



The 2021 SwiftOtter

# Ecommerce Developer Report



SwiftOtter



At the ripe young age of 8, I received my first hammer as a birthday present. It was a Popular Mechanics with a lifetime warranty. The lifetime warranty was insurance in case I broke that hammer. Twenty-four years later, the hammer is still 100% intact—kudos on the good marketing of quality products there.

Why the fascination with tools, you ask? The right tools allow us to do a job well, and the better the tool, the sooner the job gets completed. This is somewhat true until the law of diminishing returns takes effect.

Similar to a hammer that drives nails, tears apart walls, and even (accidentally) smashes my finger, ecommerce developers use tools. Computers. Monitors. Even the integrated development environment (IDE).

The good news is that quite a number of development tools are free. If you're strapped for cash, you can invest your time to significantly boost your productivity.

I published this survey in March 2021. Our ebook documents what I learned, and I hope you find it insightful.

**We had 400 responses! People, just like yourself, from all over the world shared their answers.**

I am already looking forward to next year. Perhaps you can help us spread the word so we can triple the response. That would be amazing!

**But, Joseph, is this 100% accurate?**

Nope, this is not a perfect sampling. For example, one agency gave great detail about their development environment—and this was entered only once on behalf of the 40+ developers that work there.



**Joseph Maxwell**  
Chief Visionary  
at SwiftOtter



**Logan Blackburn**  
Director of Training  
at SwiftOtter

# The Art of Ecommerce Debugging

As an ecommerce developer, you face tremendous pressure to fix problems quickly. The stakes are high: Every minute your client's site is down, your client is losing money, and your reputation is on the line.



Not fixing a problem is a bad resolution, and overbuilding a solution brings collateral damage. Having the tools to quickly solve the problem will make the difference between stagnating in your role and becoming the most irreplaceable person at your company.

In my new book, *The Art of Ecommerce Debugging*, you'll learn strategies to solve hard issues, acquire tools to become an effective debugger, and read real-life examples (including my mistakes!) from my own career and agency. This entertaining and easy read will help you become a better developer—guaranteed.

The price for this beautiful, hardcover book is:

**\$40, w/ free worldwide shipping**

Yes—that's right—free shipping to *anywhere* in the world. US, Europe, South America, India.

*But why?* I believe this book is so critical for developers that I'm taking the hit to get it into hands all over the world.

**Learn more:**  
[swiftotter.com/artofdebugging](https://swiftotter.com/artofdebugging)

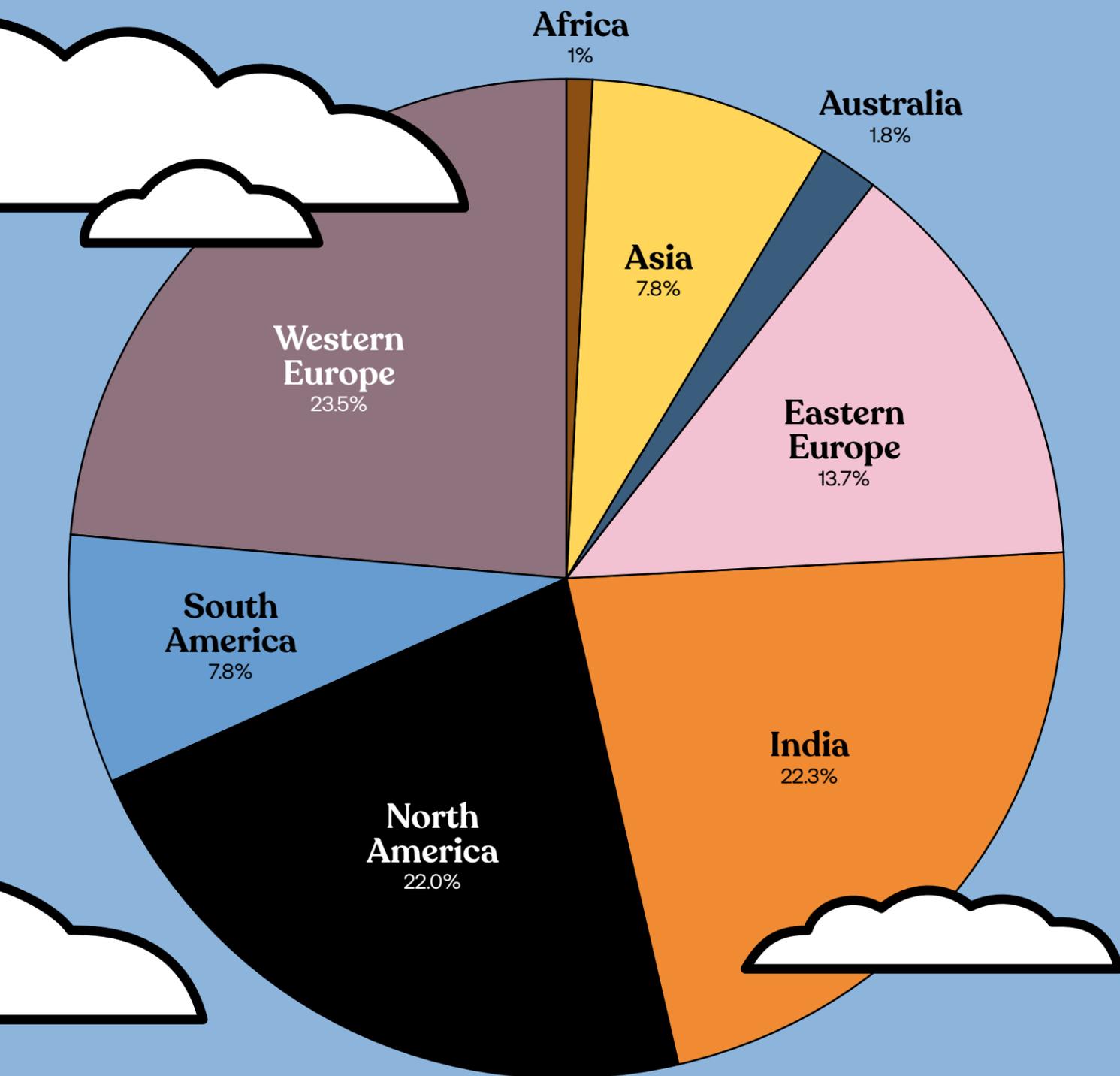
# The Great Developer Environment Shootout

I was stoked to see what developers are using to execute the code they write (and I'll break apart these current statistics in the upcoming sections), but it led me on a much deeper journey to find what really is the best development environment available on the market. What should be considered?

Developers from all over the world shared their environment of choice. Even better, they also shared their opinion of each. I'll be taking this information and putting it into yet another resource that will be released shortly.

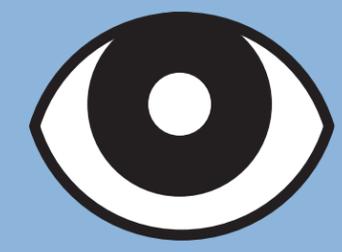
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# Welcome, My Global Friends

We had a terrific response from all over the world. This is an interesting graphic but doesn't tell us much, yet.

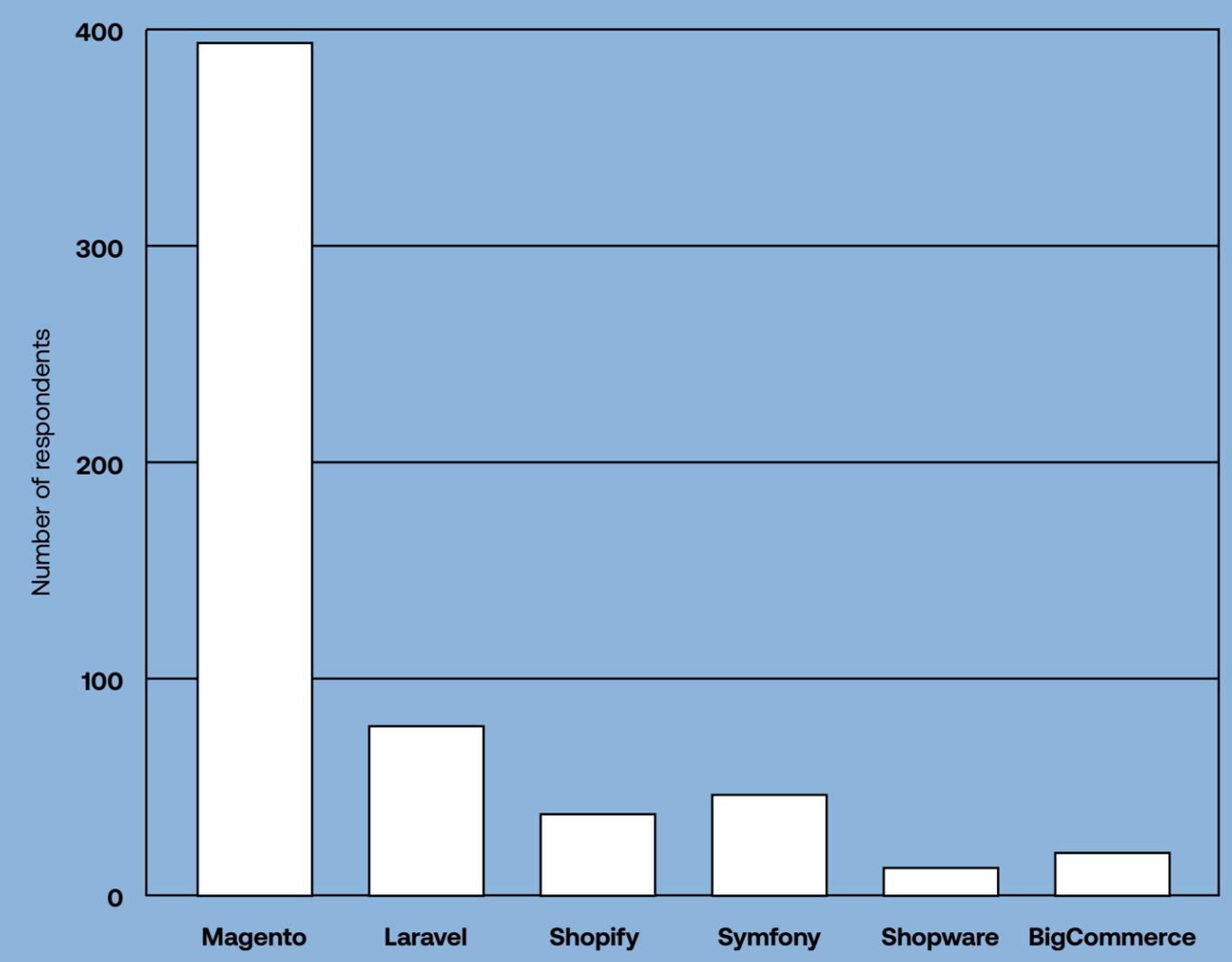


# Whatcha Doing?

Almost 100% of the participants write code for Magento based on the results of a multiple-choice question. Developers reported working on an average of 1.5 platforms. I am looking forward to seeing how this changes as time progresses.

