



CURRENTS

A quarterly report on developer trends in the cloud

Introduction

The landscape developers work in is ever-changing. The best way to truly understand how developers work and which tools and platforms they prefer is to ask. In August 2017, we conducted an online survey of over 1,000 developers, system administrators and other technology professionals from around the world to ask about their preferred technologies. We also dug into our own internal usage data from May-July 2017 to share new insights on how DigitalOcean customers are using the cloud.

Key findings include:

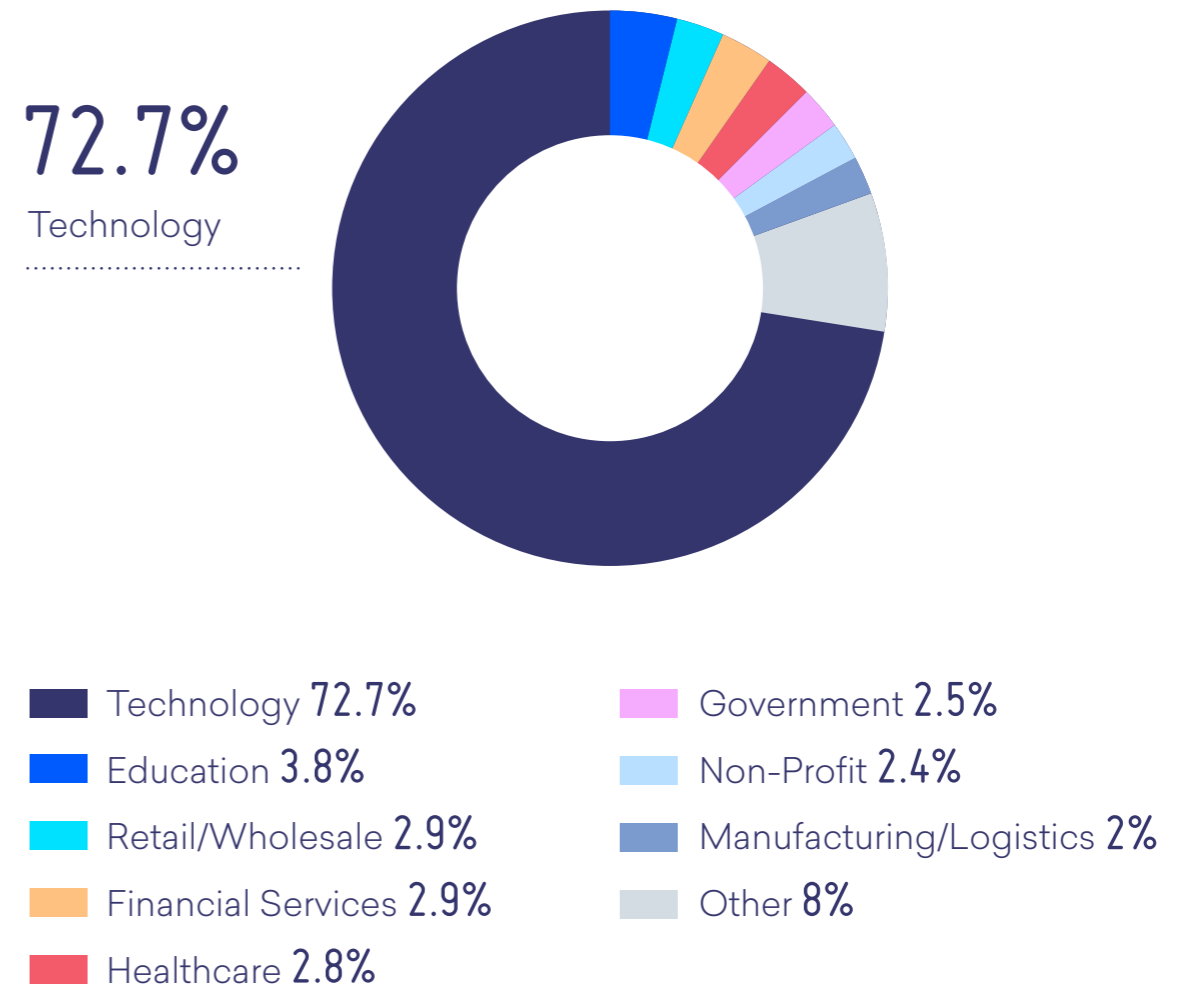
- Developers aren't worried about vendor lock-in – 77 percent said it was not a factor when choosing a cloud service.
- Desktop market share reports greatly underestimate the amount of time that developers and sysadmins spend using Linux. Thirty-nine percent of respondents reported they spend the majority of their time in a Linux environment, compared to market share reports as low as 3 percent.
- PHP and MySQL continue to reign supreme – 28 percent prefer PHP over other languages and MySQL was the most popular database software at 35 percent.
- Online tutorials and official documentation far outpace books as the preferred learning method for developers, with 80 percent preferring these resources.
- Multi-cloud deployments aren't in everybody's roadmap – 70 percent said they had no plans to implement a multi-cloud strategy within the next year.

