Beginners Guide to Tech: 2024 Stack Overflow Survey

In the constantly changing Tech industry, knowledge of current trends and tools can set you on the right and unique path. As a fellow beginner in this vast and exciting field, I recently stumbled upon the *Stack Overflow Developer Survey 2024*, and you know what it has been a lottery of information! Interestingly, just last year, I had zero interest in reading such information. But now, I find myself hooked, and you will soon see why. If you are just starting your tech journey, like me, this survey is the perfect place to start. Trust me, it is like a sneak peek into the minds of thousands of developers worldwide. You will gain useful knowledge about trending technologies and tools, what developers are keen to learn, and how much they are earning(that's a lot, man).

Key Takeaways:

Alright, here are some juicy bits of the blog. Mobile developers are making serious bank in the U.S. at $185k, but don't worry, front-end ($135k), back-end ($170k), and full-stack ($130k) work pay well too. Many colleges start with Java or C++ in their curricula, so it is a good idea to get familiar with those. But trust me, after a while, you will want to move to Python ASAP because it is super high in demand. Next up, go to JavaScript and HTML/CSS for web development basics. Then, start with MySQL for databases and level up to PostgreSQL later. AWS is the top cloud platform, but keep an eye on Azure and Google Cloud, they are gaining too. React is the burning framework for the front-end, while Node.js lets you be a full-stack dev. And of course, VS Code is the ultimate IDE, goes without saying. For communication, Teams, Slack, and Discord are your best friends. ChatGPT and Google Gemini are awesome AI tools for coding help but just remember, they are helpers, not all-knowing gods. There you go!

- Developer's Demographic
  Honestly, I used to think coding was some magical art dedicated to tech wizards. You are never too early to start learning to code at any stage! The Stack Overflow Developer Survey 2024 reveals that 35.5% of those learning to code have just completed secondary school. Yep, many folks start learning to code at a younger age, likely during high school.

Secondly, 83.9% of developers use technical documentation, 80.3% rely on Stack Overflow (like a somewhat biased response), 61.4% read Blogs, and 37% AI as an online platform to learn to code. It is very good to know that AI has not taken over fully yet, traditional resources still dominate! Moreover, many developers nowadays, prefer learning on free online resources and only some are joining expensive paid boot camps.

In terms of roles, full-stack, back-end, and front-end developers were the top three roles reported by developers for the last three years. **Now, it is interesting to know that full-stack developers lead the pack with 30.7% compared to 16.7% back-end and 5.6% front-end developers.** This trend suggests that there is no reason to isolate your skills to just front-end and back-end unless you want to. Embracing a full-stack approach might just be the golden ticket to success in your coding career!

- Popular Technologies and Tools
  Every year, there are many changes in the tools and technologies that developers are using. It is like when you just think you have mastered one thing, another cool tech comes along(never-ending). But that is where reading such surveys helps us highlight which tools are actually worth our time and which ones are just hype.

  1. Programming, Scripting, and Markup Languages: The survey highlights the most popular and beneficial programming languages for developers. JavaScript tops the list with 62.3% usage, seriously, it is everywhere—in both front-end and back-end development. HTML/CSS at 52.9% makes sense, someone has to make those web pages look good. Python, with a 51% usage rate, is valued for its readability and flexibility, making it perfect for beginners and widely used in web development and data science. SQL, also at 51%, is vital for database management and backend development. Now, I was thinking about TypeScript being more popular but it ended up with 38.5%, I believe due to some of its complexities. Still, it is definitely worth learning once you get comfortable with JavaScript. If you are like me and just starting, knowing which languages to focus on can save you a lot of time and headaches. Python, and SQL are not only widely used but also highly

admired, making them valuable skills for both beginners and experienced developers in the tech industry.

2. Databases: It is important to talk about databases also. PostgreSQL is currently used by 48.7% of developers, making it the most popular database for the second year in a row. MySQL follows closely with 40.3% usage. Here is the interesting part, beginners like us who are learning to code are more likely to choose MySQL (44.9%) over PostgreSQL (33%). Therefore, in my opinion, MySQL is simpler to get started with to build a strong foundation in database management, and consider diving into PostgreSQL as you advance and need more powerful features.

3. Cloud Platforms: Alright let us move on to cloud platforms, Amazon Web Services (AWS) has been the go-to among professionals since 2023 and the same in 2024 by 52.2%. It is like a boss of cloud platforms, over 90% of Fortune 100 companies use AWS due to its unmatched scalability, reliability, and suite of services. But hold on, Microsoft Azure with 29.7% and Google Clouds with 24.9% are climbing as their numbers have gotten better for a few years. Google Cloud is a top choice for developers and companies looking to harness the power of AI in their projects just like the cool new kid on the block that everyone is talking about.