While it's critical to master a platform, it's also good to expand laterally. This makes you more employable and brings you new inspiration as you see how other platforms solve problems.

What platforms do you use?



# A Salute to India

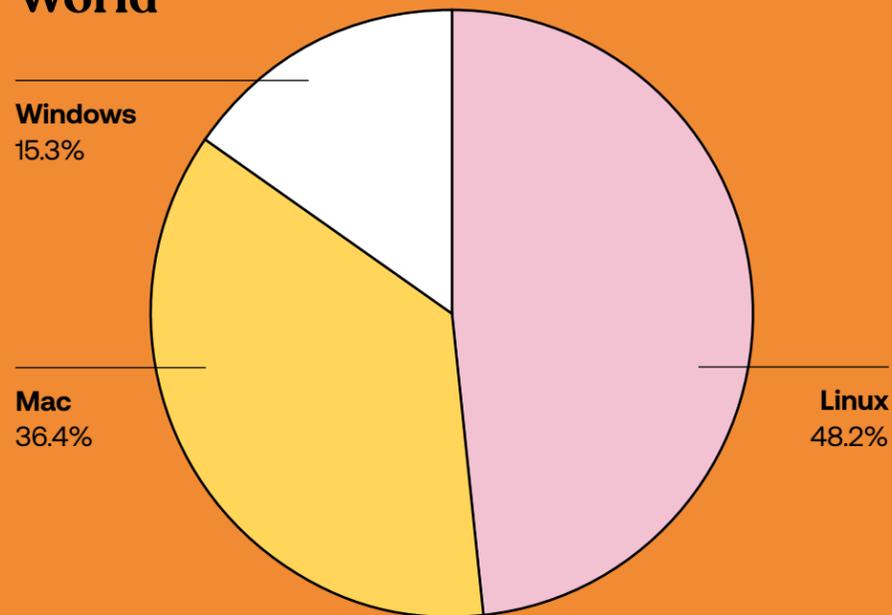
I want to take the opportunity to open a conversation about our developers in India who are responsible for significant contributions to the ecommerce industry.

It is my observation that the equipment Indian developers have is vastly inferior to the rest of the world.

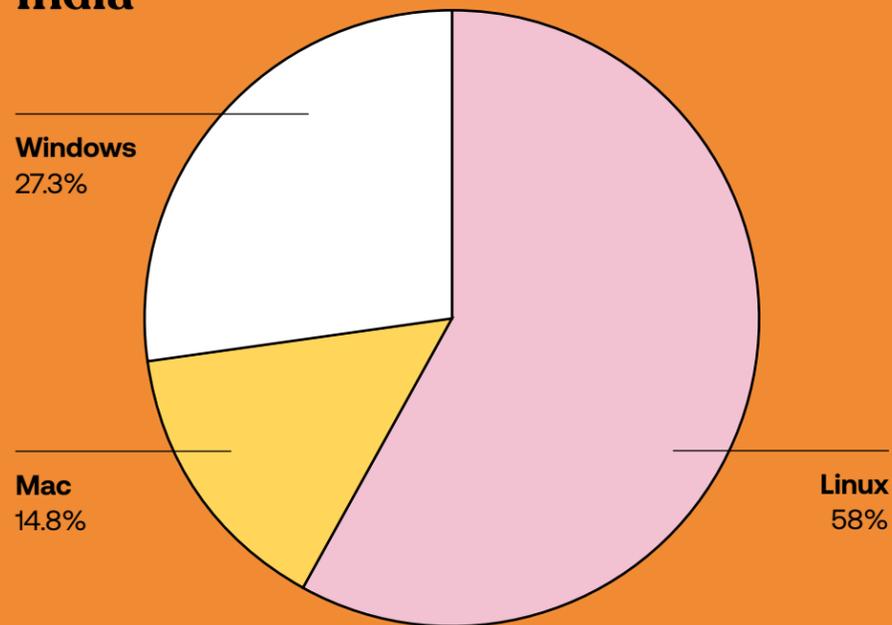
Case in point—and it could be a faulty opinion—but building PHP websites on Windows just doesn't work. It takes extra effort and there is great opportunity for strange bugs to slip through the cracks. Compared to the rest of the world, the lack of Macs is understandable, and I'm happy to see the number of Linux machines is higher, but the number of Windows computers is concerning. Here's the breakdown:

What operating system hosts your IDE (PhpStorm/VS Code)?

## World



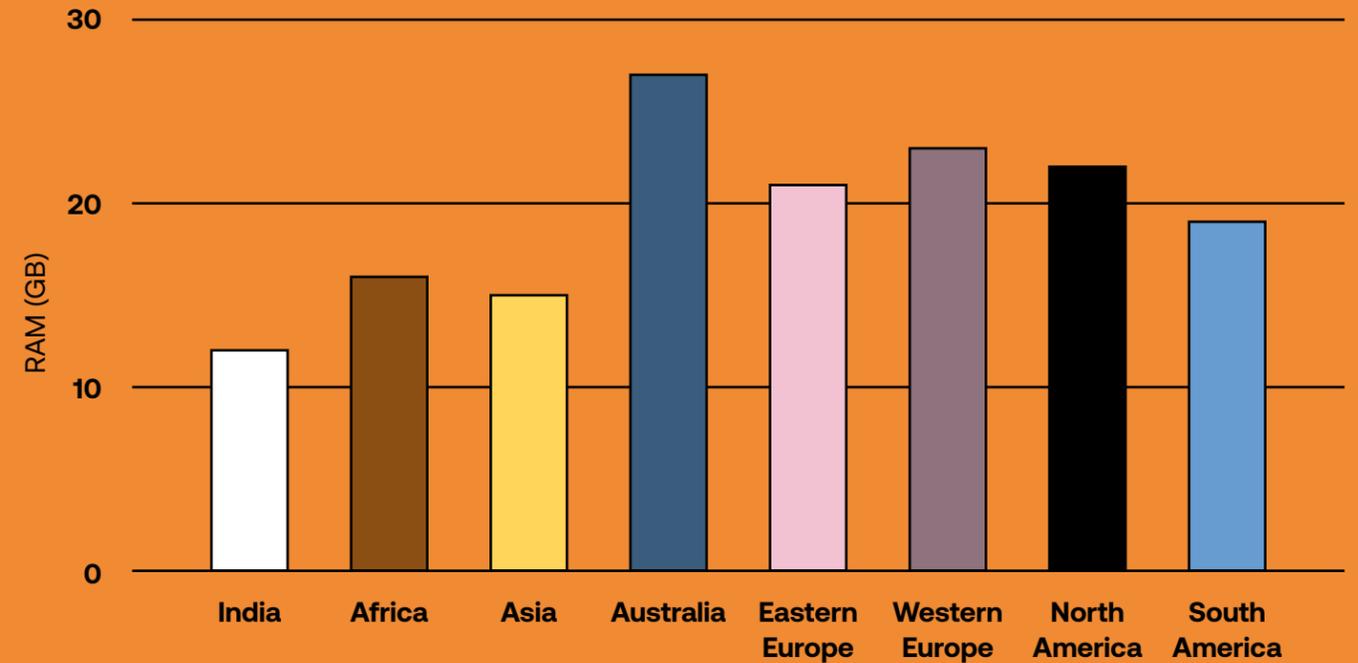
## India



## Hardware

Developers in India have the lowest amount of RAM, lowest count of Solid-State Drives, and the least number of monitors:

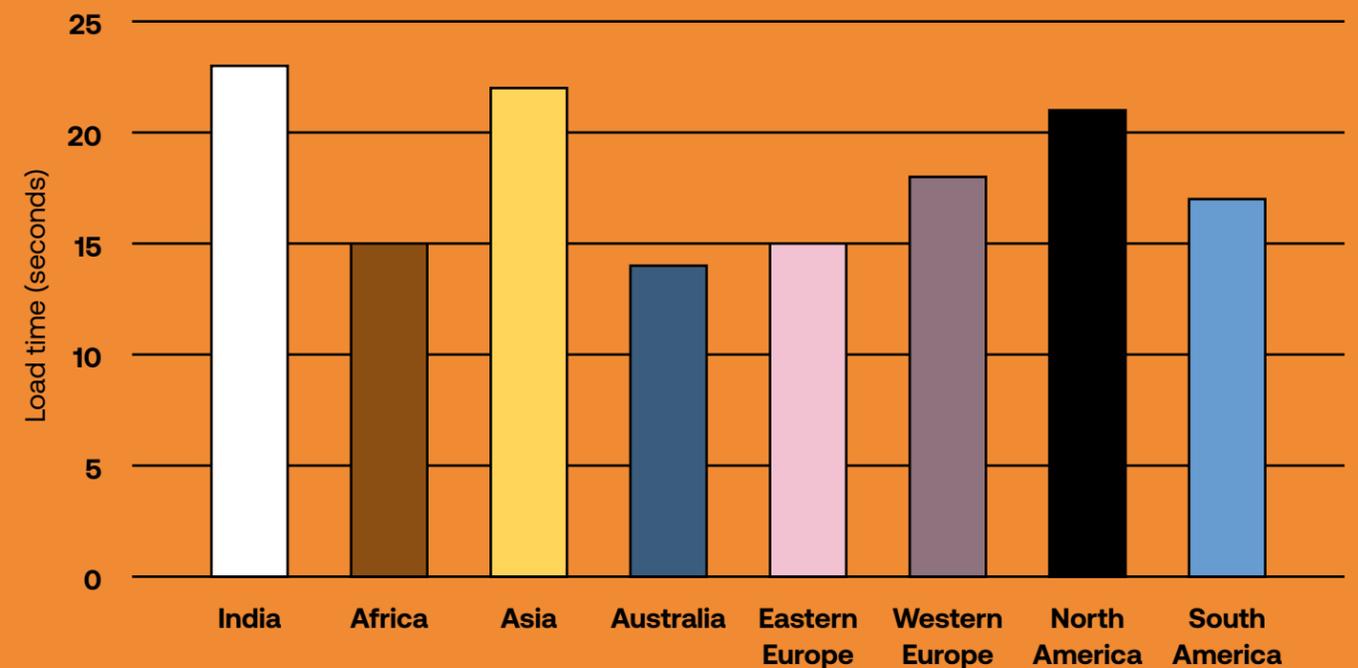
RAM (Memory)

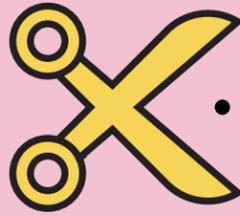


## Time to load pages

Our friends in India also have the slowest load times. That said, North America isn't much behind. My only theory for this is that Xdebug is much more utilized in North America and this greatly slows down load times.