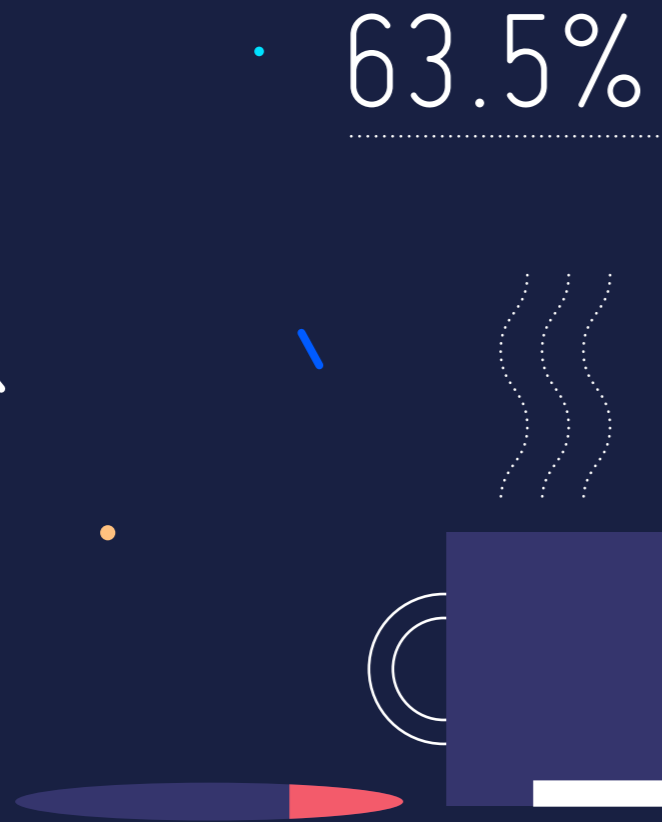
1 —

Demographics

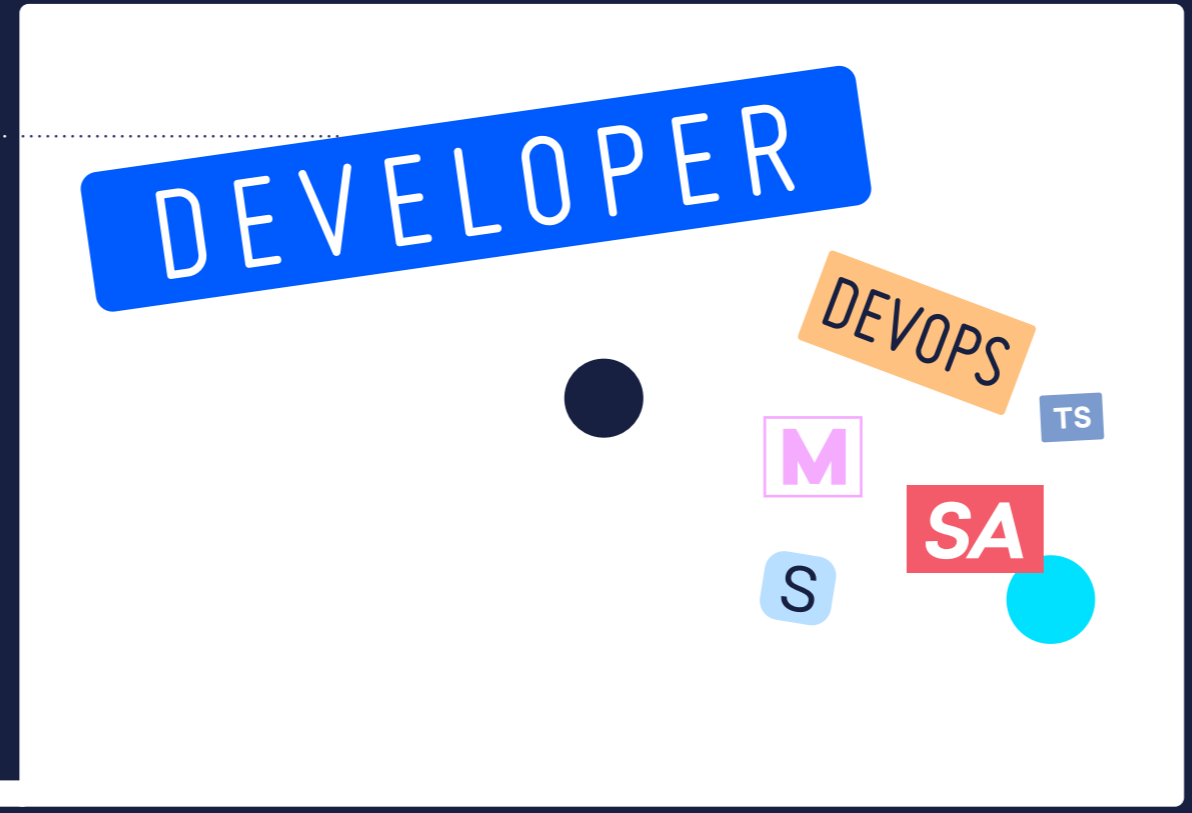
The majority of survey respondents (64 percent) identified themselves as developers and 73 percent indicated they work in technology. Respondents came from a variety of company sizes and geographies.

What industry do you work in?





63.5%

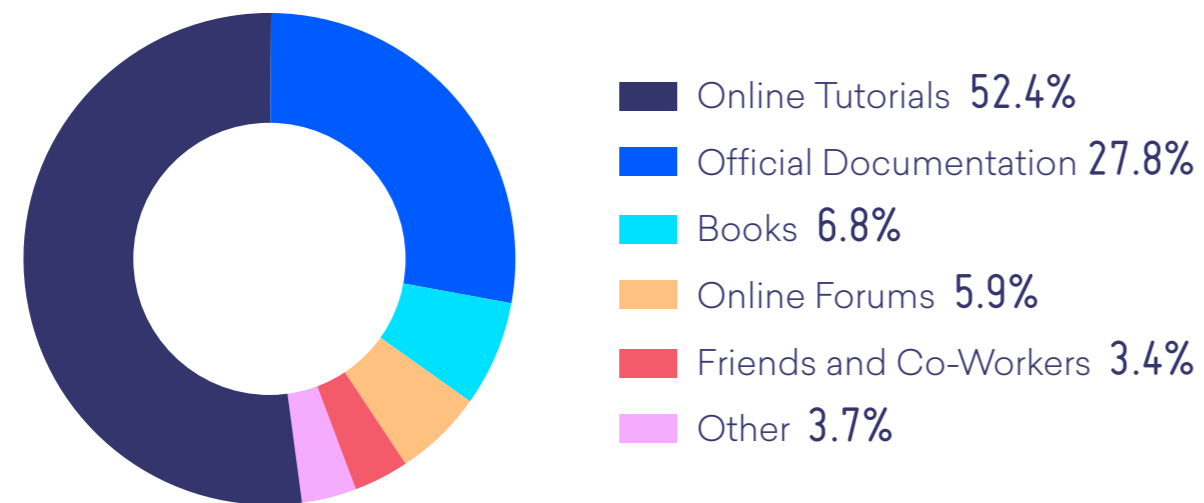


- Developer 63.5%
- DevOps 13.7%
- Systems Administrator 7.8%
- Manager 5.2%
- Student 3.5%
- Technical Support 1.7%
- Other 4.6%

