



# The four pillars of modern APIs

A comprehensive framework for developers and teams to evaluate performance, efficiency, and lasting value in API development.



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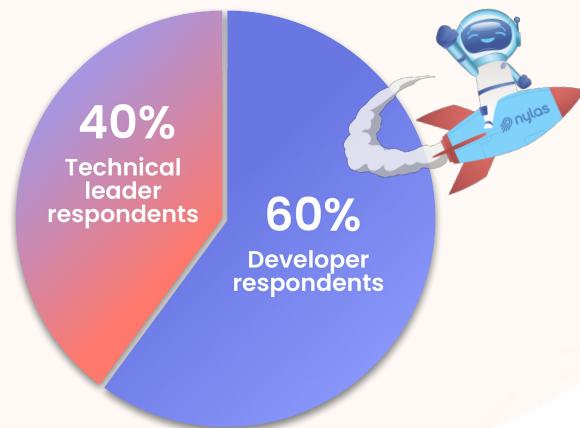
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# Introduction

Since their inception, APIs have played a fundamental role in building software. And now, that role is becoming increasingly valuable. Why? The amount of software that is asked to be built and the amount of features and integrations that applications demand simply outpaces what developers can realistically do within a reasonable development cycle. The reality is that developers cannot do all of this themselves, and nor should they have to. So, while APIs are clearly a developer's best friend, not all of them are created equal.

Enter **the four pillars of modern APIs** — a framework for developers and their teams to better assess the best API for their current and future needs. These pillars, performance, developer experience, security, and intelligence, are the foundational components of what makes a great API.

To better understand how these four pillars work together, fit into product roadmaps, and can play a critical role in future-proofing applications, **Nylas surveyed more than 1,200 industry developers, engineering leaders, and technical executives in the US** to more accurately distinguish a good API from a best-in-class API. Of the 1,200 respondents, 60% listed their titles as either a developer or an engineering manager, while 40% said they were a director, VP, or executive.



# Survey results snapshot

*\*Note: Survey results reflect insights from a broad industry perspective, gathered from developers, engineering leaders, and technical executives who regularly utilize APIs. These findings do not specifically represent the experiences or feedback of Nylas customers.*

Developers value speed and reliability in APIs, yet few consistently experience these qualities, leading to time spent on maintenance and bug fixes.



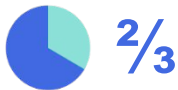
78%

Seek **speed, reliability, uptime, & real-time capabilities** in APIs.



Only **23%**

consistently experience strong **API performance**.



value **high performance** and **reliability**.



**73%**

spend up to **5 hours** weekly on API maintenance & bug fixes.

Developers prioritize API security, but there's a gap in the industry's effectiveness.



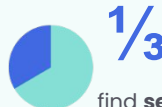
prioritize **security** and **compliance** in APIs.



Security concerns were the **#1 deterrent** when evaluating new API vendors.

Only **19%**

had **no API-related data breaches** in the past year.



find **security challenges** in API integration or switching to a new API.

Despite valuing user experience and efficiency, developers often encounter integration challenges and heavy coding demands.

79%

Emphasize **user experience** and **clear documentation**.



46%

Value **straightforward language** in documentation.



64%

Struggle with **integration & tech stack compatibility**.

73%

Frequently switch contexts or tools; only **7%** rarely do so.



78%

Expect to write **extensive code** with or without APIs.



Only **13%**

Rate their API's support for efficiency a **10/10**.

There's a positive perception of API intelligence capabilities, but a contrast indicating high automation with no reduction in workload.

74%

value APIs with automatic **unlocking of new functionalities**.



71%

Rate their API's **intelligence features** highly.

64%

Use **automation**, yet

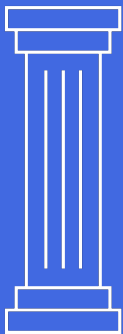
57%

see **no decrease** in coding workload.

