

2021 State of APIs

Developer Survey Report

Research and Methodology

Welcome to RapidAPI's State of APIs developer survey report. This year, we had diverse respondents from a variety of roles, organizations, industries, and backgrounds.

The survey was conducted through Typeform, and was distributed through RapidAPI's newsletter, social media channels, website, and developer community.

2021 was the third annual RapidAPI Developer Survey. Results from previous years are linked at the bottom of this report.

Respondent Demographics

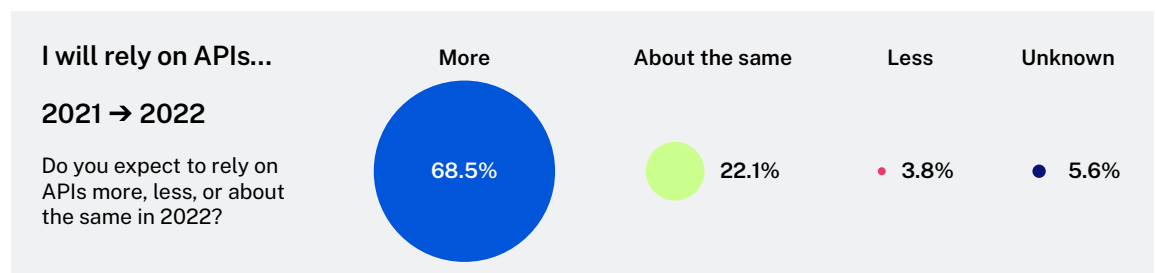
In total, the survey had over 2200 responses from 130 countries. Over 92% of respondents reported they program as part of their job or education. The most popular industries represented in the survey were **Technology**, **Financial Services**, and **Telecommunications**. The most popular job titles represented in the survey were **Full Stack Developer**, **Back End Developer**, **Front End Developer**, and **Mobile Developer**.

5 Top Takeaways

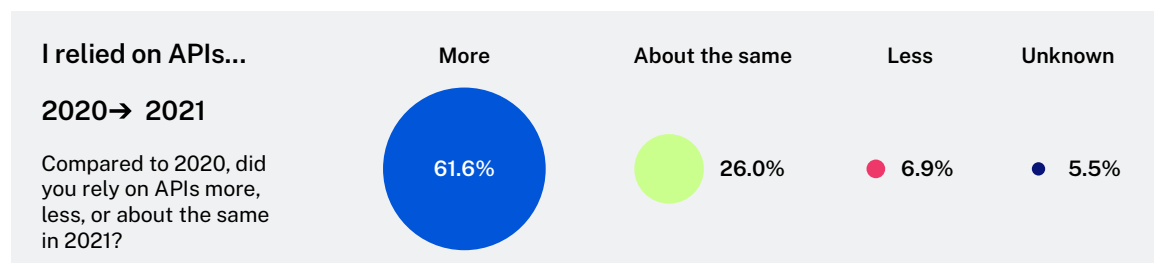
1. 68% of developers expect their API usage to rise in 2022.
2. 75% of developers prioritize or plan to prioritize participating in the API economy.
3. 28% more developers report working on partner-facing APIs compared to 2020.
4. JavaScript, TypeScript, and Python dominate as Java, PHP, C#, and .NET decline.
5. More than half of developers consider switching jobs amid the Great Resignation.