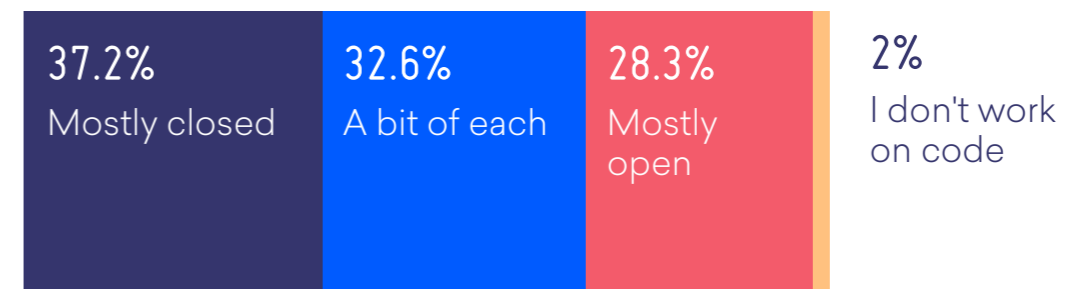
I consider myself a...

The majority of our respondents (64 percent) self-identified as developers while 14 percent identified as DevOps. A smaller percentage identified as systems administrators, managers, students and technical support.

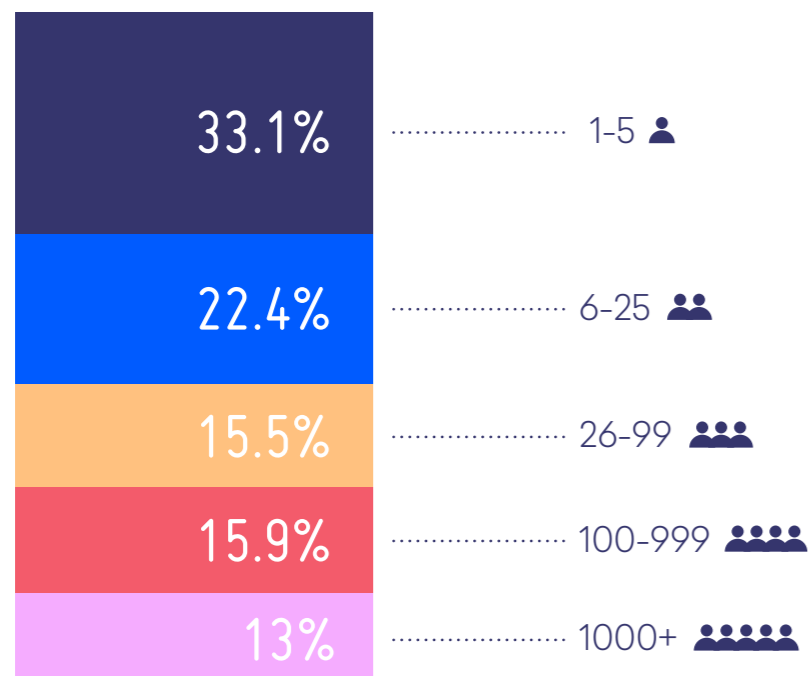
Which is your preferred way to learn about new technologies?



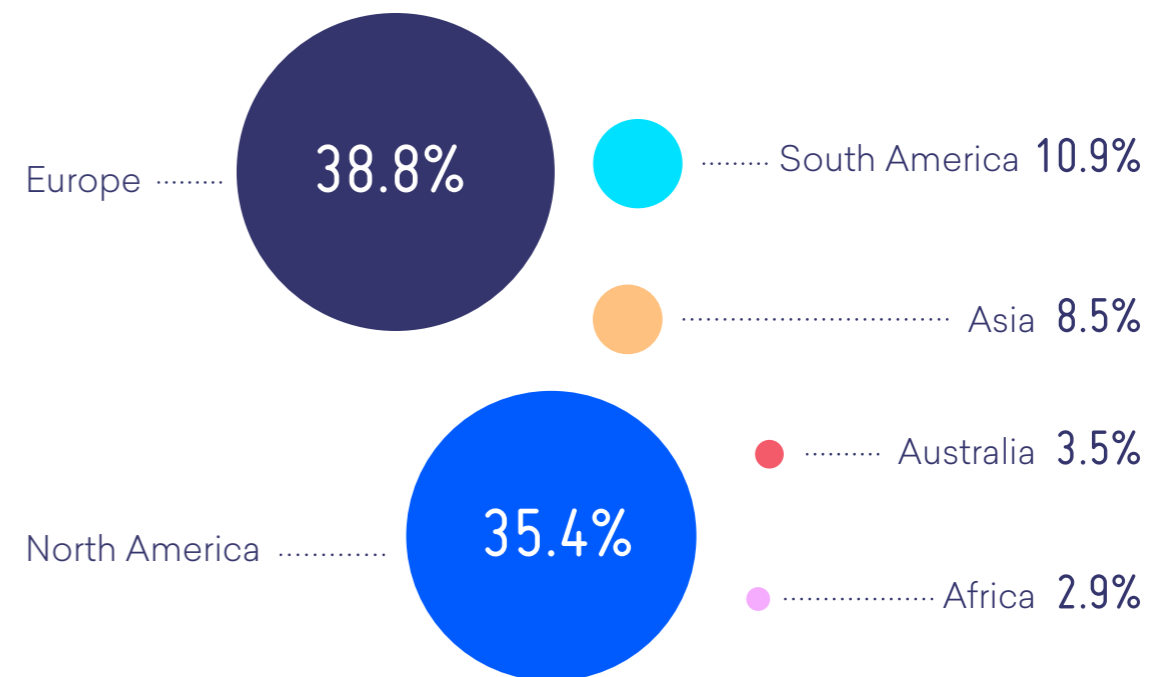
Do you mostly work on open or closed source code?



