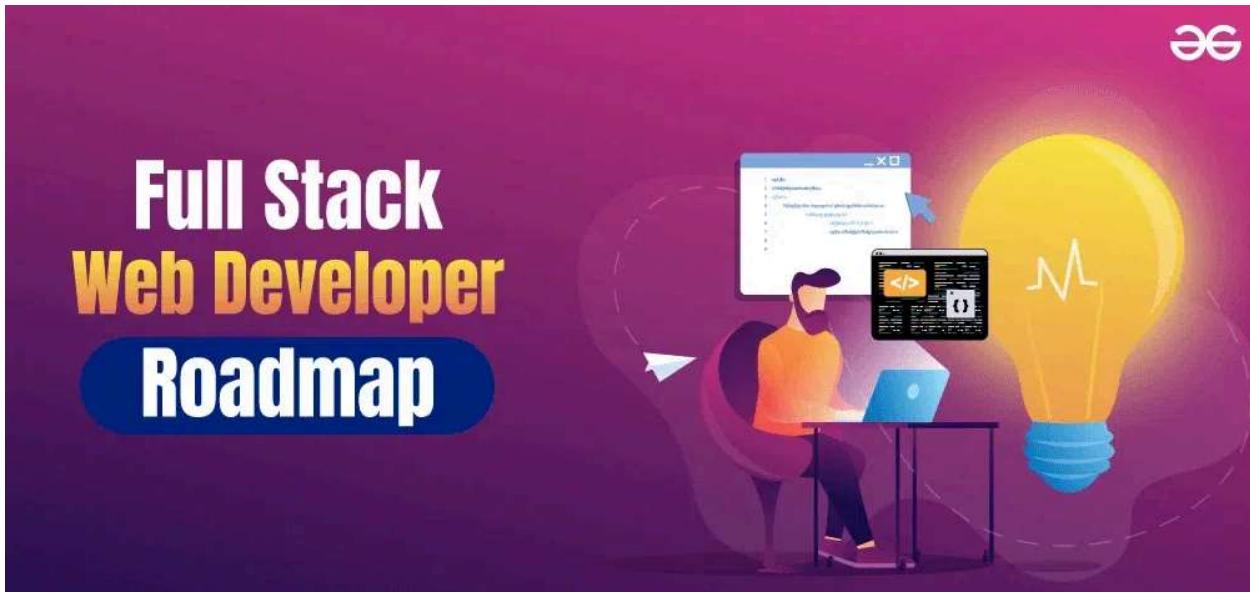




Full Stack Developer Roadmap [2025 Updated]

Last Updated : 27 Nov, 2024

Web Developer/ Full Stack Web Developer - How do you feel when you tag yourself with such titles? A long journey takes place to be called by such names. In the beginning, you might feel bored or terrified, but, trust me, this is the most popular and interesting field one should work on. You can also **become a web developer** provided you know why you want to learn it and you have a **Full Stack Development Roadmap**. According to a study, there are **approximately 26 million software developers worldwide** and the population growth is going to increase day by day. Now if you don't **know about web development**, no worries! All your doubts will be cleared here.



Who's a web developer? Those websites which you scroll to are created by none other than web developers. A person who creates amazing websites for businesses and startups. A **full-stack web developer** looks

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Full Stack Developer Roadmap

Web developers are **highly paid** professionals. Most Software Developers work as Web Developers. MNCs also hire professionals/freshers based on their interest in web development. No matter what the situation would be web developers will always be in demand and for this, you don't have to care whether it's WFH (Work From Home) or WFO (Work From Office). Full stack developer job requires dedication, patience, and eagerness to learn every day and play with technology. From Big MNCs to startups, everyone needs web developers to see growth in their business. But before we start this journey, you all should have a clear idea of **why do you want to be a web developer**.

Find reasons for it! You should be eager and curious as well to dive deep into it to **become a successful web developer**.