4. Web Frameworks: According to the survey of 2024, Node.js has peaked with 40.8% of the developers using it. React also maintains a strong position with 39.5% usage. On the other hand, if we look at professional developers React is new Node.js for them. jQuery, though not as modern as newer frameworks, is still used by 22.5% of experienced developers. But let's be real, if you are deciding between React and jQuery, go with React. There are way more job opportunities because, honestly, the average jQuery site probably just has one part-time dev working on it. For beginners, React is excellent for front-end development, while

Node.js offers the advantage of using JavaScript for both front-end and back-end development. How cool is that?

5. Integrated development environment: Now, let's talk about IDEs, where all the coding magic happens. It is not surprising that Visual Studio Code has won for IDE with 73.6% and professionals and learners alike are all over it. Visual Studio(sibling to VScode) follows as the second most popular IDE, used by 29.3%, and IntelliJ IDEA, favored by 26.8% of developers, mainly those who love working with Java.

6. Synchronous tools (Unsung heroes): These tools are the apps we use for communication, share ideas, and sometimes send memes to keep spirits high. Microsoft Teams is the most popular among developers, with a usage rate of 53.1% and this number gets bigger every year. Next up is Slack with a 43.9% usage rate. It is super popular but comes with a catch, it is a paid model. This means professional developers and organizations often weigh the cost before diving in. Just like that fancy coffee shop you love but can not afford to visit every day. However, in the learners' section, Discord is the most popular tool at 70.6%. I am pretty sure most of them are gamers and I think it is a cool hangout spot where you can chat, learn, and maybe play a game.

7. AI Search Tools: In recent years, AI-powered search and developer tools have revolutionized the way developers work, making everything from coding to complex problem-solving way easier. ChatGPT leads the pack with an impressive 82.1% usage rate, offering a free option and honestly, it is like having a coding buddy who is always there to help you out. But there's more! Google Gemini is rapidly gaining attraction, particularly among learners. Its integration into development workflows is spot-on, making it a powerful tool for both new and experienced developers.

Now, 40.3% of professional developers have a somewhat neutral stance on the accuracy of AI tools. Meanwhile, those who are learning to code tend to trust AI tools more, sometimes a bit too much (including me). It is important to remember that while AI tools are awesome, they are not flawless. We should use them to assist us but not rely on them completely. It is good to know that developers who currently use AI tools mainly rely on them for writing code (82%). That is a huge percentage!

- Developer Experience at Work
  According to the survey, 42% of developers work in a hybrid environment, splitting their time between home and the office. 38% work fully remotely, and 20% work in-person which is the biggest jump yet. The number of hybrid developers has remained consistent with last year, while the percentage of developers working in person has increased to 20%, up from 16% in 2023 and 15% in 2022. It looks like in-person work is making a comeback, likely driven by the need for more collaborative and face-to-face interactions in certain roles and projects.

- Salary Insights
  Let's talk money because, honestly, we all want to know what we might earn in the tech world. Understanding salary expectations can help you set career goals and make informed decisions. In the United States, mobile developers are earning big bucks with salaries at $185k. Mobile goes way higher in the U.S. and it is killing front-end and back-end. However, we think that mobile devs are the most important devs in the U.S. but across the world, it is a much wider bucket. So, if you are thinking of working internationally, keep that in mind. The average for full-stack in the U.S. is $130k, front-end is $135k, and back-end up to $170k which are very interesting numbers. Front-end and back-end developers, by focusing intensely on their respective fields, can develop highly specialized skills that are in high demand, leading to higher salaries.

The Stack Overflow Developer Survey 2024 provides a complete snapshot of the tech landscape, highlighting trends, tools, and technologies that are shaping the industry. As beginners, this

survey is like a treasure map, showing us where to focus our learning and career efforts. Whether you choose to specialize in mobile, front-end, back-end, or full-stack development, understanding these trends can help you make informed decisions and set realistic career goals. And trust me, there is so much more in the survey that I could not cover here. If you are as curious as I am, I highly recommend checking out the full survey for a deeper dive into the data. The tech industry is vast and full of opportunities, and with the right knowledge and skills, you can carve out a successful and fulfilling career. I am just as new to this as you are, and I will be sharing everything I learn to help us all navigate this exciting journey.