What size is your company (number of employees)?



Where are you located?

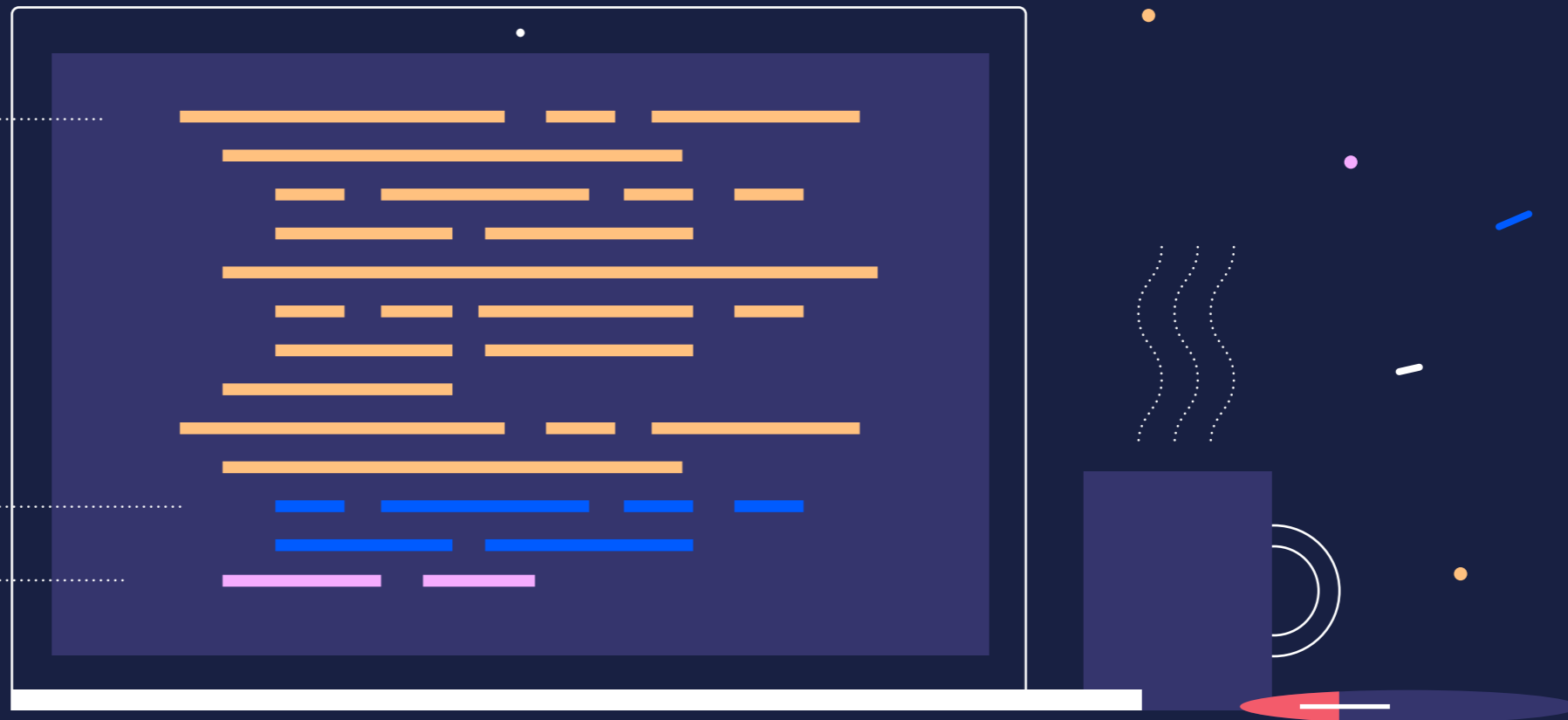


79.1% Both

11.8% Professionally

7.6% Hobbyist

1.5% I don't write code



Do you write code as a hobby or a profession?

Most people we surveyed said they don't stop writing code when they get home from work. Seventy-nine percent said they write code both professionally and as a hobby and only 12 percent put their keyboards away after office hours.

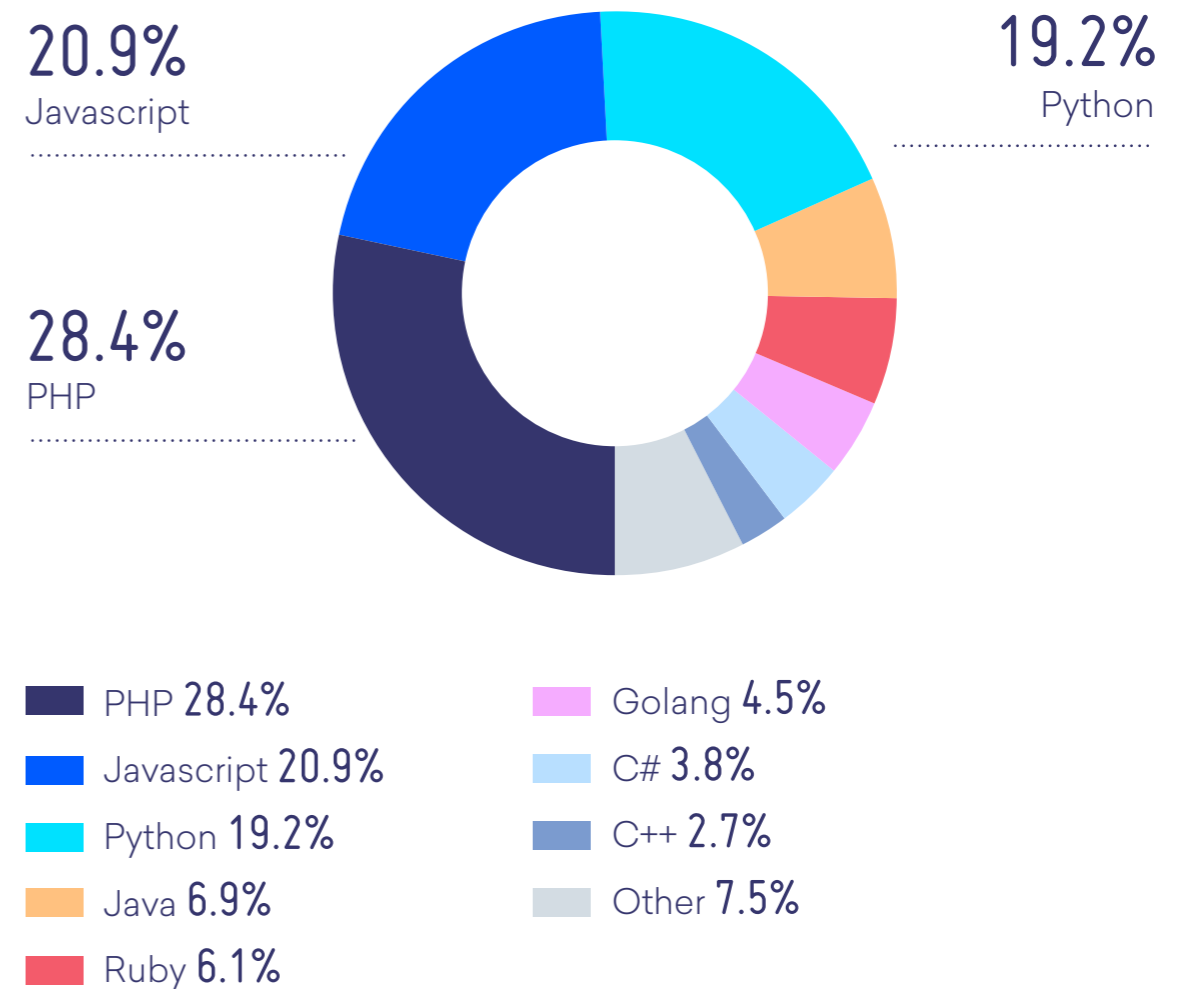
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Platforms & Tools