Key Finding 1: API Reliance Continues to Rise

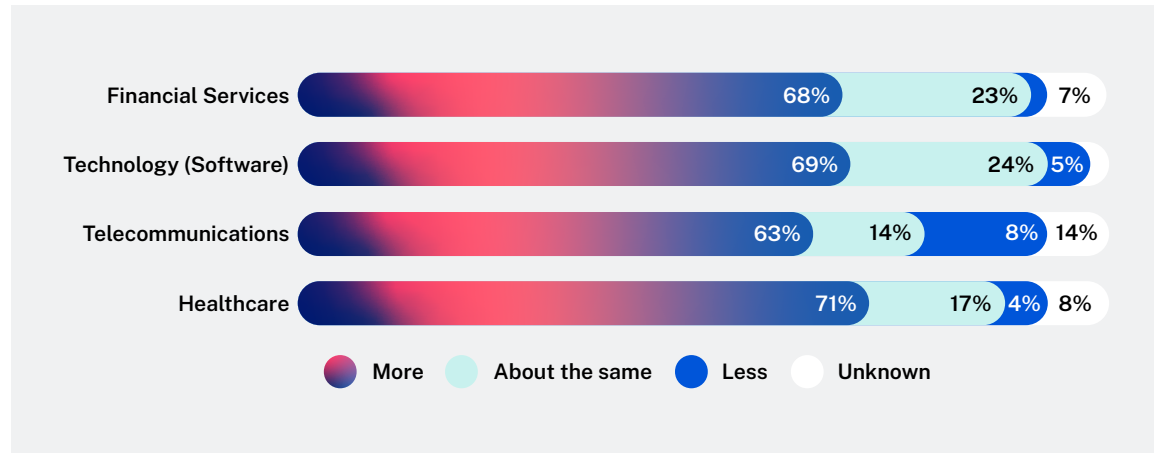
When asked to predict their API usage in 2022, 90.5% of developers expect to use APIs more or the same. An additional 5.6% are unsure, and only 3.8% of developers think they will use APIs less in 2022.



Over 61.6% of developers reported relying on APIs more in 2021 than they did in 2020. An additional 26.0% reported relying on APIs about the same in 2021 and 2020.



Do you expect to rely on APIs more, less, or about the same in 2022?



These predictions by developers signal that the API economy will continue to boom in 2022.

Key Finding 2: Participation in the API Economy is a Priority or Plan for 75.5% of Developers

Overall, 75.5% of developers indicated that participating in the API economy is a priority for their organization, or they plan to prioritize it in the near future. This number was even higher in certain industries, including telecommunications, technology, and financial services.

Do you expect to rely on APIs more, less, or about the same in 2022?



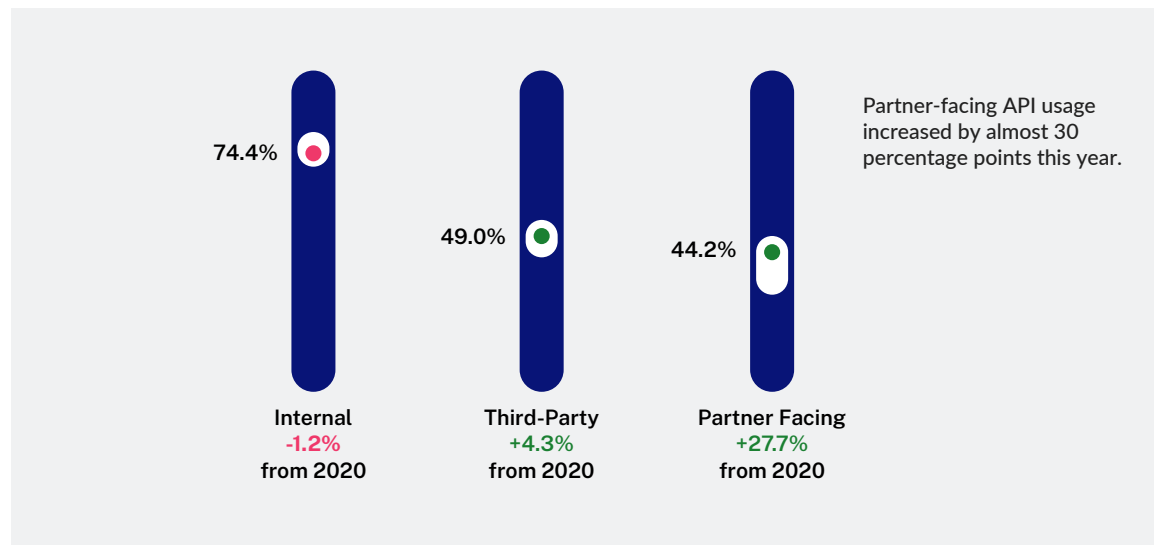
Key Finding 3: More Developers are Working on Third-Party and Partner-Facing APIs

Internal APIs were still the most common API type that developers reported working on for their organization. However, compared to our 2020 Developer Surveys, more developers in 2021 reported working on partner-facing or 3rd party APIs.