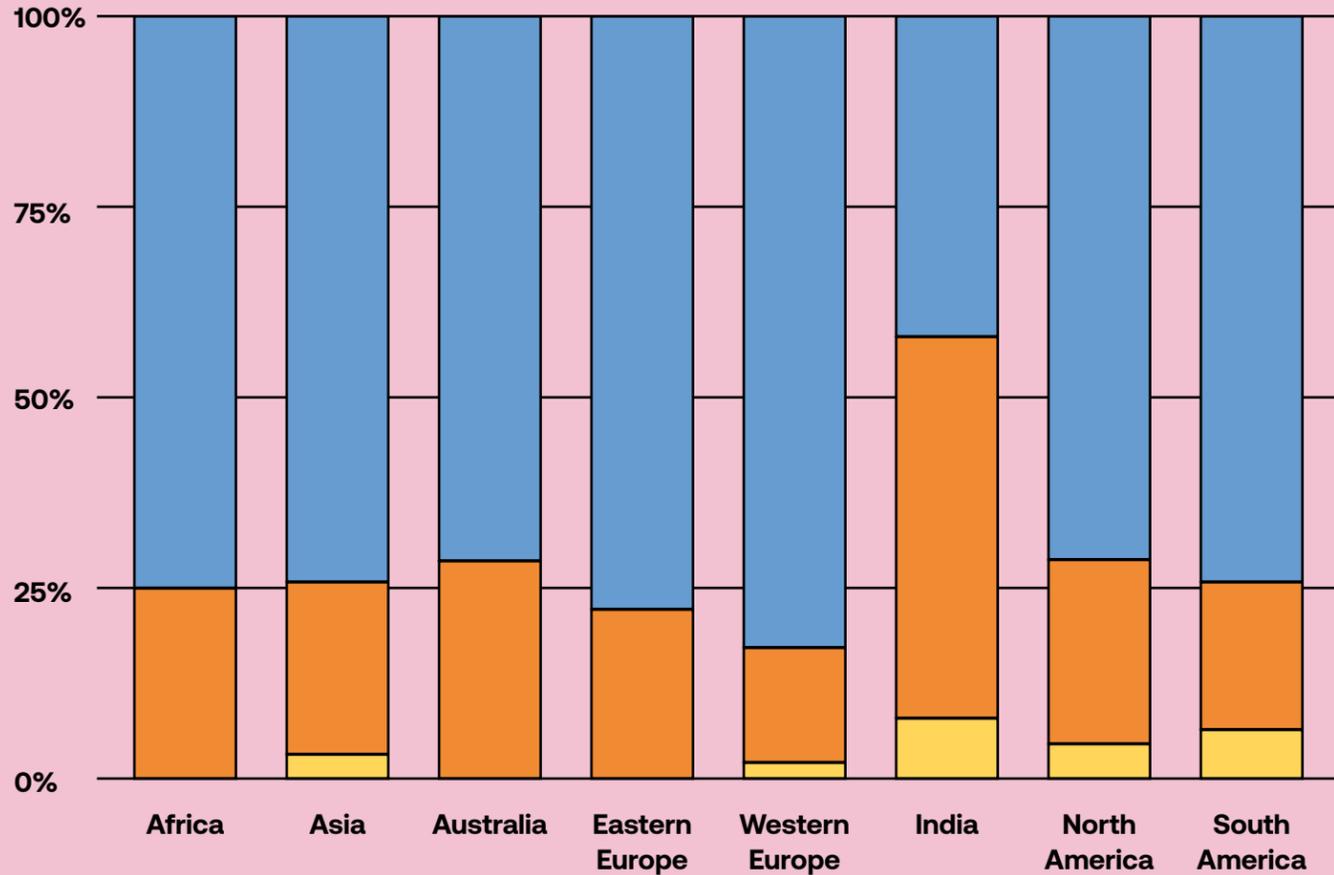
Load time





### Do you use Xdebug?

Yes No Don't know



## Xdebug, the Missing Tool

Would you believe it if I told you that *only 42% of developers in India use Xdebug?*

Even so, almost 30% of developers don't use Xdebug.

This is a powerful tool that provides insight into the code and variables that you are writing or fixing.

## The Great OS Wars

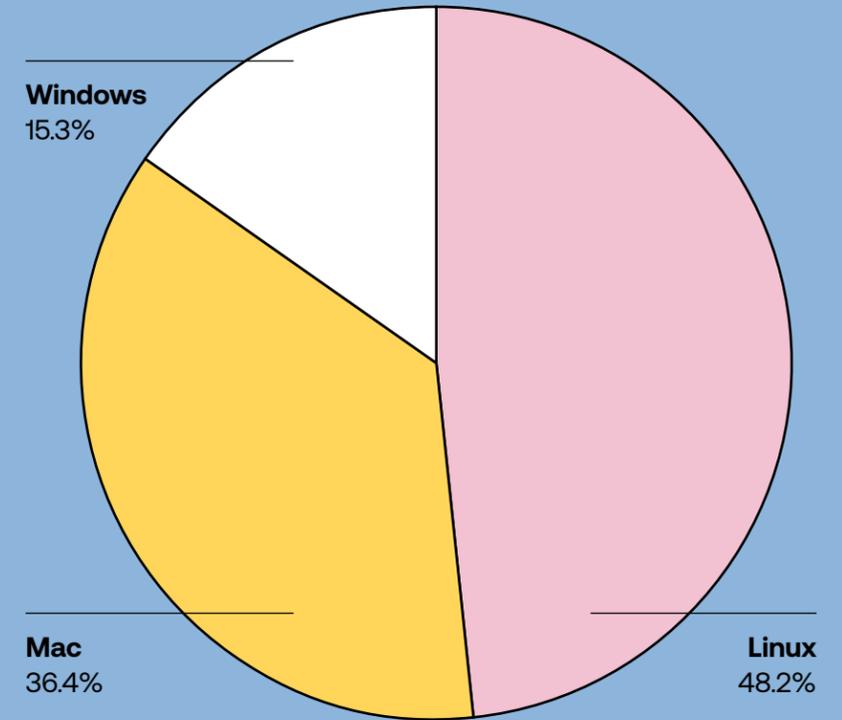
When I was a teenager, I took every opportunity I could to bash an operating system that didn't start with "W."

Windows was made by wonderful people. It was ubiquitous and really didn't have any problems.

Then along came that first Mac. Running my hand over the Mac's matte aluminum casing felt almost as good as my first kiss. It was nice. Ok, I'm exaggerating, probably to cover over my slightly-bigoted adoration for Mac computers. Ten plus years later, I still use a Mac, but that time is quickly coming to an end as I look for a way to exit the platform. I am plotting my return to the prehistoric operating system, affectionately known as Linux.

The good news is that many developers are way ahead of me on this, or were smart enough to not let aesthetics get in the way in the first place.

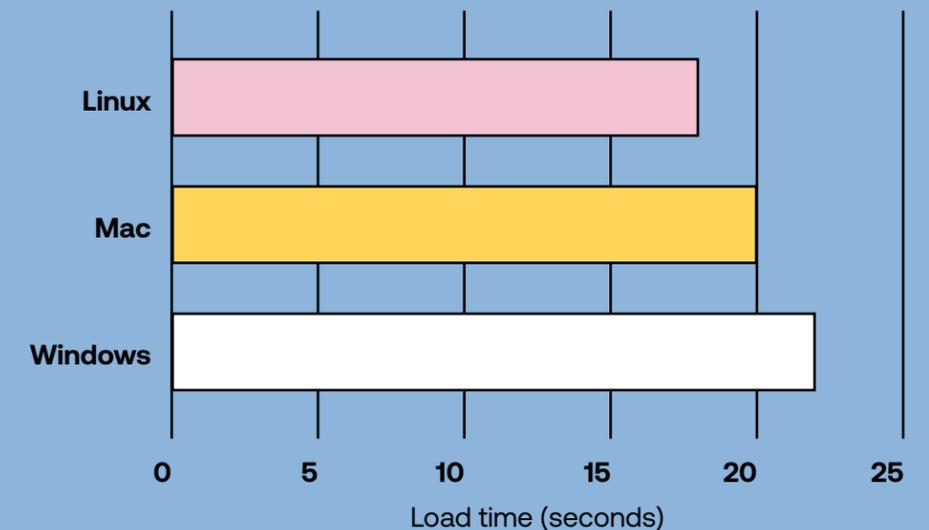
### What's your operating system?



Linux is the most widely used platform by a long shot. This is good, because my guess is that greater than 98% of ecommerce transactions are processed by Linux servers.

Is it any surprise that Linux has the fastest average response times? I can see a number of reasons for this, but the #1 reason is that Linux doesn't require any virtualization to return responses.

