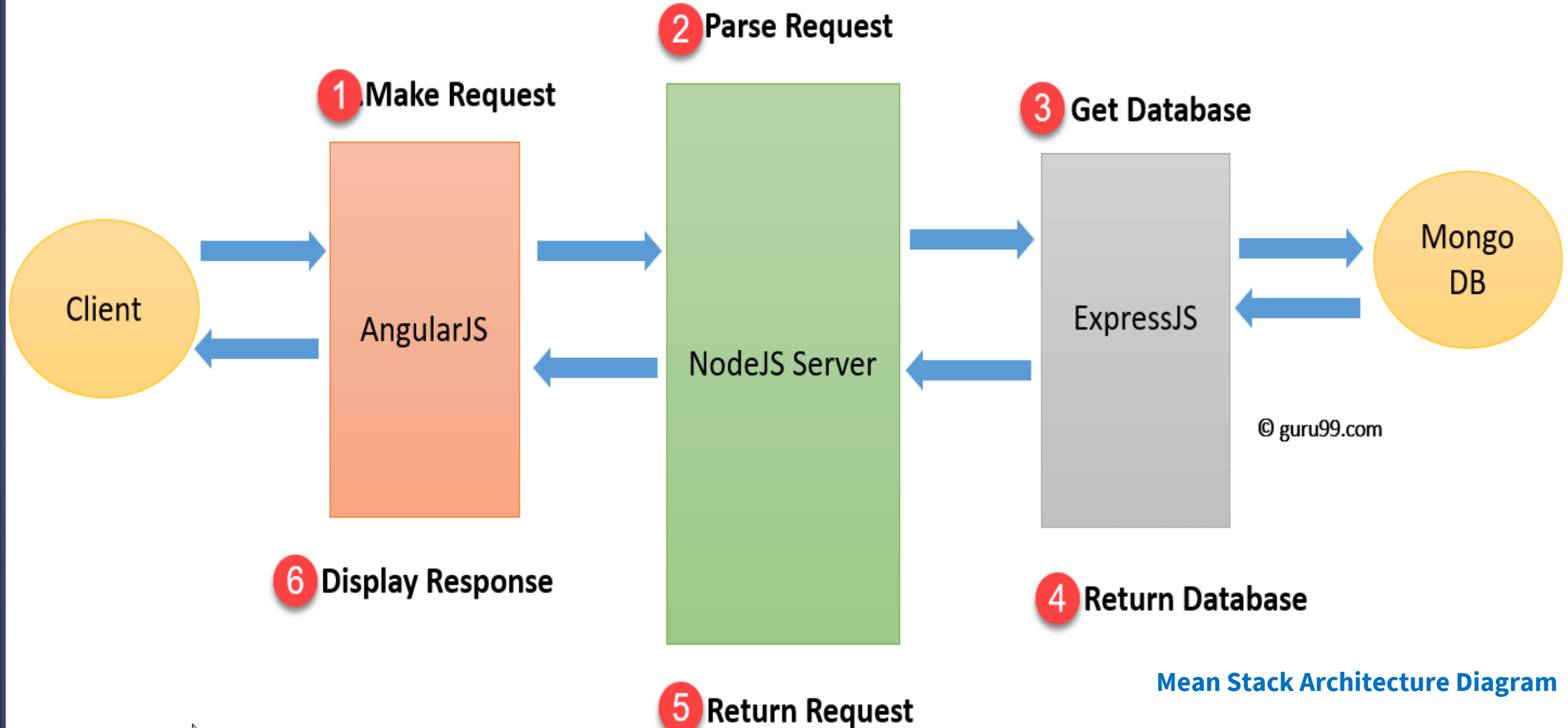
- In MEAN acronym, A stands for AngularJS, which is a web frontend JavaScript framework. It allows creating dynamic, single page applications in a clean Model View Controller (MVC) way.
- AngularJS automatically handles JavaScript code suitable for each browser..



In MEAN acronym, N stands for Node.js, which is a server side platform used for development of web applications like video streaming sites, single-page applications, and other web applications.

It provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent. It is built on Google Chrome's V8 JavaScript Engine

Mean Stack Architecture



Mean Stack Architecture Diagram

Mean Stack Architecture

1. Firstly, the client makes a request which is processed by the AngularJS.
2. After that, the request moves to NodeJS which will parse the request.
3. ExpressJs will make calls to MongoDB to get or set data.
4. MongoDB will retrieve the requested data and return that request to the Express JS.
5. NodeJS will return the request to the client.
6. At the client side, AngularJS to display the result fetched from MongoDB.



MCQs

- What are the key features of Node.js?
- A Real time Data intensive
- B Highly scalable servers for Web Applications
- C Builds fast and scalable network Applications
- D All of the above

MCQs

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- A. Real time Data intensive
- B. Highly scalable servers for Web Applications
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Which of the following are the core features of the Express framework?

1. It allows us to set up middleware to respond to HTTP Requests.
2. It defines a routing table that can work as per HTTP Method and URL.
3. It is used to render the HTML pages dynamically.
4. All of the above.

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MCQs

Which of the following statement is correct?

1.js is Server Side Language.

2.js is the Client Side Language.

3.js is both Server Side and Client Side Language.

4.None of the above.

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Design, develop and deploy large web applications with current Popular technologies

Web frameworks using Node are "right way" to handle any Particular task.

Summary



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