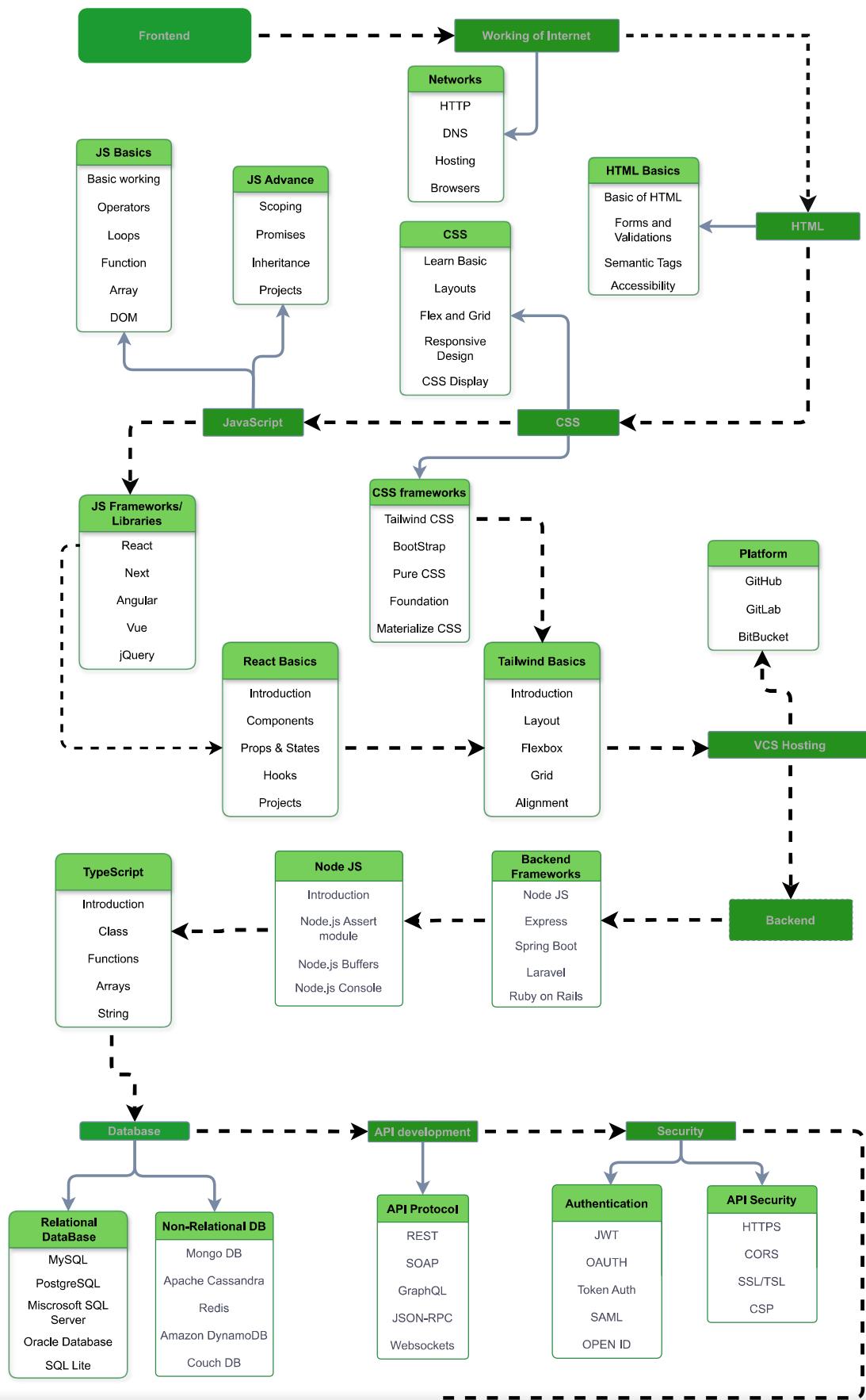
In this blog, we will discuss the Web Development Roadmap. Let's begin!!
Here's a step-by-step process:

1. *Choose a technology on which you want to work*
2. *Frontend Development*
3. *Backend Development*
4. *Database*
5. *Version Control System*
6. *Build Projects*

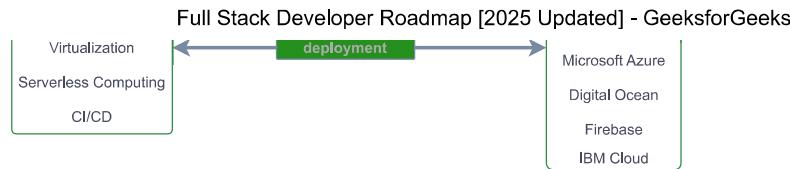
1. Choose a Technology

Full-stack development comprises **front-end, back-end, and database management**. Choosing a technology on which you want to work depends on individuals, requirements, and applications. Few technologies on which you can work and are trending:

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1.1 MERN

The most popular and trending technology is [MERN](#).

- ***MongoDB*** - A NoSQL database that deals with data.
- ***Express*** - A framework for NodeJS and handles GET, PUT, POST, and DELETE functions.
- ***React*** - A JavaScript library for building User Interfaces, building single-page applications.