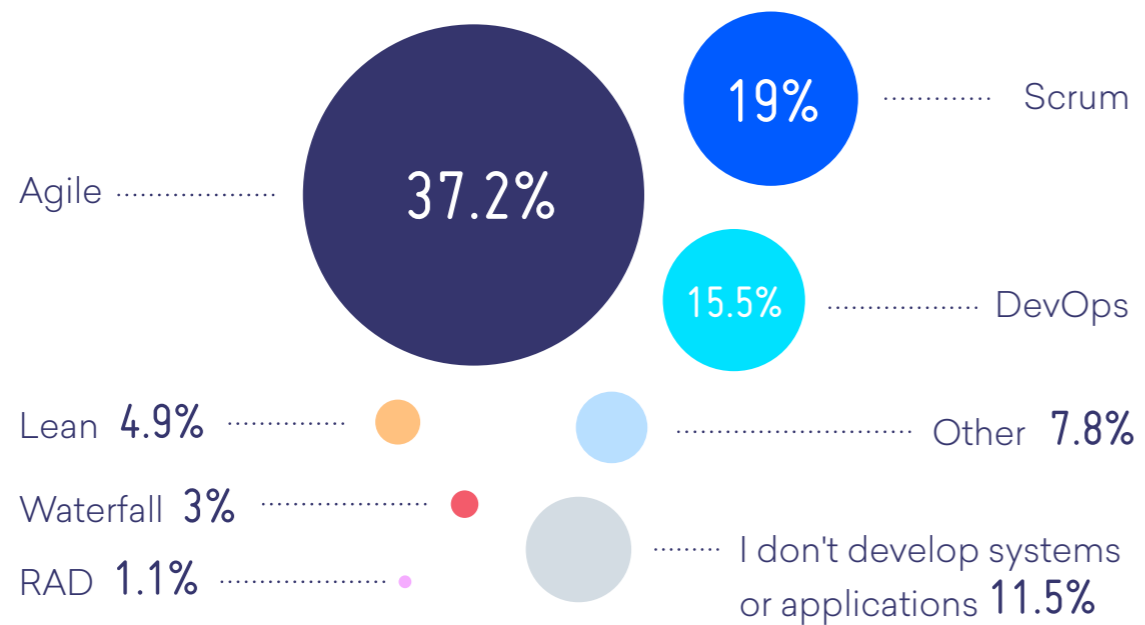
Developers work with a large variety of tools and services so we asked about their personal preferences. The most popular programming languages among those surveyed were PHP, Javascript, and Python. The majority of users described their development methodology as Agile or Scrum, while only three percent indicated they are using Waterfall techniques. We found there is no real consensus about which IDE is best. On the server side, Nginx and MySQL/MariaDB reign supreme. Forty-seven percent of those surveyed reported using GitHub as their source code repository of choice.

Our internal data at DigitalOcean indicated that Docker is by far the most popular One-Click application and users who create FreeBSD Droplets are the most likely to keep it around for a longer period of time.

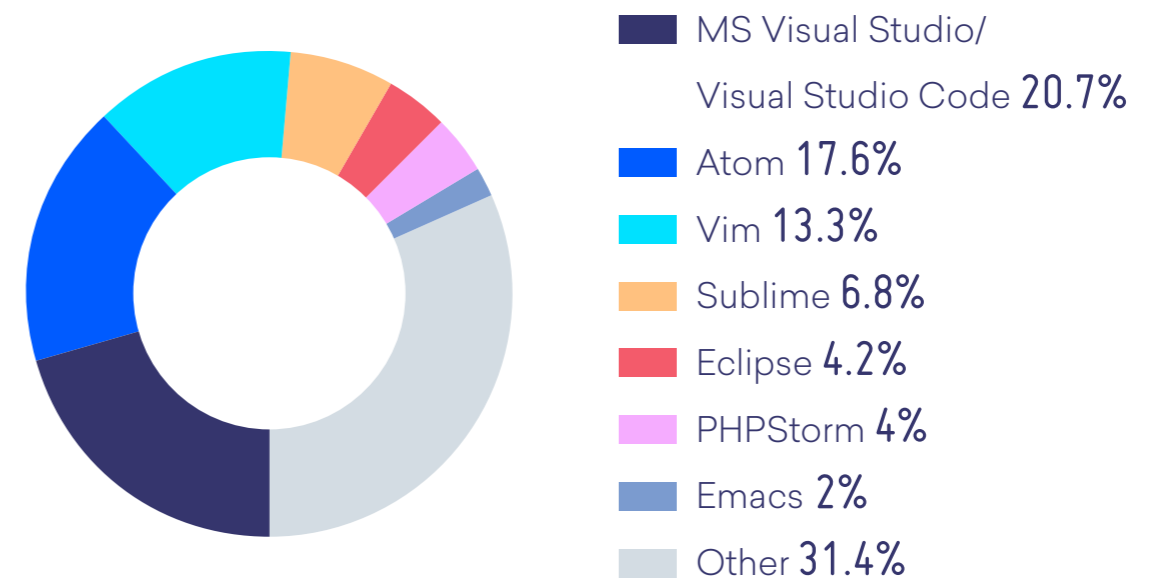
What is your programming language of choice?