The types of APIs were defined in the survey as follows:

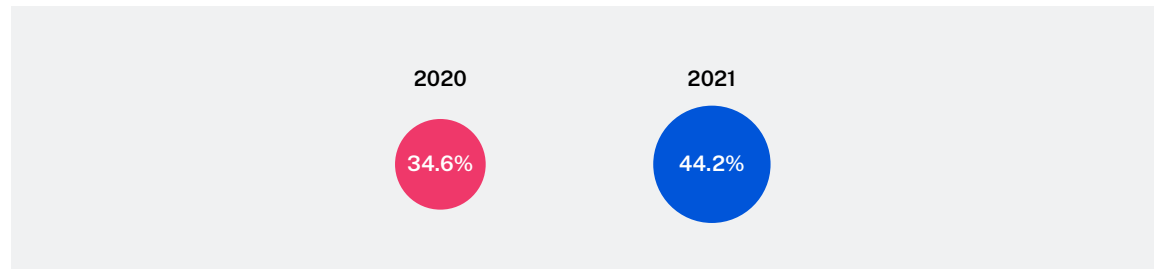
- **Internal:** APIs for organization use.
- **External/3rd Party:** APIs you subscribe to (free or paid).
- **Partner-Facing:** APIs your organization exposes for others to use.

What type of APIs do you work on?



The percentage of developers who reported working on partner-facing was the most noticeable increase across all categories, increasing almost 30% (from 34.6% to 44.3%).

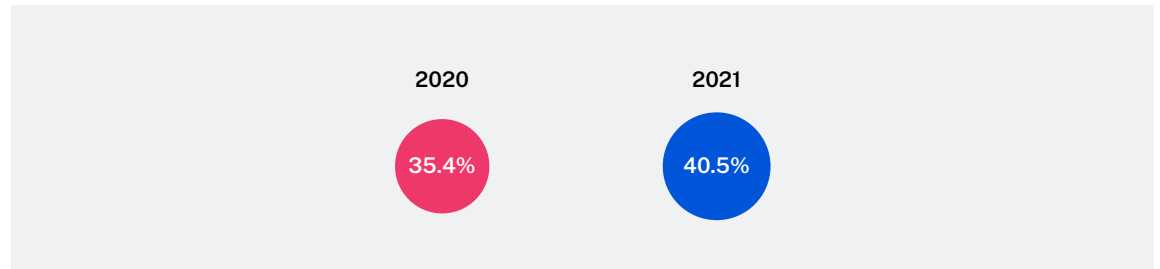
Percent of Developers Working on Partner-Facing APIs.



Key Finding 4: More Organizations are Monetizing APIs

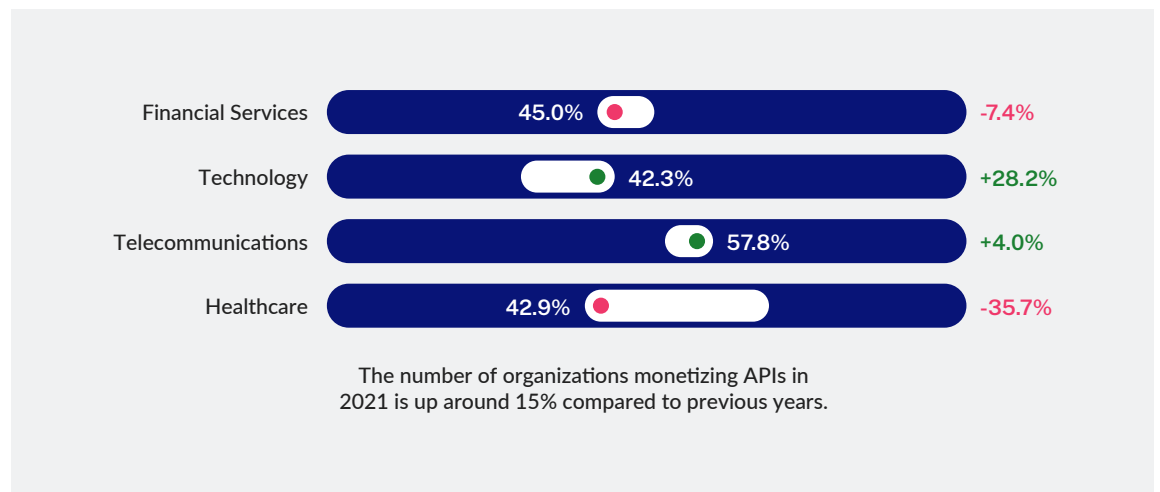
More organizations are monetizing APIs in 2021 than in previous years. This growth mirrors the increase in developers who reported working on partner-facing APIs.