Full Stack Course HTML CSS JavaScript TypeScript jQuery AngularJS ReactJS Next.js React

1.2 MEAN

The major difference between MERN and MEAN is **MERN (written in JavaScript) works on React whereas MEAN deals with Angular (a framework written in TypeScript)**.

Since these are the technologies you have to work on. Now, you have a choice whether you want to work on MEAN or MERN, the only difference is in React and Angular. But all the other technologies are common.

2. Frontend Development

The first thing in Full Stack Development Roadmap is Frontend. Front-End is the UI (User Interface), it deals with the website's overall appearance, on how interactive and dynamic it is. For mastering it, get clear with all the elements of HTML, CSS, and JavaScript.

2.1 HTML (HyperText Markup Language)

HTML is a standard language that is used to create the structure of our website using tags. Start with the basic application of [HTML](#) by creating a

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catching which in return makes your work efficient. *Click [here](#) to read about the conventions and best practices of HTML.*

You should learn at least these below concepts before moving on to the next step:

- [HTML Basics](#)
- [Semantic and Non-Semantics](#)
- [HTML Tags](#)
- [HTML Forms](#)
- [HTML Lists](#)
- [HTML Tables](#)
- [HTML Attributes](#)
- [HTML Graphics](#)
- [HTML APIs](#)
- [HTML DOM](#)
- [HTML Audio/Video](#)
- [HTML 5](#)
- [HTML 5 MathML](#)

You can learn complete HTML, by clicking on this link - [HTML Tutorial](#)

2.2 CSS (Cascading Style Sheets)

CSS is the very next step in this guide for Full Stack Developer Roadmap. If you're a person who loves creativity, you must go through CSS. Using [CSS](#), you can add colors to your website, give borders to the headings or paragraphs, build the navigation bar, play with the icons, font, and text, and many more things like that. Make the website responsive i.e., how it looks on different screen sizes. Basically how you want your website to look depends on the use case of CSS in it.

You should learn at least these below concepts before moving on to the next step:

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- [CSS Height and Width](#)
- [CSS Align](#)
- [CSS Lists](#)
- [CSS Tables](#)
- [CSS Flex](#)
- [CSS Grid](#)
- [CSS DropDown](#)
- [CSS Z-index](#)
- [CSS Box-Model](#)
- [CSS Transitions](#)

Now Developers generally choose any framework like Tailwind CSS or Bootstrap after learning CSS, which ease their work.

Bootstrap-The most popular and beginner-friendly CSS framework used is **Bootstrap**. It will ease your work of CSS and help in creating better websites with its ids and classes. Some of the Must Known Bootstrap Concepts are:

- [Container in Bootstrap](#)
- [Bootstrap Tables](#)
- [Bootstrap Button](#)
- [Bootstrap Spinners](#)
- [Bootstrap Cards](#)
- [Bootstrap Navigation Bar](#)
- [Bootstrap Carousel](#)

To Learn to Complete Bootstrap, refer to this article- [Bootstrap](#)

Tailwind CSS-You can also use the Tailwind CSS framework, depending on your personal choice, and these are the must-do concepts of Tailwind CSS

- [Introduction to Tailwind CSS](#)

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- [Tailwind CSS Borders](#)
- [Tailwind CSS Alignment](#)
- [Tailwind CSS Spacing](#)
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- [Tailwind CSS Tables](#)
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- [Tailwind CSS Transforms](#)
- [Tailwind CSS Interactivity](#)
- [Tailwind CSS SVG](#)

To Learn to Complete Tailwind CSS, refer to this article- [Tailwind CSS](#)

After learning any one of these frameworks you can now move on to the very important part of Web Development, which is JavaScript.

2.3 JavaScript

This is the programming language of the web. This is the language that our browser understands, from here our main Development starts, it is used to make our content dynamic and more interactive. It allows developers to handle dynamic events, manipulate data, and interact with the server. To create the best user experience you have to make your website more dynamic and for that, you have to implement [JavaScript](#) properly.

Below are the most known topics to learn

- [JS Basics](#)
- [JS Operators](#)

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- [JS String Methods](#)
- [JS Math Object](#)
- [JS Date Object](#)
- [JS Boolean and DataView](#)
- [JS Form](#)
- [JS Advance](#)
- [DOM](#)

Note: Learn about **DOM (Document Object Model), and API (Application Program Interface)** properly.

To learn JavaScript in-depth, Checkout this course- [JavaScript](#)

2.4 Frameworks

It is a platform for building software applications. It includes programs, code libraries, and compilers which when brought together enable the development of a project or system. These frameworks make components reusable. But before learning these frameworks you should have the above prerequisites of HTML, CSS, and JavaScript. After learning these prerequisites, your journey of learning any front-end library or framework will become very easy.

