



Most In-Demand Skills to Become a Full Stack Developer

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Full-stack developers are one of the most trending and responsible sectors in the field of software development. The reason is, that they need to sound knowledgeable in both frontend and backend development and have to be aware of all the tools, and technologies that are being used to create different applications or websites. Besides this, full-stack developers are often responsible for user interface, user experience, and design patterns for a rich customer experience. This is one of the major reasons why they're most popular and in-demand with an average salary bracket of **INR 8LPA – INR 16LPA** and above as per their level of experience.



The urge for full-stack developers was so high during the pandemic that demands couldn't be fulfilled by most countries (that includes the USA) and a recent study suggested that there will be a **20% jump in full-stack developers** in the next upcoming years. But wait, it might sound so fascinating, but is that really easy to get into full-stack development? The answer is no, and as a beginner, you might face certain challenges while trying to get into

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Who's a Full Stack Developer?

Let's break the development into two parts – *Frontend and Backend* development. Why so? Because any application or web development has these two major units to work on any projects.

Where the **front-end developer** works on the wireframe, interfaces, and visual parts of any project. *(usually, they're responsible for "what and how the user has to view the front screen while interacting with the app or web)* and that's why they're known as Front end developers. Whereas, the **back-end developers** are responsible for building logic, and architecture on how the app or web will work *(and that also includes how and where the data will be stored and how it will flow)*, and since they work behind the curtains to create the base that's why they're known as Back end developers.

You may also refer to the links mentioned below if you wish to know more about the front-end and back-end developer:

- [How to Become a Front-End Developer?](#)
- [Back-end Developer Roadmap](#)
- [Roadmap to Become a Web Developer in 2022](#)

Now, let's jump to our agenda and let's discuss some of the most in-demand skills that are required to become a successful full-stack developer.

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From the Front-End's bucket:

1. HTML & CSS

Abbreviated as Hypertext Markup Language, is one of the most common terms that most people might be aware of. HTML is highly used to prepare the structure of any website that we're using today. However, it is mandatory for a full-stack developer to know the technical skills of using [Advanced HTML - Self-Paced](#) whereas [CSS Foundation - Self-Paced](#) or Cascading Style Sheets are generally used to style said HTML documents. In short, they're responsible for making a rich experience and interface of any website. It also describes how and where the elements of an HTML should be displayed (including color, placement, font, etc.) and to make appealing appearances of any webpage.

2. JavaScript

[JavaScript](#) is a lightweight, interpreted programming language that can be used for front-end and back-end development. It brings life to the web pages thus making them interactive and dynamic. It can be embedded with HTML to create a web page. You can build modern web applications using JavaScript and also it is the most used programming language in the world, which is used as a client-side programming language by 97.0% of all websites. This course on [Advanced Javascript-Self Paced](#) provides you with all features of JavaScript and explains all the concepts of JavaScript.

3. Frameworks

You might be well aware of the fact of how important is to get the modules aligned to perform a task and that's why it becomes a necessity for you to know the best and most popular frameworks to back up the front-end part. Besides this, the "frameworks" do help in specifying the set of rules to prepare the blueprint while developing any application so that changes can be made as and when required. Some of the best frameworks are as follows:

- [React](#)
- [Angular](#)
- [Vue.js](#)

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One of the most important factors while developing any software is to choose the platform where it will run. Like if that software (on which you're working) runs locally, then it will require to machine, and eventually, that machine would require an operating system to broadcast its existence. That's why having knowledge of operating systems is the first and foremost thing to do while building any software. There are a few important elements that you need to cater to while working on an operating system, the list entails the following units:

Types of Operating Systems:

- Linux
- macOS
- Windows

Things to Learn in Operating Systems:

- [Memory Management](#)
- [Process & Process Management](#)
- [Inter-Process Communication](#)
- [Threads & Concurrency](#)
- [I/O Management & Scheduling](#)
- [Distribution File System](#)
- [Virtualization](#)

5. Languages to Learn

Besides getting a full-struck command of front-end programming languages, it is still mandatory for you to have knowledge of back-end programming languages. All you need to do is to make sure that learning the following languages that will help you with the functionality in back-end development. Languages along with their frameworks are:

- [Java + Springboot](#)
- [C# + .Net](#)
- [Python + Django](#)
- [Ruby + RubyonRails](#)
- [PHP + Laravel](#)

6. Proficiency in VCS (Version Control System)

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defines how it works as most of the company's workflows are bound within it. That's why it's said that having knowledge of some of the most popular version control systems will solve most of the problems and it's also a platform for developers to interact and discuss their ideas and issues. Some of the best VCs are:

- [GIT](#)
- [GitHub](#)
- [GitLab](#)
- [Apache Subversion](#)

7. Knowledge of Database

Let's say that you're working on any project in an organization and building an e-commerce website. Thus, this would be required for you to have a basic understanding of where and how the data will have to be stored (this is also applicable for applications). This would require you (as a full stack developer) to possess the skillset to write queries so that data can be called when required and for that having knowledge of data structure is one of the major elements if you'd to work on a database. Being a full-stack developer comes with a lot of responsibilities and thus, designing and how manipulating database queries is a must to have. For best practice, you can opt for one of the best courses on [SQL Foundation – Self Paced](#)

However, if you're wondering what kind of database you need to work on, so basically there are two major databases that exist

Relational Database:

- [SQL](#)
- [MySQL](#)
- [PostgreSQL](#)

Non-Relational Database:

- [MongoDB](#)
- [Apache Cassandra](#)
- [NoSQL](#)

You can also refer to our guide i.e. [30 Days of SQL \(Basic to Advanced\)](#)

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there are a number of options available when choosing one, all you need is to know the desired action that you need to incorporate. Some of the best APIs for backend development are:

- [JSON](#)
- [SOAP](#)
- [Firebase](#)
- [Springboot](#)

9. HTTP and REST – for Web Communication

For those who don't know, HTTP or Hypertext Transfer Protocol is responsible for powering up everyday work when required to interact with the internet and thus it's used for data communication over the web. Besides this, it also handles the communication by using requests and responses of both client (web browsers) and server (cloud).

Whereas, REST or Representational State Transfer is basically the standard for architecture that enables systems to communicate within themselves with ease. Besides the fact that it uses HTTP for collecting data to perform operations (different). In other words, it is important for you to have a strong grip on REST to translate between the backend and front end.

10. Testing

A method to execute that decides the success of any software can be simply termed backend testing. Its main objective is to test the application or database layer that ensures that the specific software is free from any deadlocks and data loss can be prevented from it. There are three categories of testing such as structural, functional, and non-functional testing. Some of the best testing tools are:

- Data Factory
- Data Generator
- TurboData

11. Architecture/Design Pattern

By now, you must've understood that full-stack developers are required to have technical

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a basic understanding of architecture so that you would be able to design the pattern by joining all the dots of how the user will interact with any website or applications.

12. Use of Monitoring Tools

While working on any project, especially when is app is ready to push for LIVE, there are certain times when an app gets crashed. That's where the requirement of monitoring rises, and full-stack developers are responsible for monitoring application logs, and server status and should be capable enough to handle any uncertain crashes and to solve any complexity especially when the app is live. Besides this, there are 5 major benefits of using monitoring tools:

1. **To Monitor Infra:** Monitoring servers, containers, etc
2. **Performance Monitoring:** metrics, logs, log monitoring, etc.
3. **End-to-End Monitoring:** To perform monitoring across the environment.
4. **Prevention From Any Crash:** To prevent any crash, and creates easiness for solving complexities.
5. **Monitor Analytics:** To predict and analyze issues or requirements.

How Hard is it to Become One?

The more easy and most wanted job it sounds, the more typical it is to get into it because you need to be fluent with both front-end and back-end development tools and techniques. If you wish to start your career in full-stack development. it is highly advisable to have consistency, passion, and patience and the best way to prepare yourself would be to enroll yourself in the [Full Stack Development With React & Node.js- Live Course](#) where you can get a thorough of web development concepts and learn how to develop industry-ready apps.

Related Articles

1. How to Become a Full Stack Web Developer in 2019 : A Complete Guide
2. How to Become a Full Stack Web Developer in 2021?


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- 5. 10 Skills to Become a Backend Developer in 2023
- 6. Skills Required to Become a Ethical Hacker
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