Has your organization ever monetized an API?



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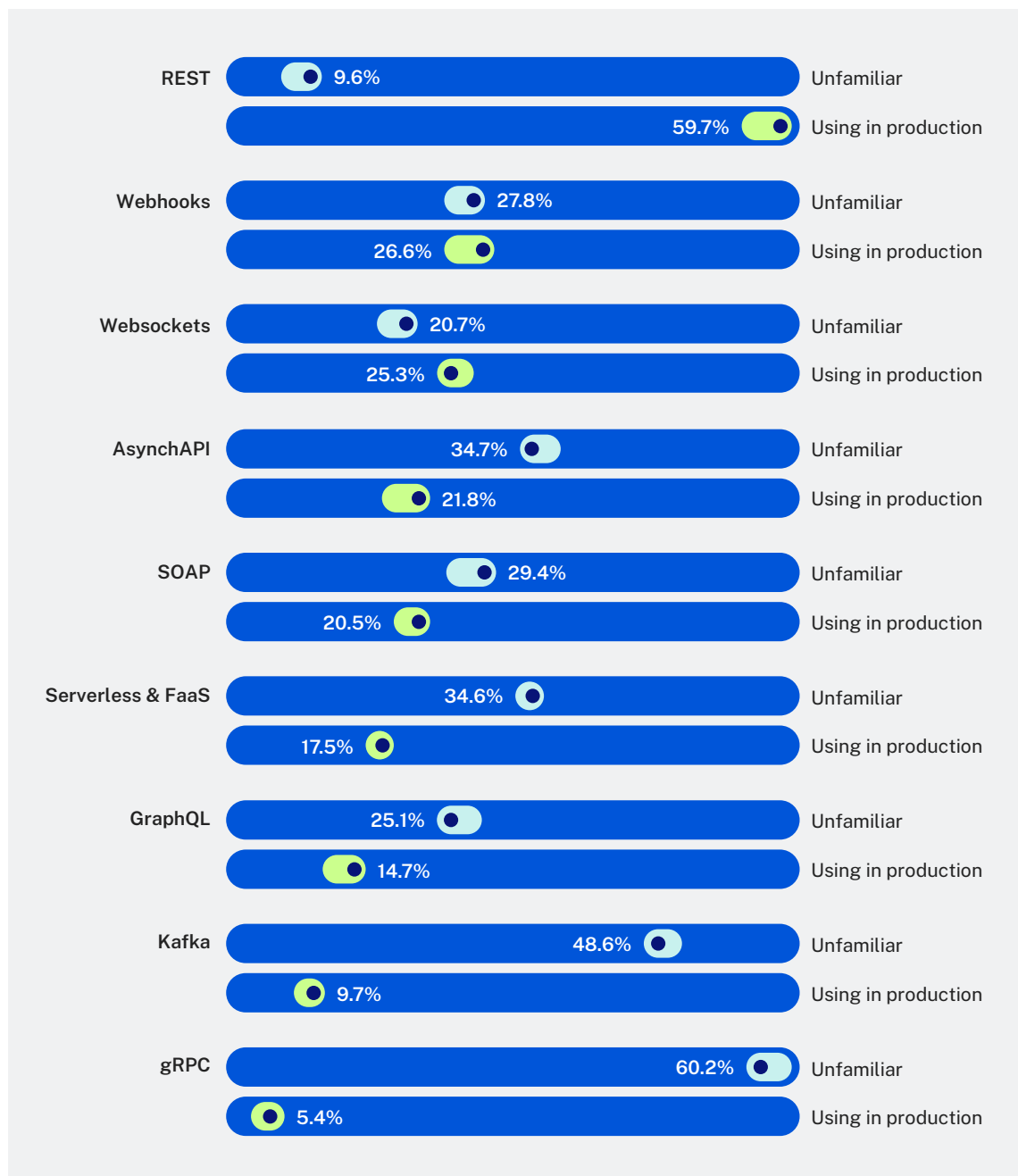


As we move into 2022, we expect even more organizations will take advantage of the API economy.

Key Finding 5: Adoption and Exploration of New API Technologies Accelerates

Compared to 2019 and 2020, API technology is becoming more varied. Of the trends we surveyed, REST continues to be the most popular. However, the number of developers using REST in production fell slightly between 2020 and 2021. In contrast, GraphQL and Async API adoption has dramatically increased in the last several years.