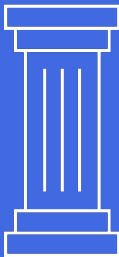




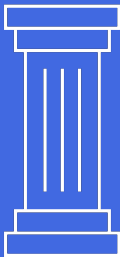
Performance



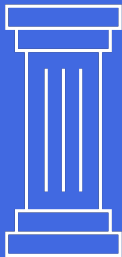
Security



DevEx



Intelligence



## Pillar 1: Performance

It's evident that most developers highly value performance, with **78% of respondents** listing characteristics such as speed, reliability, uptime, and real-time capabilities as key features they look for in an API. This trend underscores a broader shift in the tech industry, where high-performing APIs are becoming crucial for building scalable, responsive, and user-friendly applications.

[Salesloft's](#) use of APIs for email and calendar integrations is a prime example. This approach allowed its developers to shift focus from maintaining complex integrations to developing innovative features, significantly contributing to its ascent as a leader in the sales engagement space.



We have millions of emails sent each week. Nylas frees us up to focus on other roadmap priorities, such as delivering new features to our customers and working with our data science team on exciting new projects.”

– Product Manager, Salesloft

## Expectations vs. reality

Surprisingly, only a minority of developers report consistently experiencing these high-performance standards when working with APIs daily. Just **23% of respondents** witness consistently strong API performance, while **a staggering 73%** allocate up to five hours weekly to API maintenance and bug resolution.

The **gap between the ideal and the actual state of API performance** brings to light an essential aspect of modern software development: a real need to rethink and improve how APIs are designed and built. It's not just about meeting developer expectations anymore; it's about keeping up with the fast pace of tech and market needs. Better-performing APIs mean faster development, less maintenance hassle, and more efficient processes.



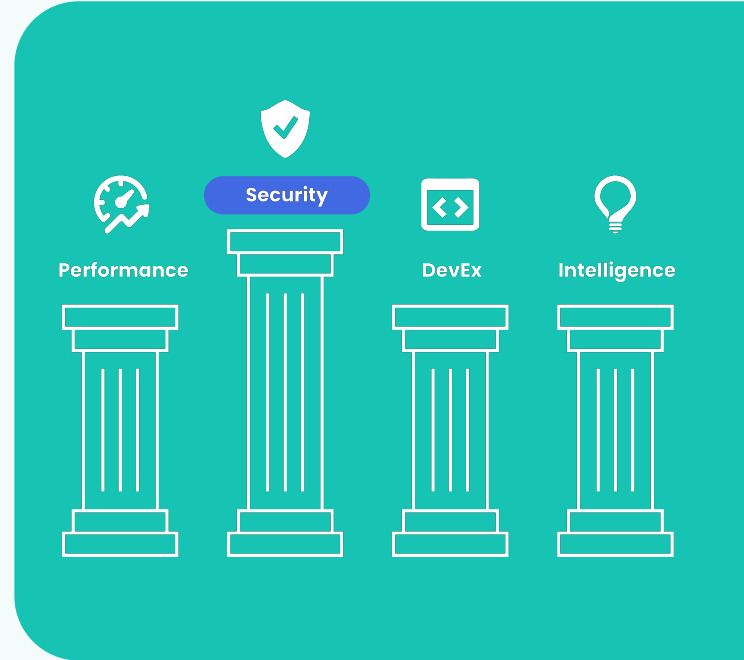
## Pillar 2: Security

As API vulnerabilities continue to [surge](#), it makes sense that developers view API security as a critical priority, with **53%** ranking security and compliance as their top criteria in API selection.