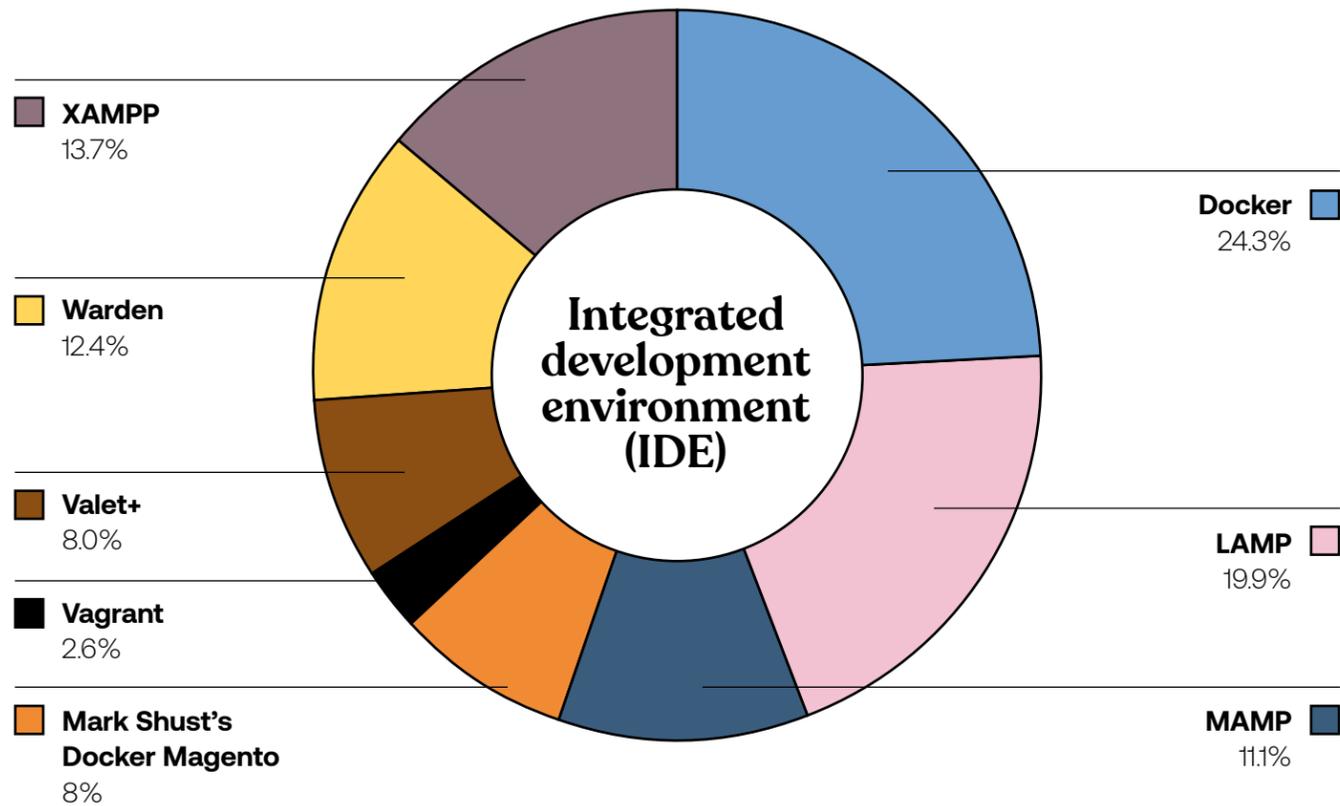
### Load time per operating system (lower is faster)



# The Developer Habitat

If we were to describe our perfect development environment, we'd probably want an environment that's stable and fast and has the necessary dependencies.

It would also be nice if it replicates production as closely as possible. Pretty basic, huh? There's a couple of other points, but you get the idea.



I took the liberty to generalize these options. For example, LAMP includes Nginx and Apache. The same goes for MAMP. There are a bazillion different types of Docker environments.

## Docker

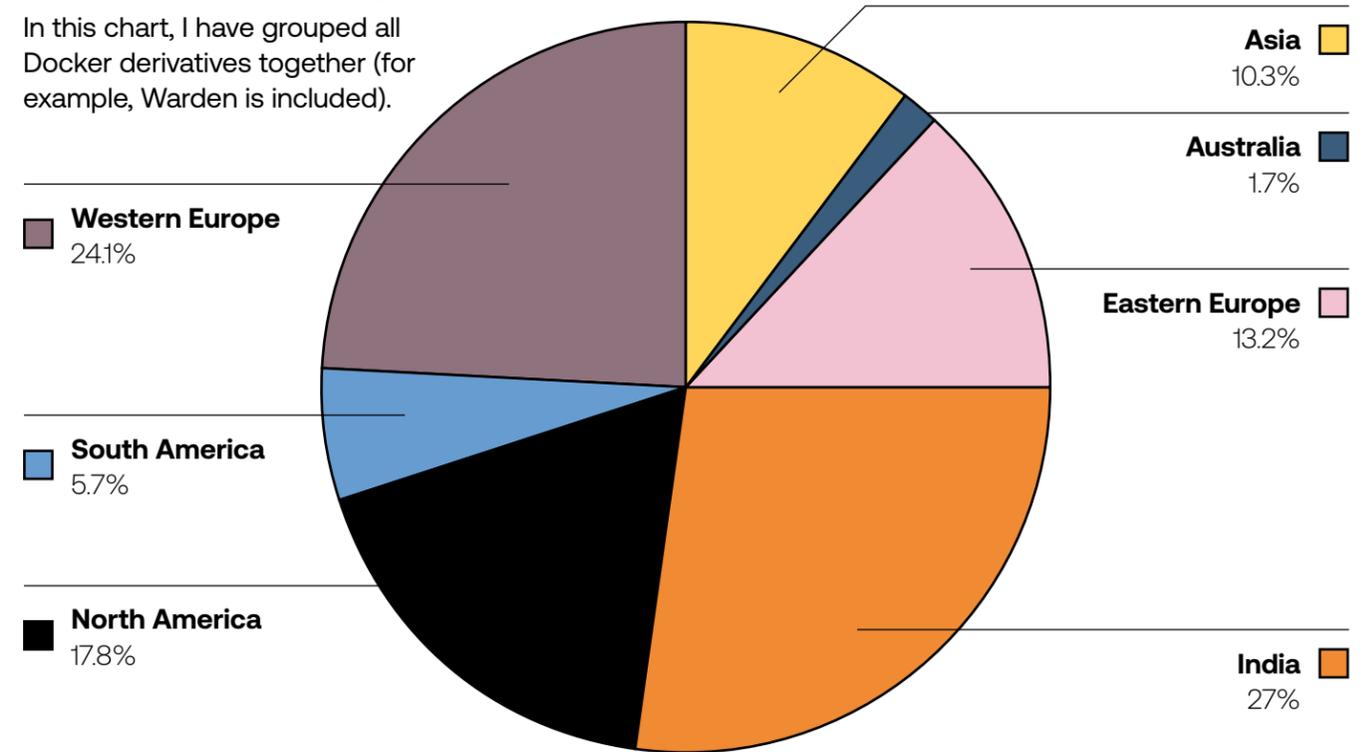
Many are homebrewed. The most popular Docker environment is Warden. Next in line is Mark Shust's Docker environment. These are separated in the survey and in the resulting graphs, however, I'm lumping them back in for this conversation.

The runner-ups are Mage2click, Magento Cloud Docker, Bitnami Magento stack and Devilbox (in no particular order).

Our friends in Europe seem to like Docker quite a bit.

## Docker usage by region

In this chart, I have grouped all Docker derivatives together (for example, Warden is included).



## But which Docker??

The top-scoring participant in the pre-built Docker category is Warden. It also had a significant number of very positive comments. A critical feature that Warden has is the ability to run multiple websites at the same time. Many other Docker environments do not have this feature.

- "It's amazing, I can spin up a project incredibly fast. Great documentation. I know the guy that built it lol."
- "I love it. Best local env I've used yet."
- "Mutagen file sync is easily broken and often flaky."
- "Warden is very slow in Mac because of the file system architecture, I believe. In Linux I have used Warden env and it is blazing fast. Linux is the best."

Overall, I keep seeing that PHP development happens best on Linux. Learn Bash. Learn Linux. Hey, just getting away from Mac and Windows eye candy has to make a difference for the speed of your development environment.

## Windows

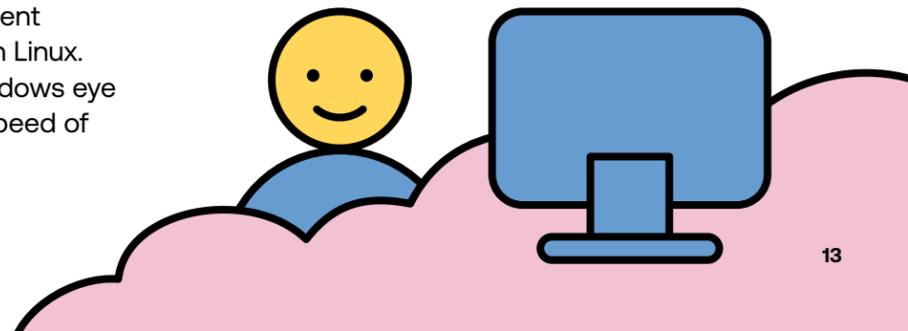
I'm always surprised to see how many developers are working on Windows.

### But what works on Windows?

The obvious choice is XAMPP. Remember that it doesn't have ElasticSearch by default, so this option doesn't immediately work "out of the box".