What tools are we using?

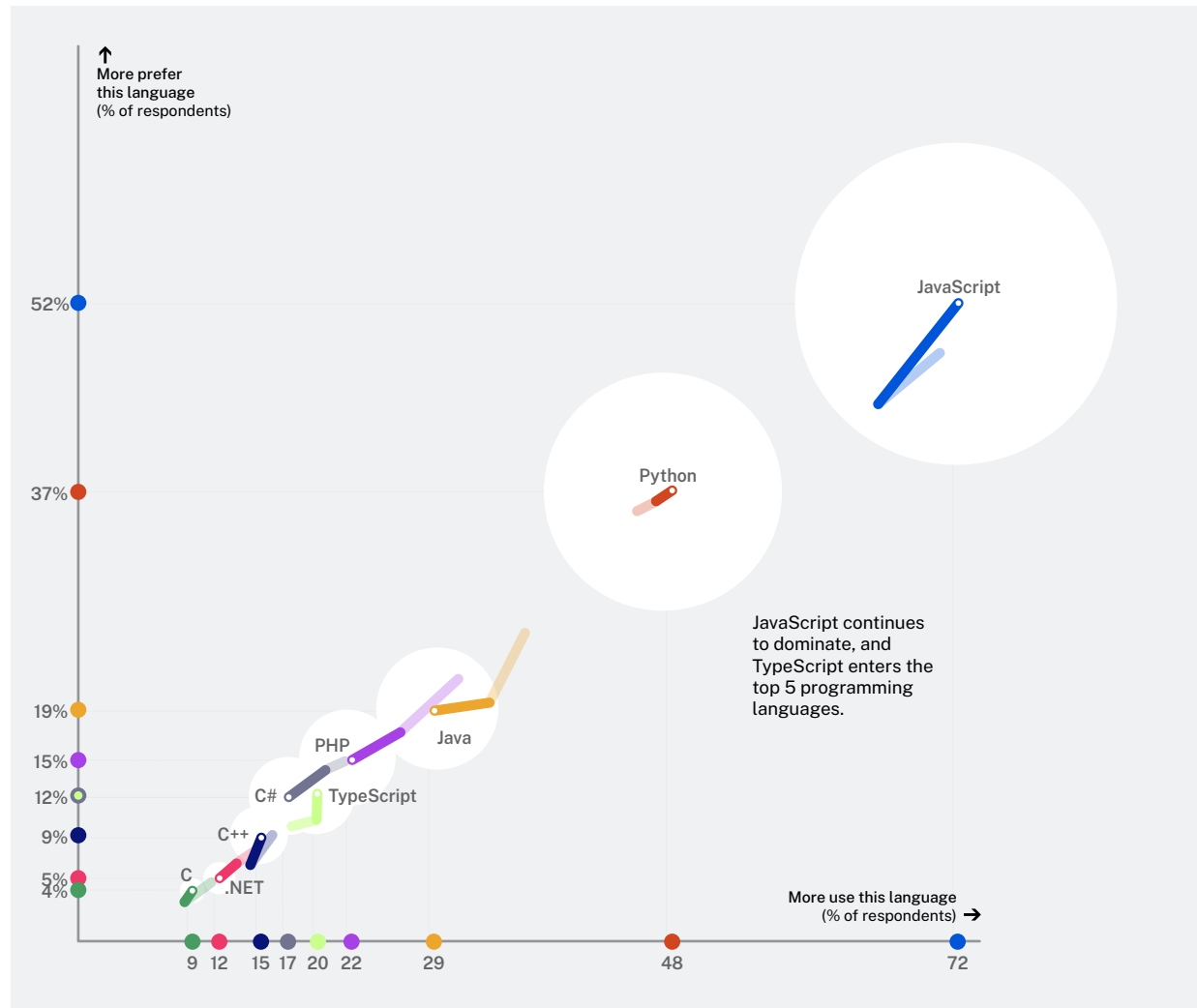


There continues to be a strong interest in other types of emerging technology, including Serverless & FaaS, Websockets, and gRPC.

Key Finding 6: JavaScript Continues to Dominate, and TypeScript Enters the Top 5 Programming Languages

JavaScript continues to dominate as the most used programming language and the most preferred programming language. Compared to our 2020 and 2019 surveys, JavaScript usage and preference modestly increased in 2021.