Which development methodology do you prefer to use?



What is your preferred development environment?



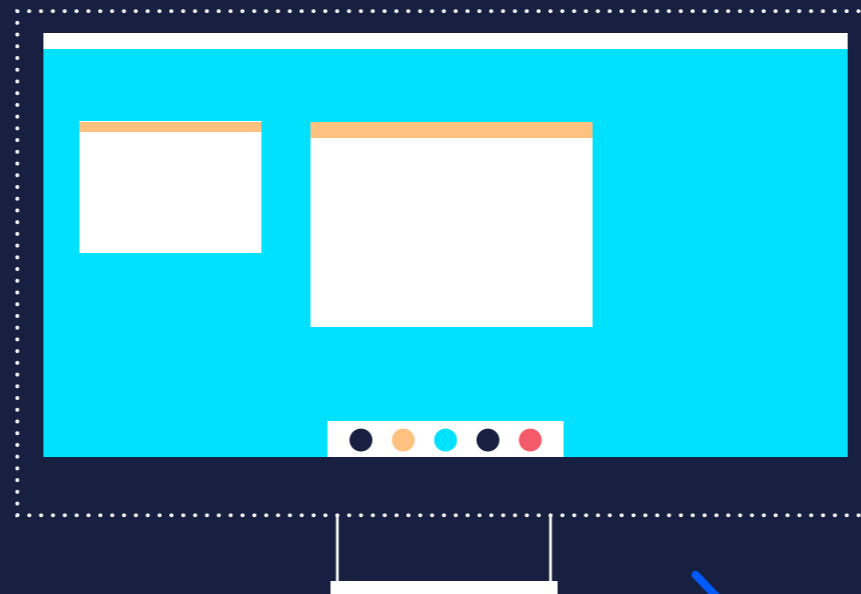
38.6%

Linux



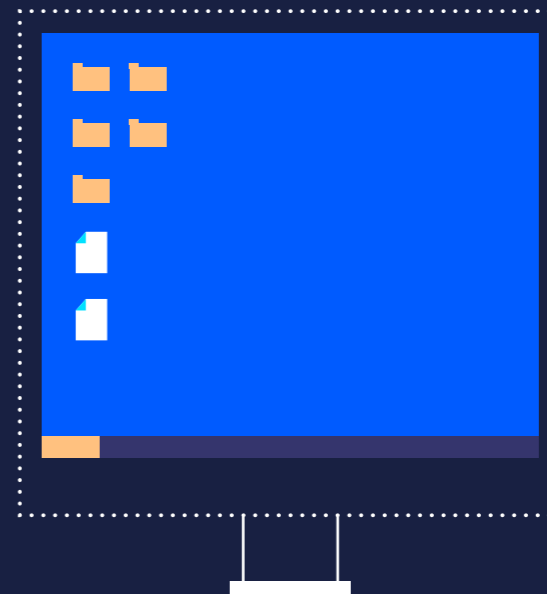
36.4%

MacOS



23.1%

Windows



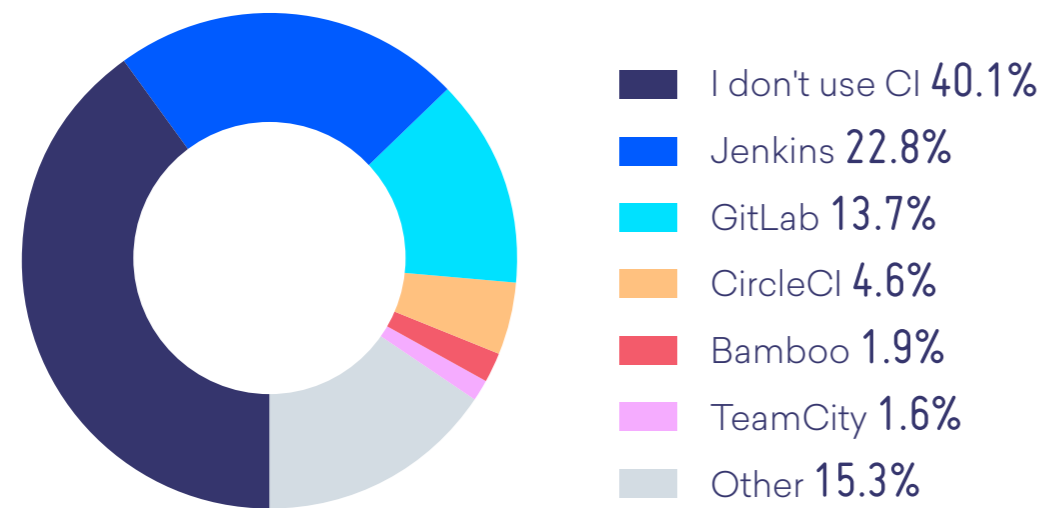
1.9%
Other



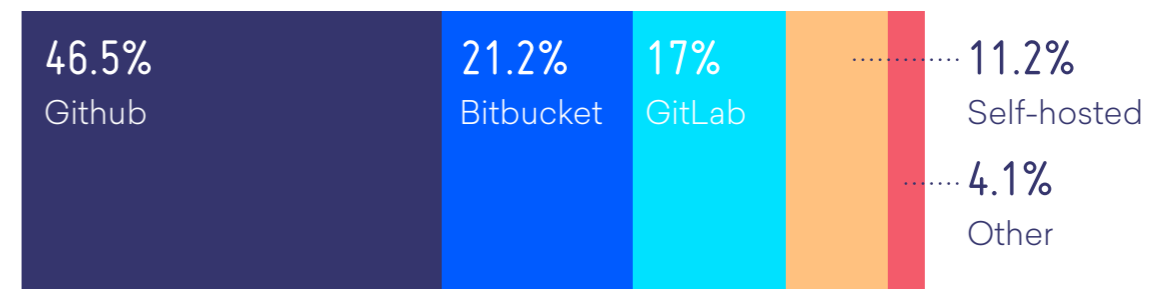
Which operating system do you spend the most time using?

We asked which operating system respondents spent the most time using and found it was Linux