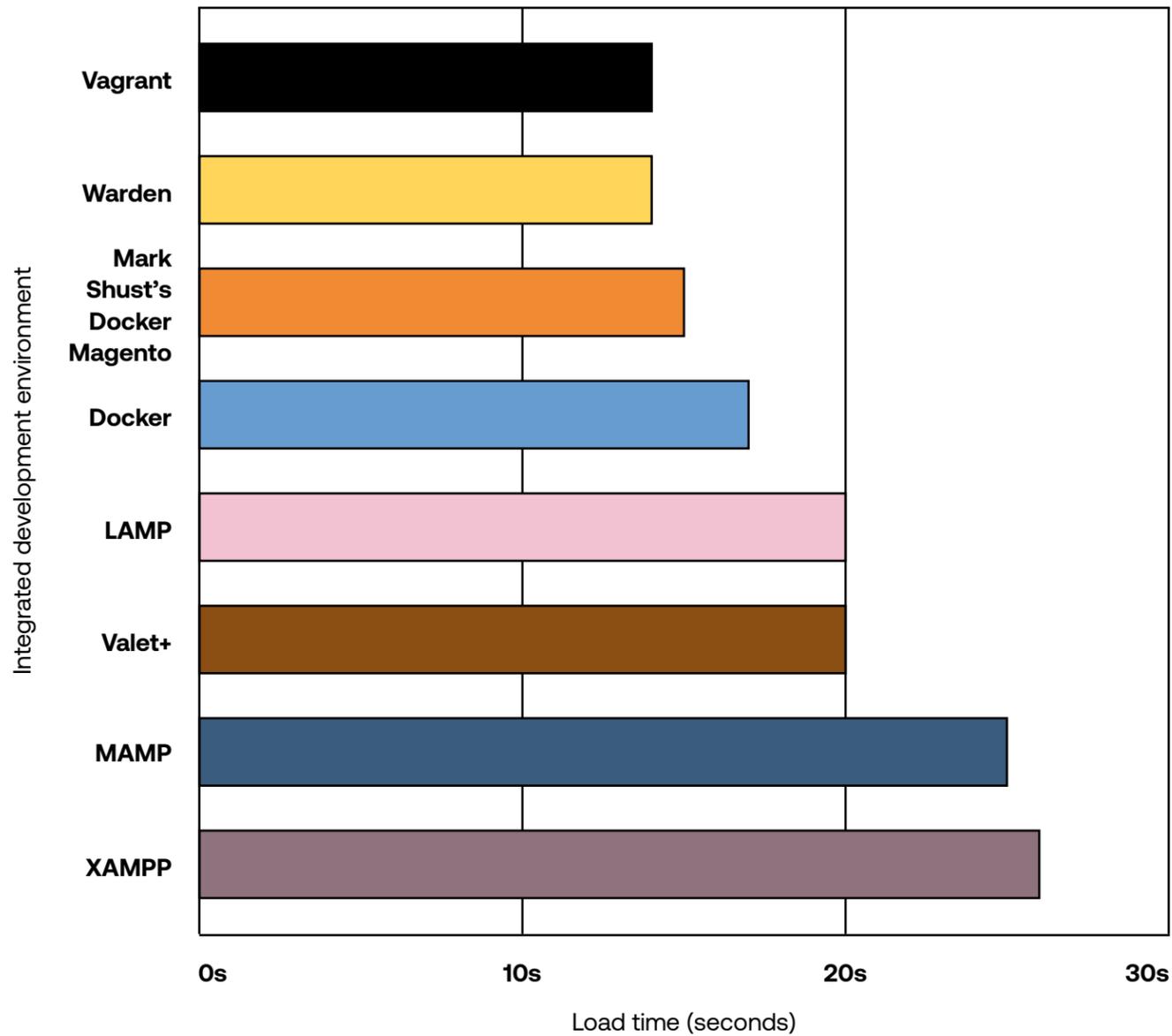
However, WSL (Windows Subsystem for Linux) has opened up massive capabilities to run any Linux-native applications inside Windows, including Docker. Quite a few respondents mentioned using WSL2.

India is the #1 user of Windows operating systems with Western Europe following right after.



## What's the fastest environment?

The shorter in this stack, the better. Ultimately, Vagrant and Warden win out.



**But Joseph, what do YOU use?**

Great question! At this moment, we use Mac computers (but this is changing as soon as I have the opportunity). I created a home-built system of bash scripts, Homebrew and Ansible. Everything except for Varnish is installed.

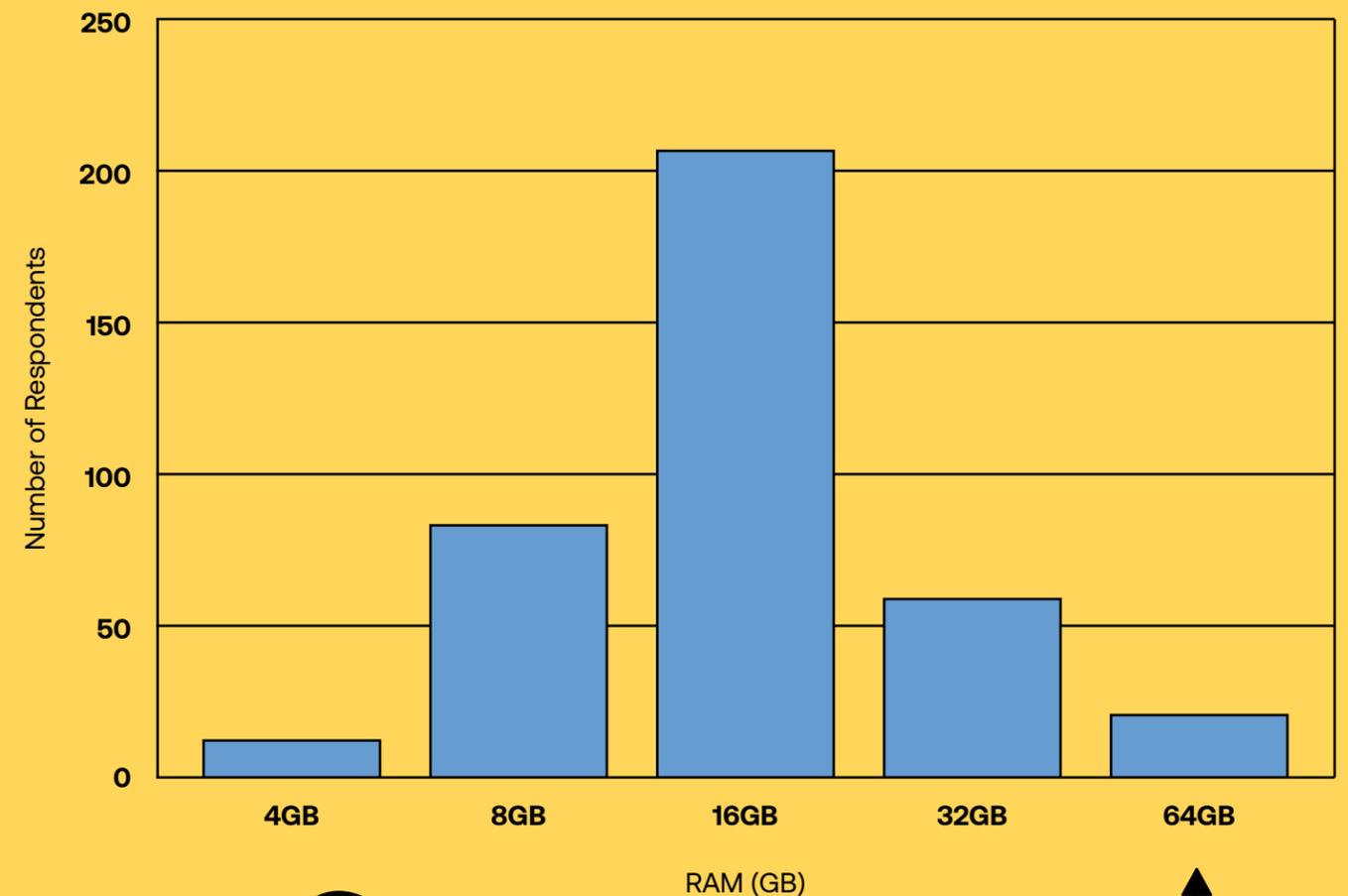
When I switch to Linux, I am looking forward to using Warden. I could switch now, but I work better with clean breaks as I can't afford an outage for my development environment.

## How Does Memory Affect Load Time?

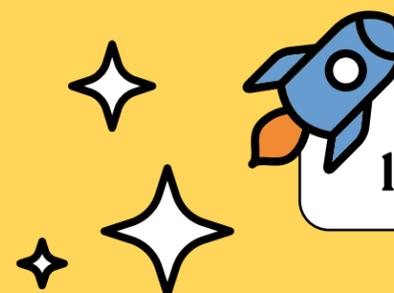
RAM (memory) stores information while PHP is loading. For example, variables and objects are stored in memory. The greater the memory, the faster your page loads...*to an extent*.

If your memory is maxed out, information is written to disk. This is especially noticeable when you don't have a solid state hard drive.

How much RAM do we need?



ILLUSTRATIONS COURTESY OF J.H.A. / PAUL VERHULST / NOUN PROJECT



**Almost enough RAM to launch an astronaut into orbit!**

Australia beat out the rest of the world with a smokin' average of 27GB of RAM. Western Europe came in second with 23GB. Do you remember the days where our computers had 512B of RAM? Australia is rocking a 54X increase. That has to make an impact on how fast pages are rendered.

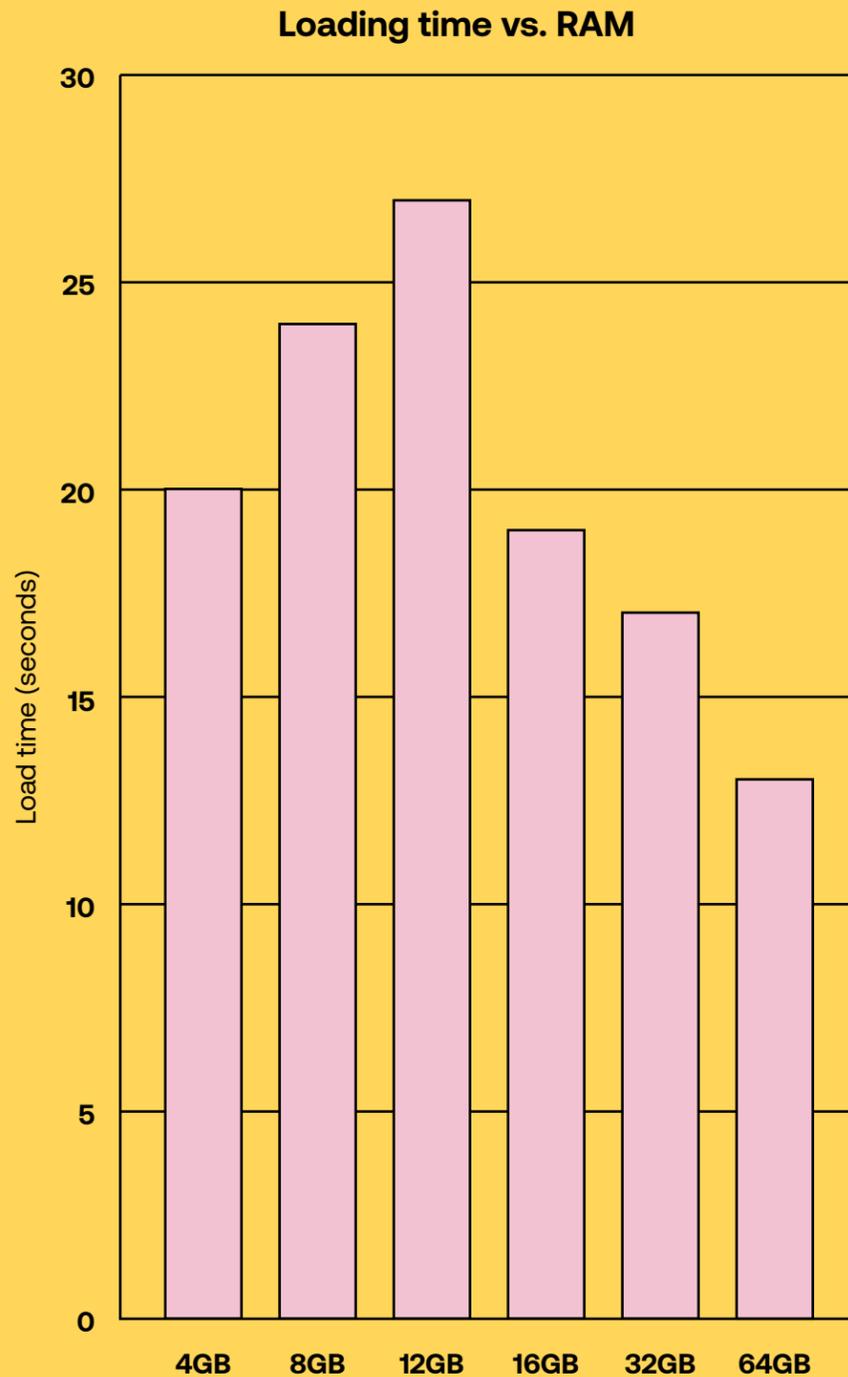
For the record, the first person in space was launched with 64K. Australia's 27GB average is *only* 452,984 times as much RAM. This surely means we can build great websites!