What are our favorite languages?



More notably, TypeScript entered both the top 5 most used programming languages and the top 5 most preferred languages for the first time in any of our surveys. Older languages, such as Java, PHP, C#, and .NET fell in both popularity and preference.

Key Finding 7: Over 50% of Large Companies Have Over 100 APIs

We found the number of APIs an organization maintains grows with the size of the organization. Over 50% of the largest companies we surveyed reported having over 100 APIs, and nearly 40% reported having over 250 internal APIs. This mirrors our findings from 2019 and 2020.

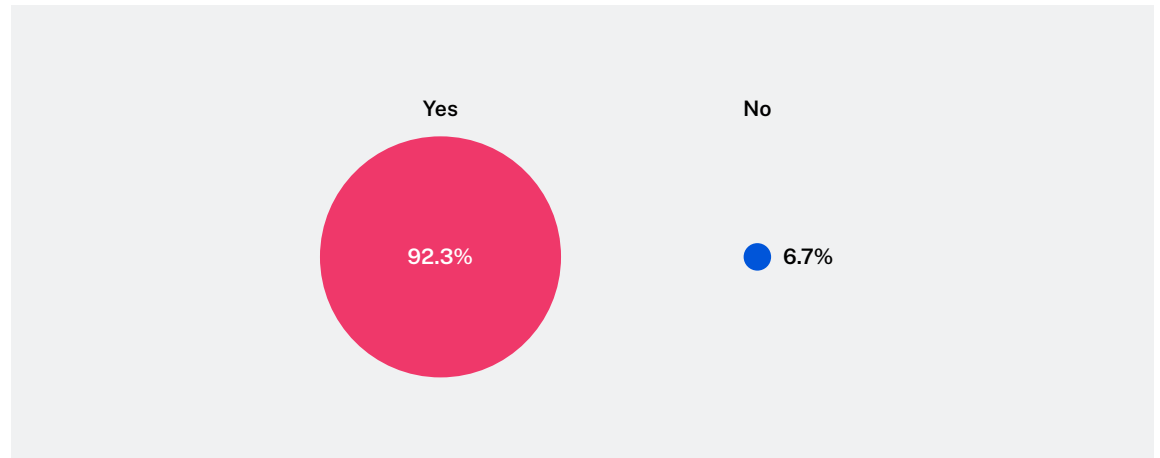
How do APIs scale with organization size?



Key Finding 8: API Testing Remains a Top Priority

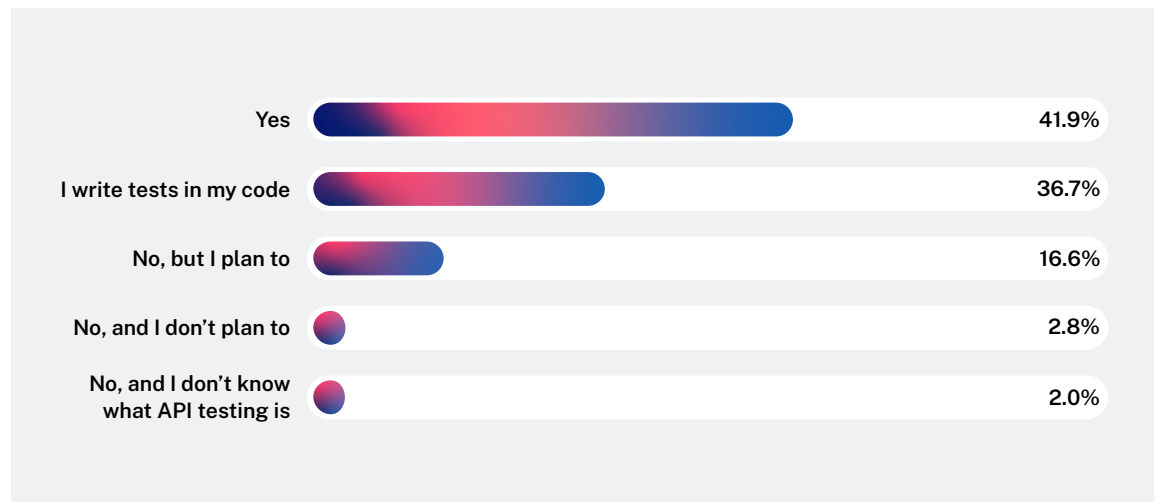
API testing continues to be a top priority for almost all developers, with over 90% indicating they test or plan to test their APIs.

