# MEAN Stack

## What is MEAN Stack?

MEAN is a user-friendly full-stack JavaScript framework ideal for building dynamic websites and applications. The origin of this word is the abbreviation series of the following words:

**M**ongoDB, **E**xpress, **A**ngular and **N**ode.js

**Technologies Covered:**

A screenshot of a cell phone

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One of the main benefits of the MEAN stack is that a single language, JavaScript, runs on every level of the application, making it an efficient and modern approach to web development.

MEAN variants can be mentioned as MERN, MEVN, ... (using React, VueJS instead of Angular).

## MEAN workflow

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In the MEAN stack, **MongoDB** stores the application’s data. Because both the application and the database use JavaScript, there’s no need to translate the object as it journeys from the application to the database and back.

**Express** is a web application framework for Node.js. It balances ease of use and a full feature set.

**AngularJS**—Google’s JavaScript frontend framework—The MEAN stack includes AngularJS to help developers build the user-facing side of the application. Because the backend, frontend and database are all built on JavaScript, there’s a smooth flow of information between all parts of your application.

**Node.js** is the backbone of the MEAN stack. Express is purpose-built to work on top of Node.js, and AngularJS connects seamlessly to Node.js for fast data serving. Node.js comes complete with an integrated web server, making it easy to deploy your MongoDB database and application to the cloud.

# Angular

## What is Angular?

AngularJS is a JavaScript-based open-source front-end web framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–viewmodel (MVVM) architectures, along with components commonly used in rich Internet applications.

Currently, AngularJS has been killed by Google. Instead, Google announced a framework called Angular with the same architecture but using the Typescrypt language.

## Typescript

TypeScript is an open-source programming language developed and maintained by Microsoft. It is a strict syntactical superset of JavaScript and adds optional static typing to the language.

It can be considered an enhanced version of Javascript by adding static type options and object-oriented classes that are not available in Javascript. TypeScript can be used to develop client-side applications (Angular2) and server-side (NodeJS).

Actually, TypeScript was not first, there were some libraries like CoffeScript, and Dart developed by Google, but the weakness is that these two libraries use completely new syntax, which is completely different. with TypeScript, so though it was born later, TypeScript is still well received by developers.

## Advantages of TypeScript

* Easy to develop large projects: With the use of the latest techniques and object-oriented programming, TypeScript helps us develop large projects easily.
* Support for the latest Javascript features: TypeScript ensures full use of the latest Javascript techniques, such as the current version is ECMAScript 2020 (ES2020).
* Open source: TypeScript is open source so you can use it for free, and it is supported by the community.
* TypeScript is Javscript: The nature of TypeScript is that the compiler generates javascript code, so you can run anywhere as long as it supports JavaScript compilation. Alternatively, you can mix JavaScript syntax into TypeScript, which makes it easier for developers to access TypeScript.

# Node.js – Express

Express.js, or simply Express, is a web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js. It provides powerful features for web or mobile development. Expressjs supports HTTP and midleware methods, making the API extremely powerful and easy to use.