### But how much RAM should I get?

Based on our feedback, 16GB is a decent sweet spot. The price to buy 16GB is roughly \$87 and the time to load drops significantly at this level.

As an anecdote, my laptop has 64GB and I don't feel it's much (if any) faster than my previous computer which has 32GB.

64GB is expensive, but the load time is much less.



**Can you believe it? One of the respondents said they had 256GB of RAM. That's insane.**

# Load Time, the Bane of an Ecommerce Developer's Existence

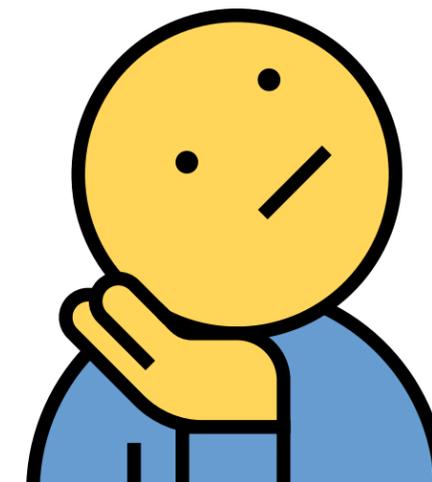
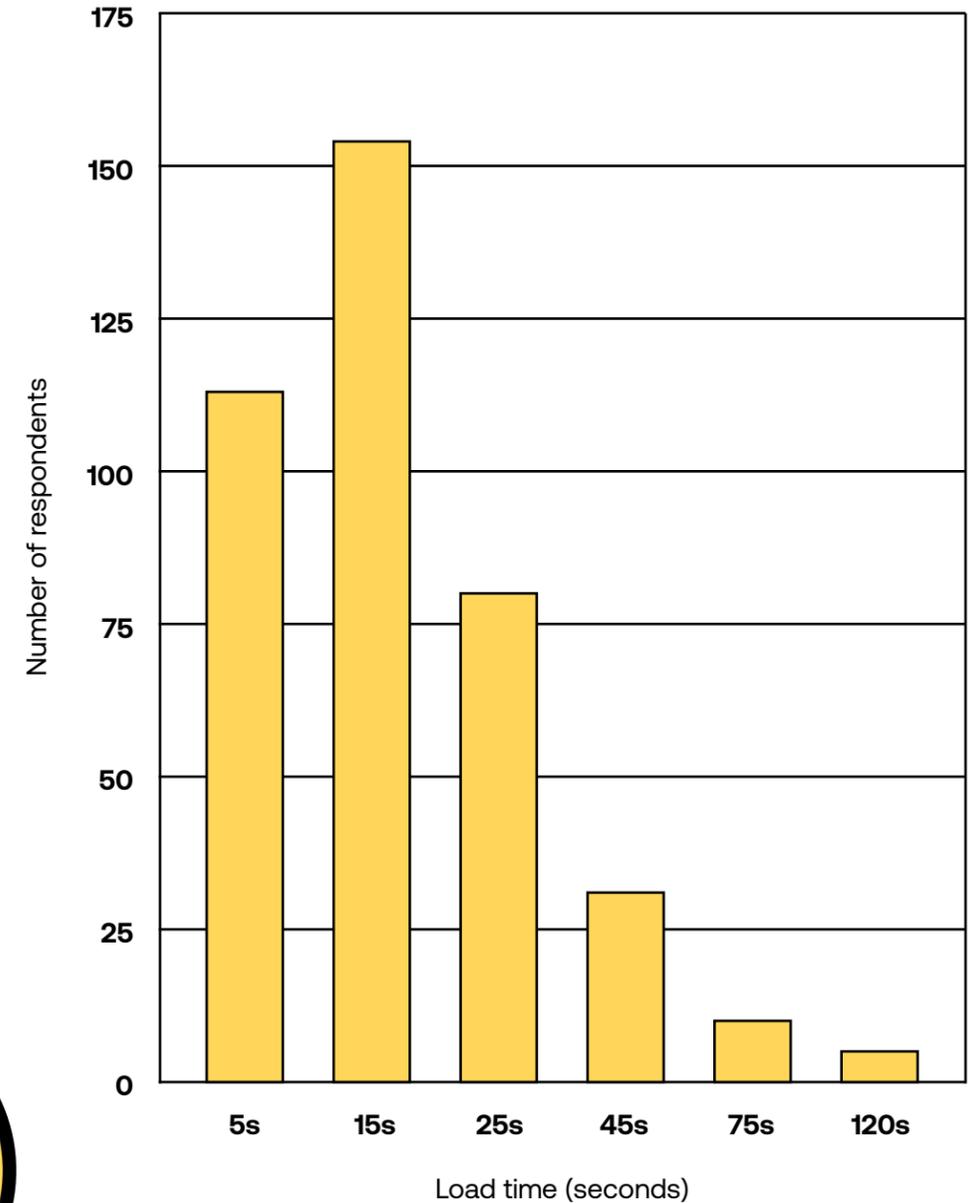


I think I can speak on behalf of most ecommerce developers in saying this: We hate waiting.

With Magento's massive codebase, many thousands of files are loaded (provided your opcode is disabled). Thousands of objects are initialized just to realize a single page load.

Loading up an uncached page just takes time. Look at this chart: There are a few of you that say it takes longer than 45 seconds to load an uncached page! Can you believe this?!

How long does it take to load an uncached page?



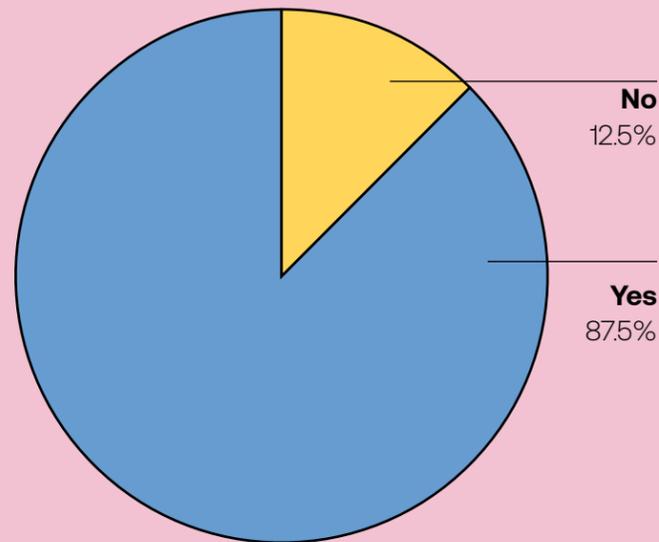
# How Do Solid-State Drives Affect Load Time?

As solid state drives (SSDs) fall in price, they are increasing in prevalence all across the world. The good news is that 87.5% of developers have SSDs. The bad news is that 12.5% don't.

SSDs are far more reliable than they used to be. If you don't actively develop on one, take this opportunity to upgrade your system. You'll be glad you did.

SSDs were reported to be 38% faster than platter-type. This is a huge boost in productivity just by this upgrade.

Do you have a solid state drive?



Loading time: SSD vs. HDD

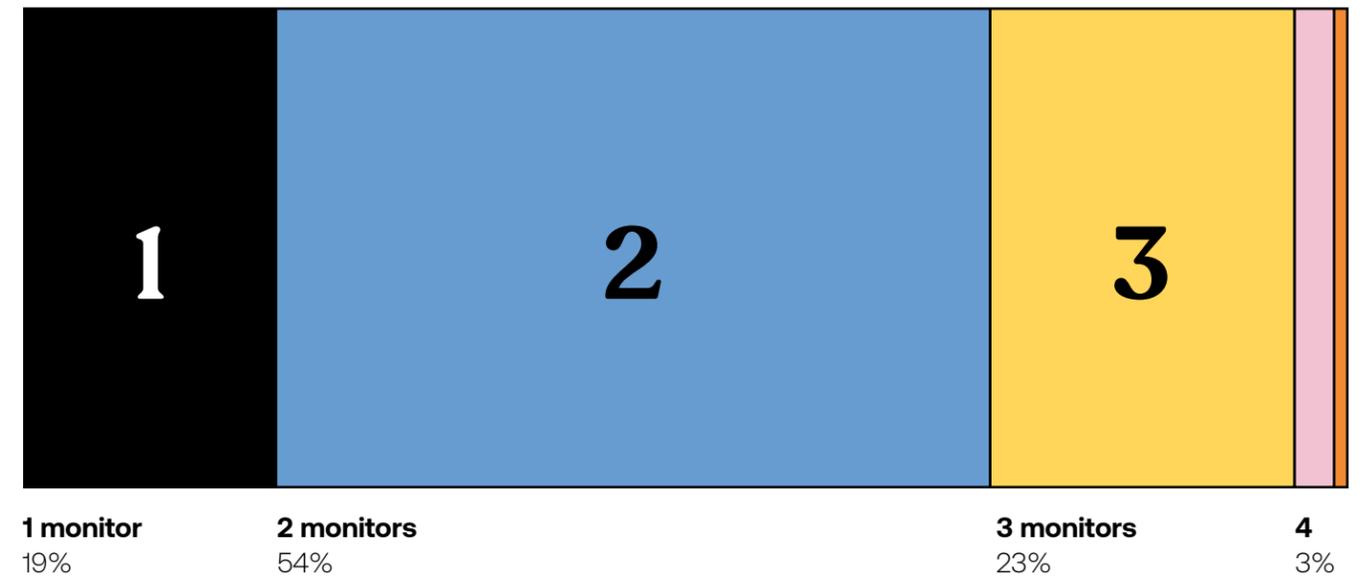


Oh, and developers who have SSDs have more memory. Way to go!