Is security and data privacy a top priority when you create and manage APIs?



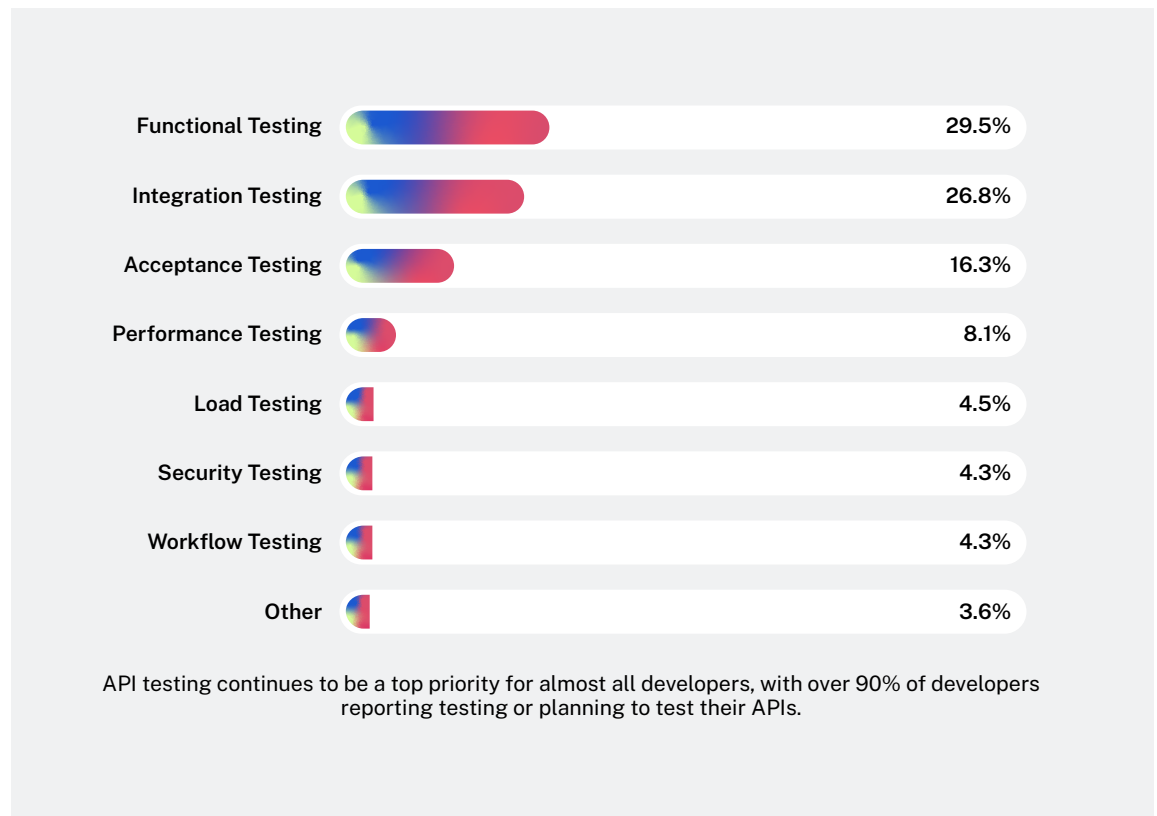
Taking a deeper dive into API testing, 58.5% of developers use a specific API testing tool or plan to soon.

Do you use any tools for API testing?



Functional testing, integration testing, and acceptance testing were the three most popular types of API testing developers reported doing in 2021.

What types of API testing are we doing?



Key Finding 9: Challenges Anticipated for 2022

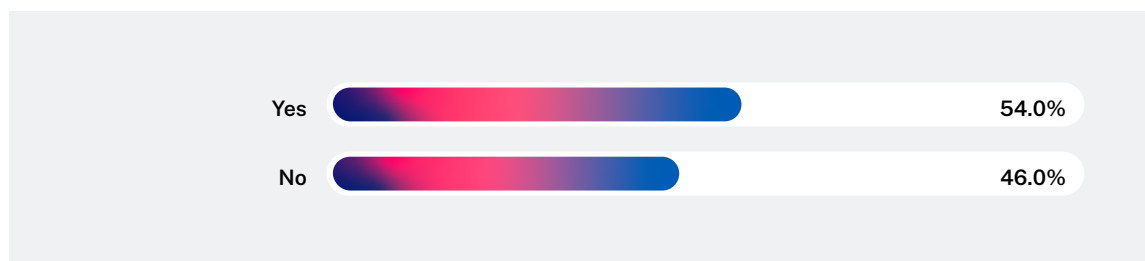
Developers were not immune from the impacts of the COVID-19 pandemic, and staffing challenges continue to disrupt businesses around the globe. Lacking engineers or team members was the top challenge developers predicted for 2022 with over 56.8% of developers anticipating this problem.