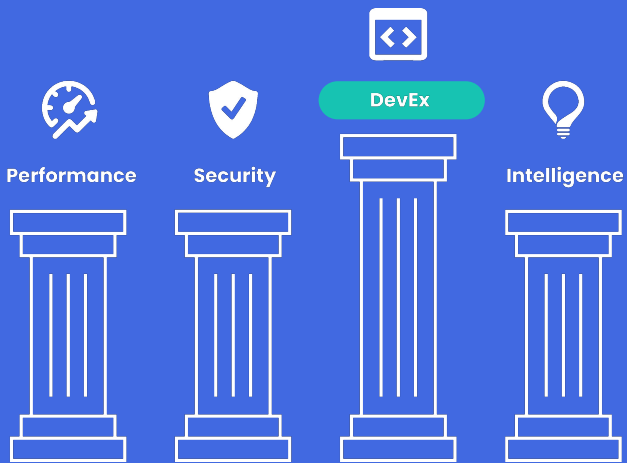
Alarming, **only 19% of developers reported zero data breaches** linked to APIs in the past year, further illustrating a gap in the industry's API security measures. What's more? For **30% of developers**, security concerns top the list of red flags when considering API vendors, underscoring its importance in their decision-making. However, despite prioritizing security in the selection process, about **one-third of respondents** agree that maintaining robust security remains a significant challenge during the integration or transition to new APIs.

Addressing these security challenges is paramount for protecting data and building trust with users and clients. APIs demonstrating strong security protocols and compliance measures are more likely to be adopted and trusted, especially for businesses and applications that handle sensitive user data.

As the tech industry continues to evolve, the demand for secure, reliable APIs is set to grow. Developers and organizations must prioritize security in their API development and integration strategies, ensuring their applications meet functional requirements and uphold the highest data protection and compliance standards.







### Pillar 3: Developer experience (DevEx)

You might have a fast, reliable, and secure API, but having a great API does not matter much if you struggle with onboarding, integration, and documentation. This is why developer experience is so important and why it's a fundamental pillar of modern APIs. However, while we found that **79% of respondents** say ease of use and clear documentation are important characteristics of a great API, there are frequent integration hurdles and extensive coding demands developers face daily.

Despite the high value technical teams place on user experience and documentation that is clear, straightforward, and provides code snippets, **64% said** integrating new APIs into their existing tech stack is a significant hurdle and challenge. This is where quickstart guides, SDKs, and support can be instrumental in removing friction throughout the integration process and allow developers to build faster.

An additional area that can hinder a great developer experience is context switching. While this may seem minor, context switching can majorly impact developer productivity and a company's bottom line. Consider that developers switch tasks **13 times an hour** and only spend 6 minutes on a task before either switching to another or being interrupted. Additionally, getting back on track takes **over 20 minutes** after being interrupted. This might be why **only 13%** rated their API's support from velocity and efficiency as a perfect 10 out of 10.

Additionally, we found that **nearly three out of four** respondents are context-switching **at least two or more times** within an individual session or task when working with APIs. And **only 7%** said they are almost never forced to switch contexts when working with APIs. While some of these distractions are inevitable, they shouldn't be because of an API. If anything, a great API should innately limit context-switching and increase productivity by making it easy to access everything you need within a single interface so you can spend less time toggling between multiple screens and applications and more time focusing on the task at hand.

Another indication of a good developer experience when working with APIs is looking at how much code one is expected to write. While **almost 80%** of respondents said they expect to write at least 500 lines of code **without an API**, when asked how many lines of code they expect to write **with an API**, 41% said at least 500 lines. Simply put, a great developer experience means you should not expect to write the same amount of code with an API as you would without.

A great developer experience is crucial for quick and efficient API integration and consistent, effective API use. When working with or selecting APIs, assessing developer experience in the short and long term is critical to ensure frictionless onboarding experiences and seamless development cycles both now and in the future as you scale.





Transitioning to Nylas API v3 has been a smooth experience, thanks in no small part to the outstanding support we received from Nylas' team members. The partnership with the team, along with their comprehensive documentation and the revamped developer dashboard, has been critical to streamlining our developer experiences, making it easy for us to navigate. Additionally, working with the new APIs simplifies how we interact with the Nylas integration; it's quick to build, and response times have been much quicker. We greatly appreciate the dedication and assistance of the Nylas team throughout this transition."