at 39 percent. This is not especially surprising when considering Linux server market share. We also found that MacOS (36 percent) far outpaced Windows (23 percent) among the developers we surveyed.

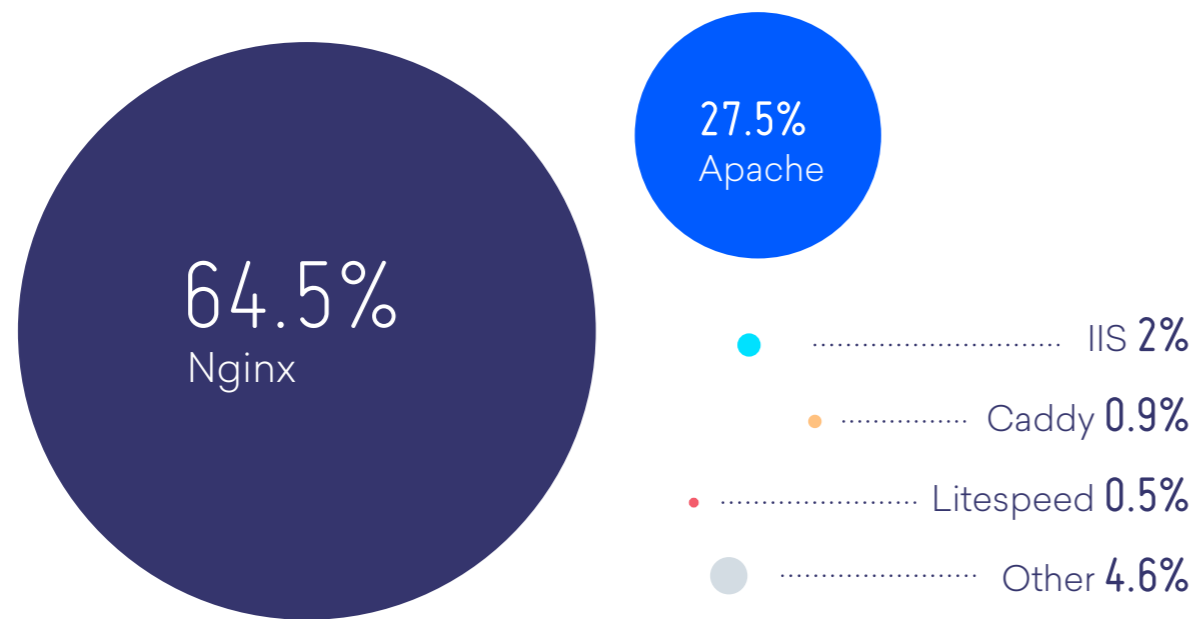
If you use a continuous integration solution, which one?



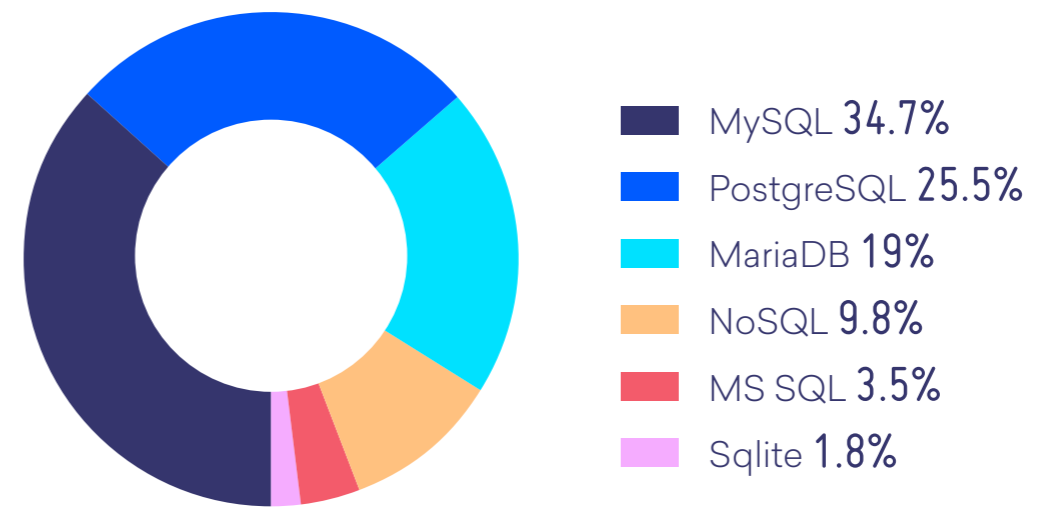
Which source code repository do you use?



What is your web server software of choice?



What is your database software of choice?