Average RAM: SSD vs. HDD



How many monitors do you use?



## How Many Monitors Should I Have?

That's a great question. I suppose it comes back to how many \$\$\$ (or ₹, £, R\$, €) you wish to spend.

Just over 50% of our respondents have 2 monitors. That seems to be the winner.

I, personally, use three monitors. My slack or email is on one (sadly), Chrome on another and PhpStorm on another.

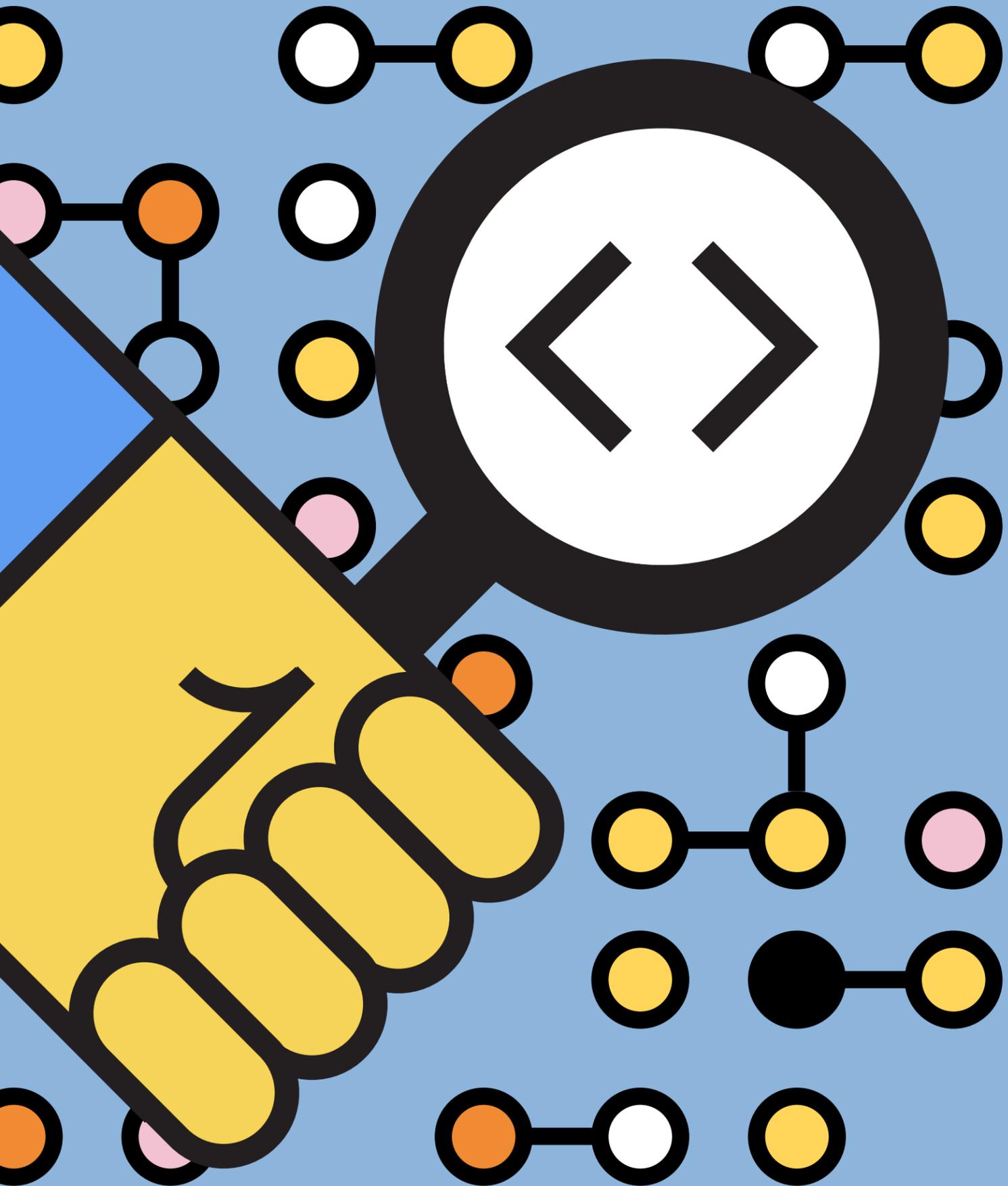
### Every craftsman has their tools.

A carpenter will have a favorite hammer. A blacksmith uses an anvil to shape steel. Your development workstation is the tool with which you craft code. The more you invest (within reason), the more productive you will be.

What about developers in India?



Unfortunately, 74% of ecommerce developers in India only have one monitor. What can we do for our heroes here? The other 26% have two monitors. No respondents in India had more than 2. I can't put a precise number on just how much ecommerce development happens here, but I believe it's significant. **Agencies and employers: Why can't we equip these developers with what they need?**



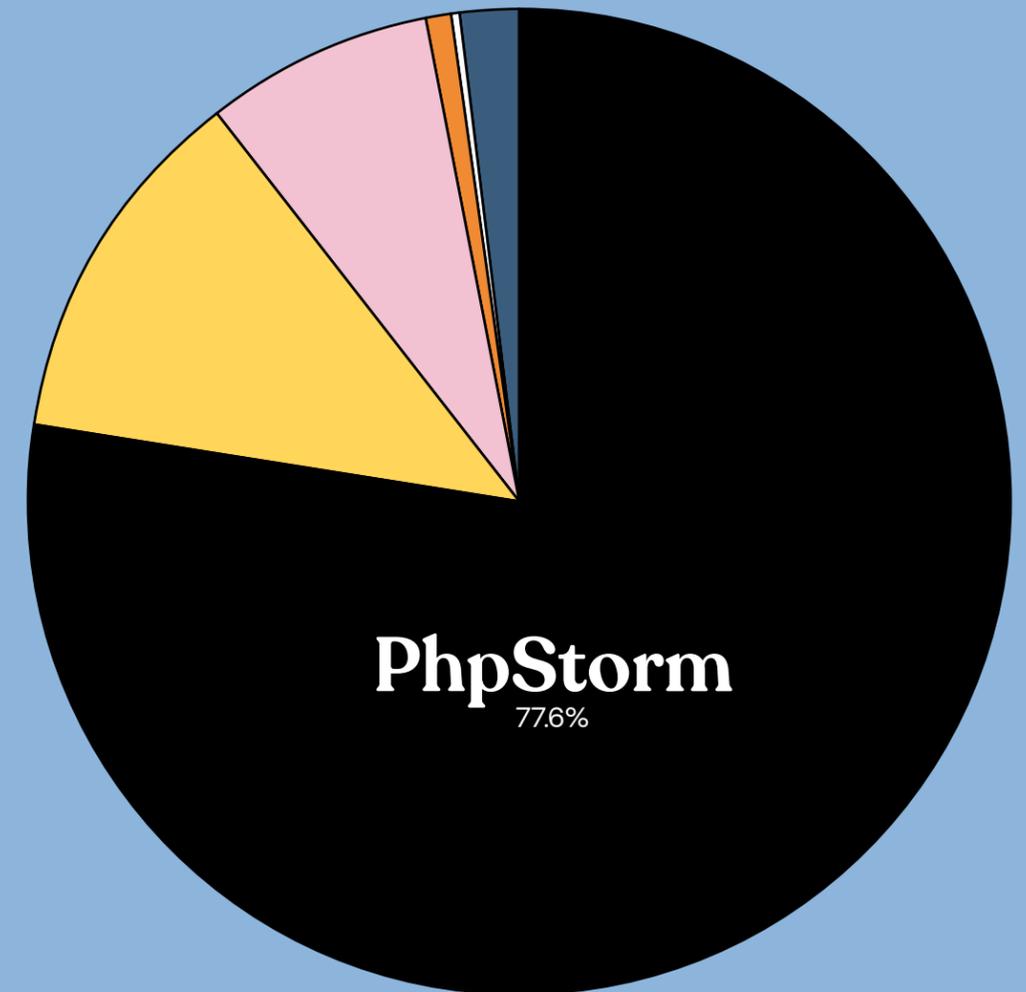
# Where's Waldo... I Mean, the Code?

I'd gear you up for a surprise, but I don't think it's possible to surprise you with our respondents' favorite IDE (integrated development environment).

Drumroll... May the winner please rise to humbly accept their award:

## What's your go-to IDE?

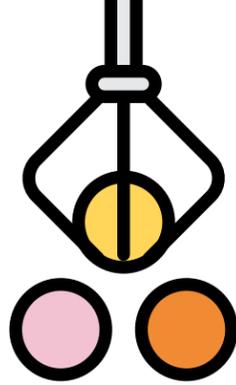
- VS Code 12.1%
- Sublime 7.3%
- Netbeans 1%
- VIM 0.3%
- Other 1.7%



**PhpStorm with VIM bundle**

It's not worth even pulling out additional statistics. If you are an ecommerce developer that even remotely touches PHP, do yourself a favor and buy the license. It's not that expensive. And, no, I'm not paid by JetBrains.

# How to Get the Goods From the Database



“It’s embarrassing,” says one of the survey participants. This person, one of the exceptionally honest souls in life, knows they need improvement, but I’d wager a guess that they don’t know the best option.

Frankly speaking, there is no clear favorite in this category. This is because every operating system has applications that only work on that platform. There are, however, two universal standouts: PhpStorm and PhpMyAdmin and a distant CLI.