You can choose any of the frameworks but should learn the most known topics cover in this article.

Examples of frameworks are - **React, Angular, Vue**, etc.

React- It is a library of JavaScript that is used to make single-page front-end web applications of websites. It is a component-based library and after using this your website looks very pleasing. To learn React, you should have knowledge of JavaScript and for that, you can refer to this article- [Top 12 JavaScript Concepts to Know Before Learning React](#)

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- [React Components](#)
- [React Props & States](#)
- [React Hooks](#)
- [React Apps](#)
- [React Advance](#)

And for more details, you can refer to this article- [ReactJs Roadmap](#)

AngularJs - It is a framework of JavaScript which is used for frontend development, it is created by Google and is widely used in the industry. If you are learning AngularJs, then below are the must known topics to cover while learning it.

- [AngularJS Basics](#)
- [AngularJS Directives](#)
- [AngularJS Filters](#)
- [AngularJS Converting Functions](#)
- [AngularJS Comparing Functions](#)
- [AngularJS Other Functions](#)

To learn, complete AngularJs, refer to this article- [AngularJs](#)

After learning frontend, you are ready to apply for front-end developer jobs, and for full-stack developers! you have to follow this path continuously till last, and moving on to the next step in this roadmap, we have Backend development.

3. Backend Development

The code that runs on the server, has logic to send the appropriate data from the client and receive it from the server. Also, it includes the database which stores all of the data of the application. It consists of three parts: **a server, an application, and a database**. Here, the code written by

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Skills you need to have to back-end developer: programming languages, frameworks, databases, servers, and API (Application Program Interface).

3.1 Programming Languages

Back-end developers should know at least one of the programming languages like [Java](#), [Python](#), and [JavaScript](#). JavaScript would be the best choice as this can be used in both the front-end and back-end, also the most known concepts of JavaScript are discussed in the article above. And after learning the language we have to choose a framework, and in the case of MEAN and MERN, N- represents the Node.js runtime environment, and E- represents expressJs which is a framework for the backend which is discussed in the next step.

3.2 Frameworks

Frameworks are generally components or functions that are implemented to improve the performance of development. It includes the library of tools and modules that builds the architecture of a website. Several popular back-end frameworks are [Express](#), [SpringBoot](#), [Django](#), [Ruby on Rails](#), etc.

Related Courses:

- Check Out our live [Java Backend course](#) to enhance your skills and gain in-depth knowledge of Java backend development, guided by experts in real-time.
- Join our '[Django Zero to Hero' course](#) to become proficient in Django development, starting from the basics and advancing to expert-level skills with hands-on guidance.

In the case of MEAN and MERN Technologies, we use Node.js runtime environment and expressJs framework.

Node.js: it is a runtime environment that is used to run JavaScript for

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Below are the must-know concepts of Node.js

- [Node.js Basic](#)
- [Node.js Assert Module](#)
- [Node.js Buffer Module](#)
- [Node.js Console Module](#)
- [Node.js Crypto Module](#)
- [Node.js DNS Module](#)
- [Node.js File System Module](#)
- [Node.js Globals](#)
- [Node.js HTTP Module](#)
- [Node.js OS Module](#)

To learn more about Node.Js, refer to this article- [Node.js](#)

Express.js: It is a backend web application framework that is used to build apps with Node.js and interact with the server. It will make our code much easier, short, and simple.

Below are the must known concepts of express.js

- [Express Introduction](#)
- [Express.js Application creation](#)
- [Express.js express\(\) functions](#)
- [Express.js Applications](#)
- [Express.js Requests Functions](#)
- [Express.js Response Functions](#)
- [Express.js Router Functions](#)

To learn more about express, refer to this article- [express.Js](#)

Client-Server Architecture: This architecture is designed to understand the request made and the response received. Whenever there's a request from the client side for data, the server responds to that request. There

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4. Database

The database is a collection of data from which we can manage data (store and retrieve). There are two types of databases: relational (SQL) and non-relational (NoSQL). Some popular databases are:

- **MySQL** - These are relational database management system, store and manages data.
- **MongoDB** - It is a NoSQL database; Finds key-value DB, graph DBs
- **VoltDB** - It follows a relational pattern, they use memory to store data.

In the case of MERN and MEAN Technology, M- represent the MongoDB database, which is very popular due to its feature and functionalities. It is easy to scale.

MongoDB: MongoDB is a NoSQL database that is used in web Development. it is very flexible and has a JSON-like document. It makes very dynamic schemas. Due to its feature, MongoDB is highly scalable and can handle large volumes of data.