Respondents also felt that a shortage of development resources could negatively impact the business, and 35% felt that they lacked internal prioritization around digital transformation efforts.

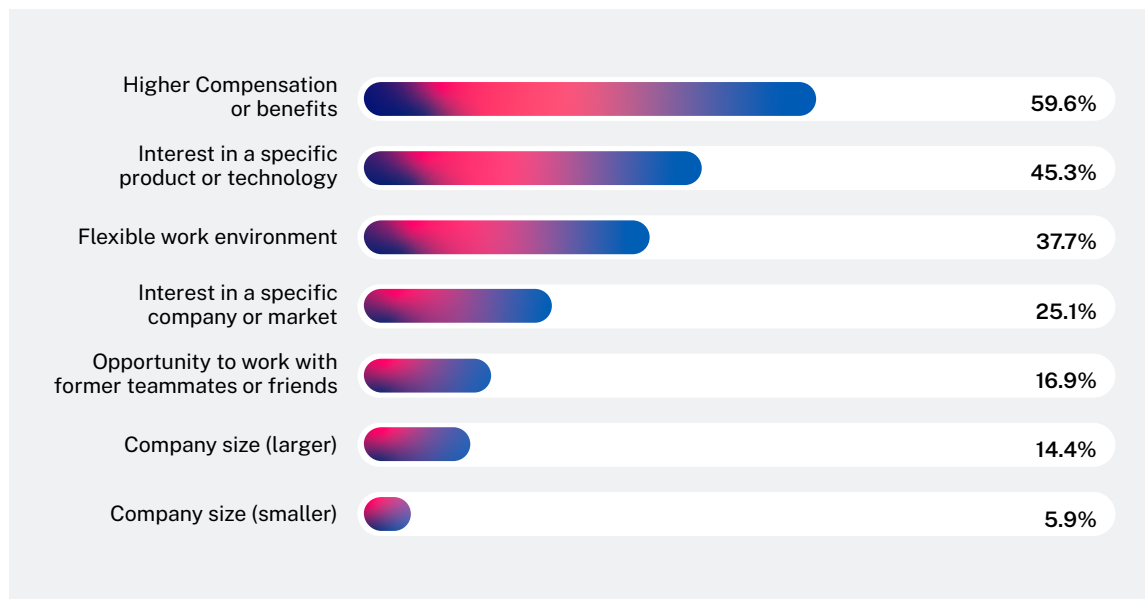
Key Finding 10: More than Half of Developers Surveyed Considered Leaving their Job as the Great Resignation Movement Grows

Based on the last key finding and the overall turbulence seen in the job market through 2021, it is not surprising that 54% of developers considered leaving their current position.

Have you considered leaving your current position?



What are the top reasons you considered a new role?



Of all the job titles we surveyed, Front End Developers were the most likely to report considering leaving their current role (at 63.1% and 65.1% respectively), and Web Developers were the least likely (44%).

Final Thoughts

Thank you to everyone who participated in this year's RapidAPI Developer Survey!

We hope this report gives you insight into the API landscape and emerging technology trends. To see the interactive results, please visit <https://StateofAPIs.com>

Previous results are available at <https://rapidapi.com/developer-survey>

What is RapidAPI?

RapidAPI, the world's largest API Hub, is used by millions of developers to find, test, and connect to thousands of APIs — all with a single account, API key, and SDK.

For enterprise organizations, RapidAPI offers RapidAPI Enterprise Hub, a next-generation API platform that enables enterprises to accelerate innovation and bring software to market faster with one place to find, govern, and collaborate on APIs for internal development teams and external partner communities.



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RapidAPI empowers millions of developers to build modern software with a next-generation API platform including the world's largest API hub and fully-integrated solutions for API collaboration, discovery, testing, publishing, consumption, and more.