

What is a Full Stack Engineer?

[Full stack technology](#) refers to the entire depth of a computer system application, and full stack developers straddle two separate web development domains: the front end and the back end.

The front end includes everything that a client, or site viewer, can see and interact with. By contrast, the back end refers to all the servers, databases, and other internal architecture that drives the application; usually, the end-user never interacts with this realm directly.

The easiest way to put the full stack into perspective is to imagine a restaurant. The front end encompasses the well-decorated, comfortable seating areas where visitors enjoy their food. The kitchen and pantry make up the “back end” and are typically hidden away from the customer’s view. Chefs (developers) gather permanently stored materials from the pantry (the database) and perform operations on it in the kitchen (the server), and then serve up fully-prepared meals (information) to the user.

Front end developers work to optimize the visible parts of an application for web browsers and mobile devices. Front end platforms are usually built with HTML, CSS, and JavaScript; however, they can also be made via pre-packaged code libraries or content management systems like WordPress. Back end developers, in contrast, refine the software code that communicates with servers, databases, or other proprietary software that conveys information to front end interfaces.

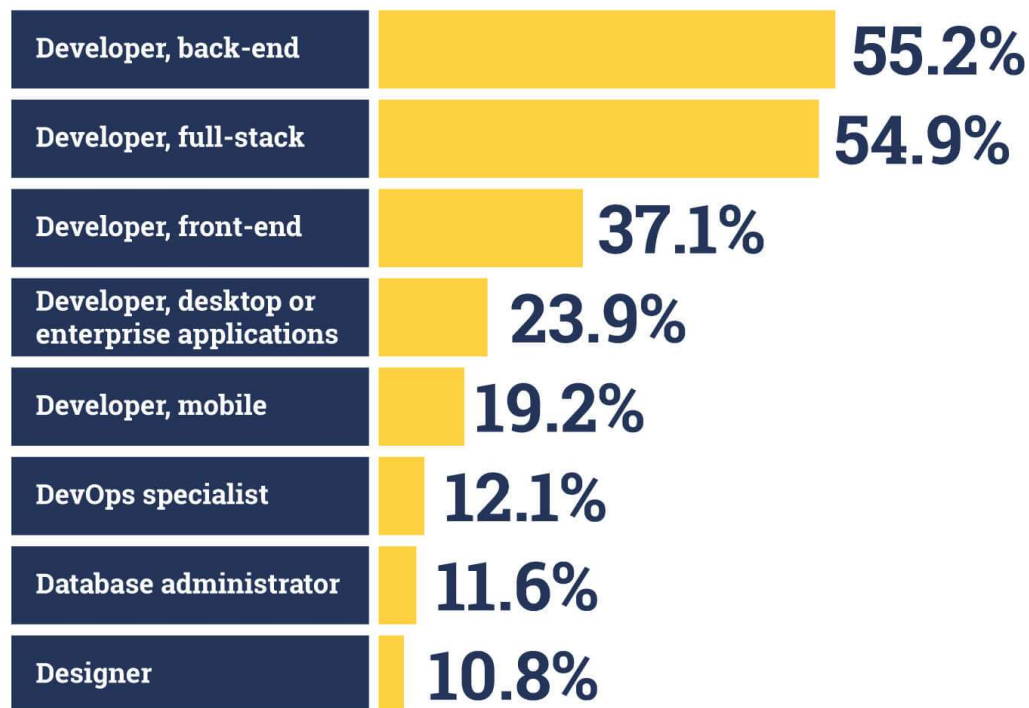
Those knowledgeable in both front end and back end are called full stack developers, meaning they are well versed in both disciplines.

The term “[full stack developer](#)” originated during the early days of the web, when websites were small and uncomplicated enough to allow a single person to tackle every aspect of site-building. But in the decades since those initial days, the web has grown ever more complex. The rise of machine learning, predictive computing, and responsive design has made it challenging — but not impossible! — for a single developer to handle every aspect of building and designing a site or application.

Today, modern businesses often rely on entire *teams* of developers to operate network equipment, work with virtual machines, and manage enormous databases. It takes time to develop a comprehensive, nuts-and-bolts understanding of *all* these emerging technologies. The developers who do so are, for that reason, versatile enough to shift fluidly between front and back end development and take on any task that their team might need them to tackle.

How Developers Identify Their Roles

What percentage of developers identify as full stack, front end, and back end?



StackOverflow, "2020 Developer Survey." (2020)
<https://insights.stackoverflow.com/survey/2020#developer-roles>

The modern full stack developer is an experienced generalist who can build a minimal viable product — i.e., an application with enough functionality to please early customers and spark feedback for continued development — on their own. Companies rely on full stack professionals to spot errors between the front and back end and tackle tasks that straddle both disciplines. This versatility has become increasingly vital as newer apps begin to incorporate AI and other sophisticated technologies into their programming.

These days, it's mission-critical to have at least one person on a given development team who has a passing understanding of all the components that run an enterprise-level application. And companies understand this need. According to statistics provided by the Government of Canada's Job Bank, [new job openings for software developers are expected to top 27,500](#) between 2019