Below are the must-know concepts to learn in MongoDB

- [Introduction to MongoDB](#)
- [Installation of MongoDB](#)
- [Basics of MongoDB](#)
- [MongoDB Methods](#)
- [MongoDB Operators](#)
- [Working with Documents and Collections](#)
- [Indexing in MongoDB](#)
- [MongoDB Applications and Projects](#)
- [CRUD in MongoDB](#)

You can also, refer to this article for a brief [introduction to MongoDB](#)

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When certain libraries are added to each application, it gets updated in a period which in turn creates a new version of it. Using Git is a very good practice if you're working on applications. **Git is an open-source platform** where the entire code exists from the initial time. It is secure, flexible, easy to edit, and restores the code. It has repositories where all files including the codebase are saved and one can make changes according to the requirement. Anyone can collaborate and make changes accordingly.

A list of Version Control Systems are:

1. **GitHub**
2. **GitLab**
3. **Beanstalk**
4. **Apache Subversion**
5. **Mercurial**

Git: Git is a widely used version control and code management system to track your changes in a project and manage version history. [Git](#) is a very useful tool for a developer while creating a project. Below are the git command that a full-stack developer should know

- [git init](#)
- [git config](#)
- [git clone](#)
- [git add](#)
- [git commit](#)
- [git push](#)
- [git origin master](#)
- [git fork](#)
- [git rename](#)

For more details, you can refer to this article- [Git Tutorial](#)

Benefits of Version Control:

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- *Saves the changes made.*
- *Provides evidence of all changes made.*
- *Improves performance of web development.*
- *Collaborate and contribute.*

Also, you should have good knowledge of [HTTP/HTTPS](#), [Linux commands](#), and [DSA](#)

6. Build Projects

When you're all done with the theory part, do build some projects to be well-versed in full-stack development. You implement all the front-end, and back-end sides of a project along with database handling, then you get perfect in web development. As you build something, you get familiar with the technical concepts like how APIs connect the front-end to the back-end, how the database manages data, and various other steps followed during web development. Thus, cultivate a habit of building projects to become a successful web developer.

These are some of the projects that you can build after learning the above roadmap technologies, for that you can refer to the below articles

- [12 Best Full Stack Project Ideas](#)
- [Web Development Projects](#)

*Explore this [**Full Stack Development with React & Node JS - Live**](#) course to master Full Stack Development and gain a comprehensive understanding of every concept and topic involved.*

Difference between UI (User Interface) and UX (User's Experience)

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It deals with how the users interact with the product/service. With a click of a button, the page should respond. The collection of framing of each element with which a user interacts with the web page is known as User Interface. **It works on the overall appearance and responsiveness of the website.**

Skills required as a UI designer:

1. *Design principles*
2. *Style guides*
3. *Teamwork and communication skills*

All the elements should be consistent and focus on the visual experience of a website. The responsibilities of a UI designer are - **creating a visualization of screens, presenting ideas and design solutions, and maintaining documentation of style guidelines.**

2. User Experience (UX)

It deals with the user's experience with the product/service. From the initial point to the endpoint, it works on the friendliness of the website. Better the architecture and research of the website better are the UX.

Skills required as a UX designer:

1. *Problem Solving*
2. *Curiosity*
3. *Understand audience mindset*

It adds a connection between users and the business. Creating a wireframe (structural level design of a website) is a task for UX designers. The responsibilities of UX designers are **researching, designing, innovating, and prototyping** for a better user experience.

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from anywhere. It is and will always be the best choice for tech-career growth. Go for it and be a fantastic web developer.

Conclusion

A full-stack developer deals with the frontend and backend part of a web application. From scratch to complete hosting of a project to the internet, all the steps involved in the process come under the full stack development. Frontend contains HTML, CSS, JavaScript, and Frameworks like Angular and React(library) which deal with user interaction to provide a better user interface to interact. On the other hand, the Backend is part of the web application that deals with the logical part and the database, in which we create APIs and request data from the server and get the responses. In this roadmap article, we have discussed all the topics which are needed to become a full-stack developer.

Full Stack Developer Roadmap [2025 Updated] - FAQs

What is Full stack Development?

Full stack development is the practice of building the front-end and back-end of a web application. A front end is a part of the application to which users interact and a backend is part of the application which handles the logical part of the application and does not deal with the users.

What is the role of a Full Stack Developer?

Full Stack Developers are computer programmers that are given responsibilities of managing user interfaces and improving the user experience with the help of frontend and backend technologies.

Can I learn full stack in 3 months?

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roadmap provided in this article and learn the front-end and backend technologies.

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