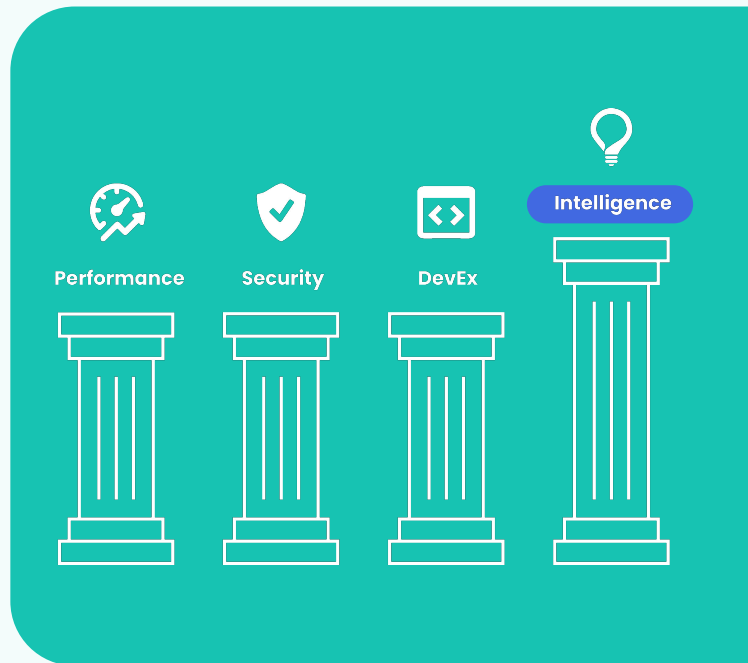
Charles Gigante

Product Manager at [Revenue.io](https://revenue.io)

#### Pillar 4: Intelligence

Generative AI has not only changed how we think of software but also the way we generate, complete, and test code. So, it is no surprise that everyone is either already building with AI or looking into ways to further infuse intelligence into their applications. While we've only scratched the surface of what AI can do, **74%** agree that the value of APIs that automatically unlock new use cases or functionalities is incredibly valuable, and **64%** say they are already using automation in API-related tasks.

Yet, while developers overwhelmingly agree that there is immense value in automation, **only 27%** have reported a decrease in the amount of code they've been tasked with writing. In fact, **57%** said the volume of coding projects they've taken has either **stayed the same or increased**. While numerous factors besides AI contribute to this, the reality is that intelligence can and should be used to automate workflows and development cycles to make developers' lives easier. [Data parsing](#), predictive analytics, [smart composing](#), and more can unburden developers and reduce their coding volume. This is why **71%** rate these intelligent features as very good or outstanding.



The AI gold rush is underway and will not be slowing down any time soon. However, before adding any sort of intelligence to your platform via APIs, it is essential to understand what the actual benefits of these features are and can be. **Are you using AI for the sake of using AI?** Or are you strategically automating where possible and using AI to better understand the data within your product and the workflows and processes that can be supercharged with intelligence?



# Conclusion

Building modern APIs isn't just about keeping pace with technological trends; it's about shaping the future of how we interact with and leverage technology. By focusing on performance, security, developer experience, and intelligence, developers are equipped to build with APIs that aren't just efficient but are also secure, user-friendly, and enable intelligence.

Digital transformation is accelerating, and APIs are the building blocks of this change. They enable seamless integrations, foster innovation, and are vital for developing applications that meet the evolving demands of users and businesses.

For developers and businesses, embracing these pillars means being at the forefront of creating digital solutions that are secure, efficient, and intelligent.

See how Nylas has prioritized performance, security, developer experience, and intelligence in [our API v3 announcement blog](#).

Or experience the power of the Nylas APIs for yourself!

[Build for free today](#)