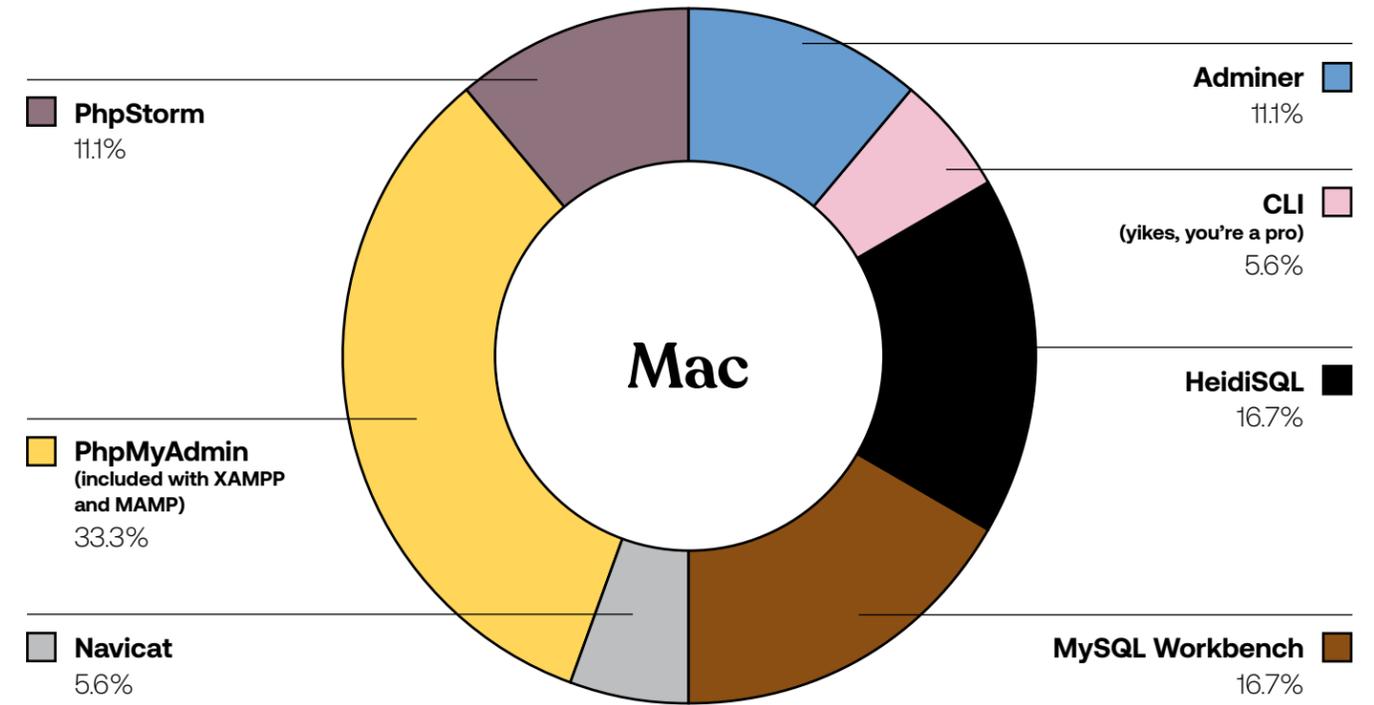
I used to use PhpMyAdmin and have since reached for native database browsers. PhpMyAdmin is included with XAMPP and MAMP, so I expect this is one reason for its significant adoption. One of the biggest limitations with PhpMyAdmin is that it doesn’t support SQL connections that are tunneled

through SSH. The result is that you have to install PhpMyAdmin on production systems, and this is a huge security vulnerability. Instead, please do consider using a browser that tunnels through SSH.

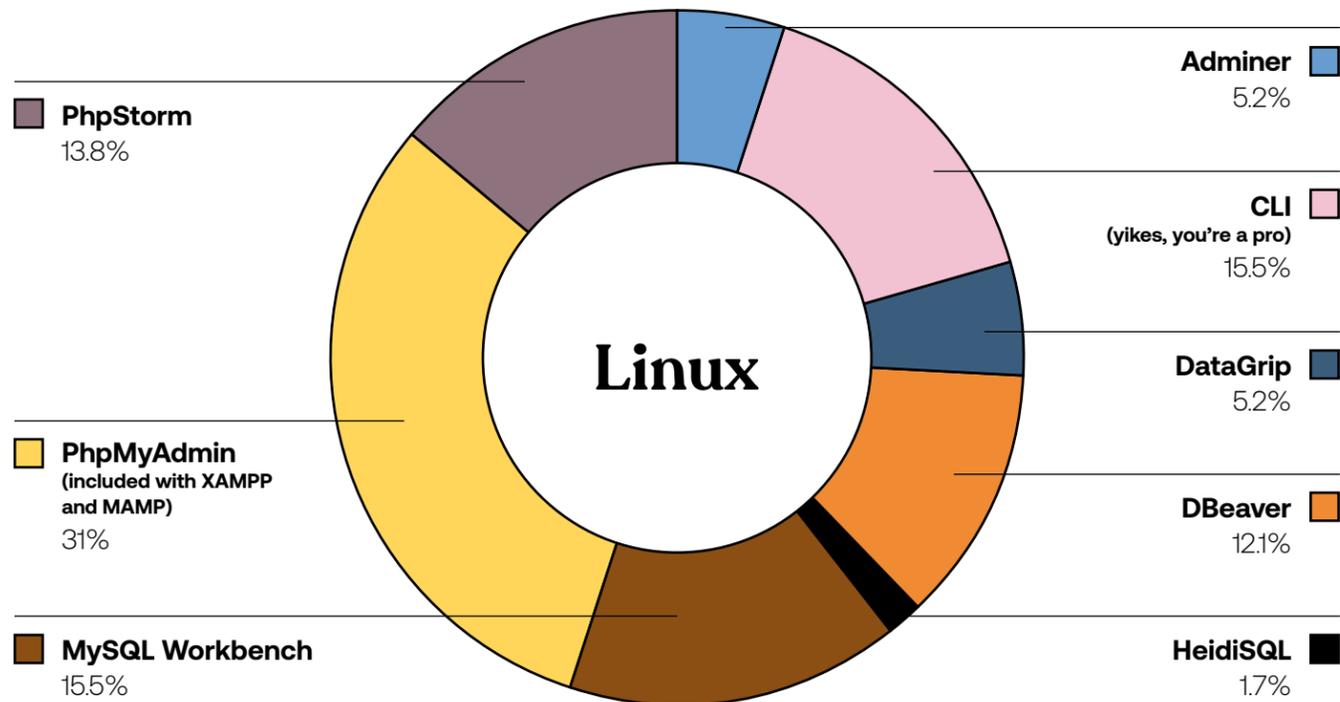
PhpStorm’s integration is quite powerful: SQL statements have autocomplete functionality. And yes, it does support SSH tunneling.

My go-to SQL editor is SequelAce, but I’m going to get back into PhpStorm following the results of this survey.

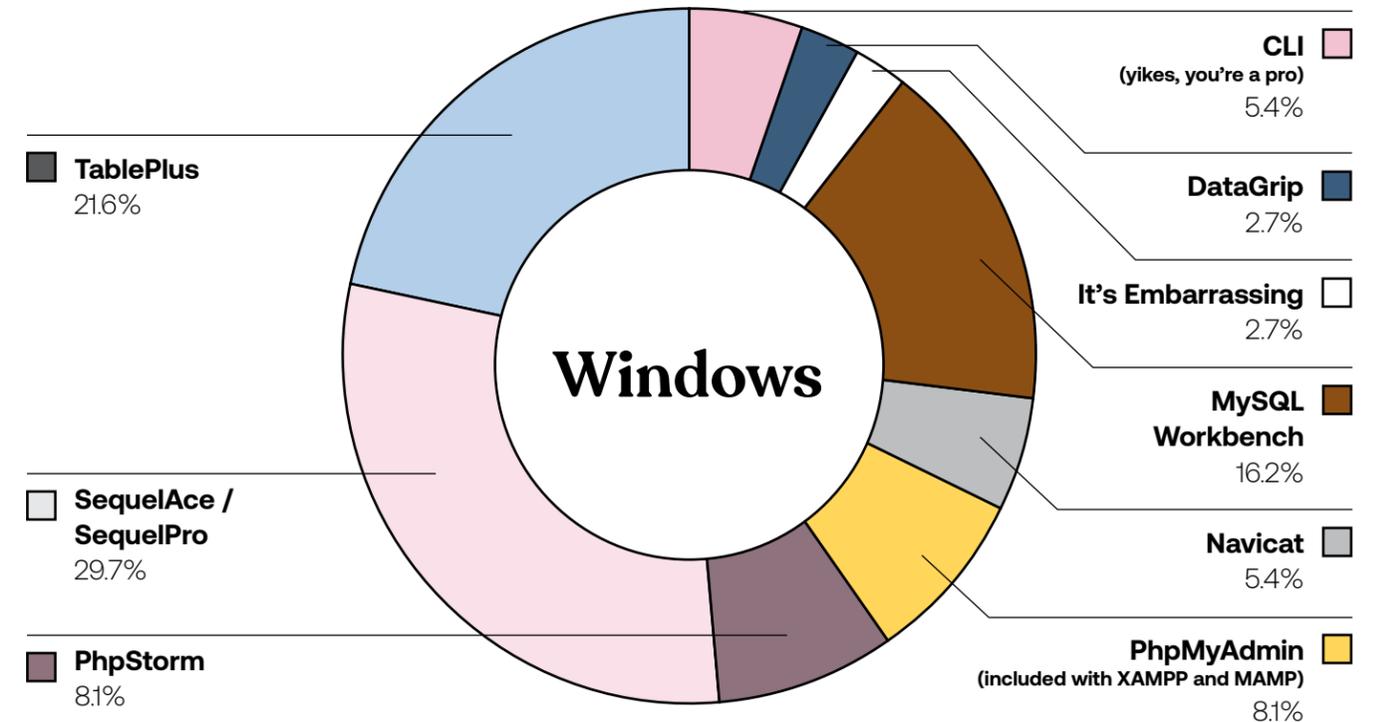
How do you interact with the database? (Mac)



How do you interact with the database? (Linux)



How do you interact with the database? (Windows)



# Until Next Time

I'm looking forward to digging  
in even more next year! Watch  
your inbox in March 2022. Fill  
out the survey and then *send it*  
to all your friends.



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