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Web Application Development

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Full Stack Developer

A full stack developer is a developer who is able to code for both the front-end and back-end. The ‘front-end’, means visible elements of a website, the graphical interface. Front-end code developers use code to visibly represent things. On the contrary, ‘back-end’ developers code systems that may not be visible or intended for users to see. A good metaphor is a car. The metaphorical front-end developers of the car would work to make the interior and exterior look nice (or whatever the contractor wants). In this hypothetical car, the paint-job, the type of seat, the windows, the material used for the steering wheel, etc. would all be chosen and implemented by the front-end developer. As it follows, the ‘back-end’ developer of this hypothetical car would develop and manage the systems within the car. They would focus on optimizing the engine, the raw power, increasing the lifespan, etc. Back-end developers create the underlying systems which front-end developers work to visually represent. For every website that is pretty, there is a system that stores data, speedily fetches you information, etc. Back-end developers are necessary to upkeep / develop these systems.

According to ‘*indeed*’, a job-hiring website, the average salary of a full-stack developer is \$111,293. This figure is retrieved through information based on 11,238 anonymous reports from

employers and users in the field. The average salary of a front-end developer is \$107,443, while the average salary of a back-end developer is \$115,667. Although this source shows that back-end developers on average make more, this is just an average and there are many reasons why people listed as 'back-end developers' make more. Firstly, full-stack developers make more than front-end developers, which is expected, but it may be confusing as why back-end developers would make more than full-stack developers despite the fact that full-stack developers are supposed to be well versed in the back-end and front-end. A theory I have is that full-stack developers on average may have more knowledge than a typical front-end developer but those who are going to back-end development most likely are very well versed into the back-end. I assume most self-proclaimed 'full-stack developers' who list themselves at that are fairly decent at both but back end developers are those who know truly cutting edge tactics and technology relating to back-end systems, thus skewing the data. I think overall it would make sense that becoming a full stack developer would increase your chances of a good salary, but in this data it isn't clear.

Full-stack developers make a lot of money for a reason. It's hard work. Mastering front-end / back-end development are endeavors that can take years. It would then make sense that mastering both is much harder than focusing on just one. There are however logical steps that you could take to hopefully someday become a full-stack developer. One article, published by Columbia Engineering Bootcamps, named as one of the best coding bootcamps in New York, lists all the necessary skills that you will need to be classified as a full-stack developer.

According to this coding bootcamp, adequate knowledge of HTML, CSS, JavaScript, DOM Manipulation, SQL/NoSQL, Java, Object-Oriented programming is necessary.

So, we've established what full-stack development is, what skills are necessary to become a full-stack developer and the salaries associated with the field. Now, here are the steps you can start taking that will have you one track to be a full-stack developer in less than 5 years. This article by '*coding dojo*' lays out the steps, 1. Choose how you learn, 2. Learn the necessary programming languages, 3. Create a portfolio showing your skills, 4. Build your resume, 5. Prepare for your interview. The last 3 are very important to ensure you are hired over your competition, the skills are necessary but how you present them can make all the difference. If you can successfully follow these steps on a long term timescale, there should be no barrier to becoming a full-stack developer. As a full-stack developer, you would have additional responsibilities compared to an exclusively front-end or back-end developer, but this additional responsibility will most likely be coupled with higher importance to the company (less likely to be fired) and a higher salary. According to a job description by '*CareerFoundry*', as a full-stack developer you will be expected to design user interfaces, ensure webpages are mobile-optimized, design and develop APIs, communicate with data scientists on the data architecture, test and debug the front end and back end, etc. As a full-stack developer, you will be involved in almost all operations of your website / application.

To conclude, full-stack development isn't easy work, but if you're looking for a lucrative career which will give you a chance of working at the biggest companies on this Earth, it's worth pursuing.

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