58%

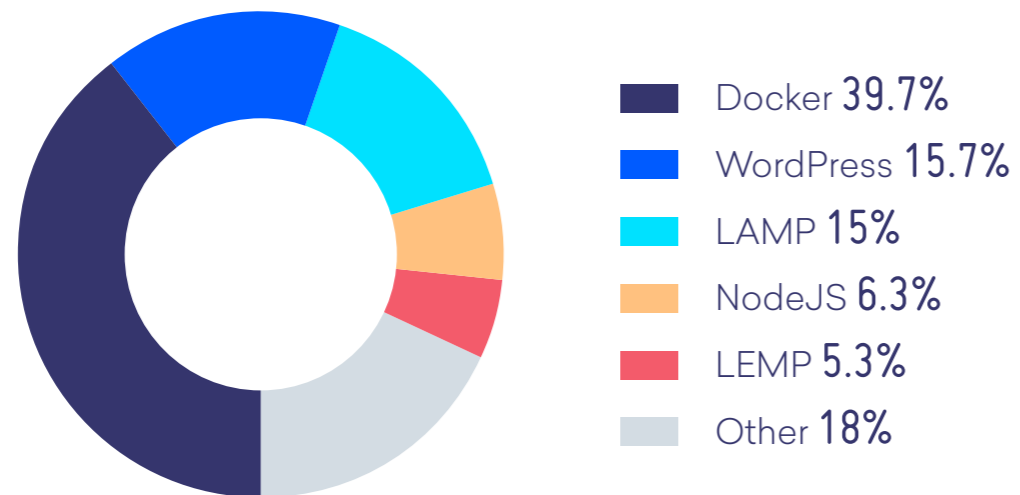
Of users have added an SSH key to their account

*Source: DigitalOcean internal data

Do most users use SSH keys instead of passwords?

Any time you work with servers connected to the public internet, security must be a primary concern. Using SSH keys rather than passwords can have a large impact on how susceptible to attack your server is. We found that the majority (58 percent) of users on DigitalOcean who have an active Droplet also have an SSH key on their account.

Which application stacks are developers deploying?



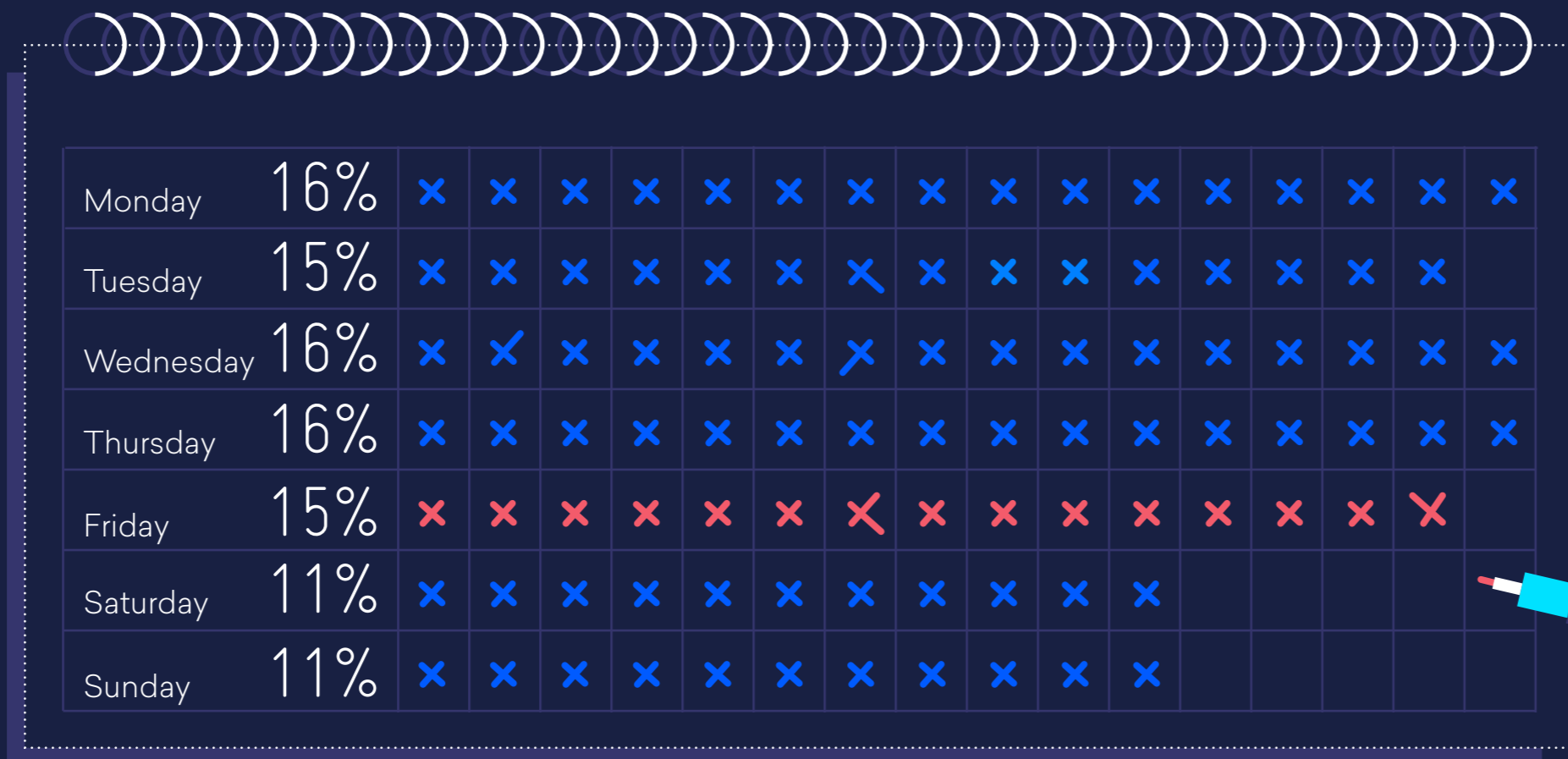
*Source: DigitalOcean internal data

Which distributions are most likely to be run long term vs temporarily?

Many use cases require the regular creation and deletion of Droplets. We wanted to know which operating systems are most likely to be kept running once they are launched. These five distributions have the highest percentage of Droplets created that continue to run over time:

1. FreeBSD
2. Debian
3. Ubuntu
4. Fedora
5. CentOS

*Source: DigitalOcean internal data



*Source: DigitalOcean internal data

On which day of the week do people deploy?

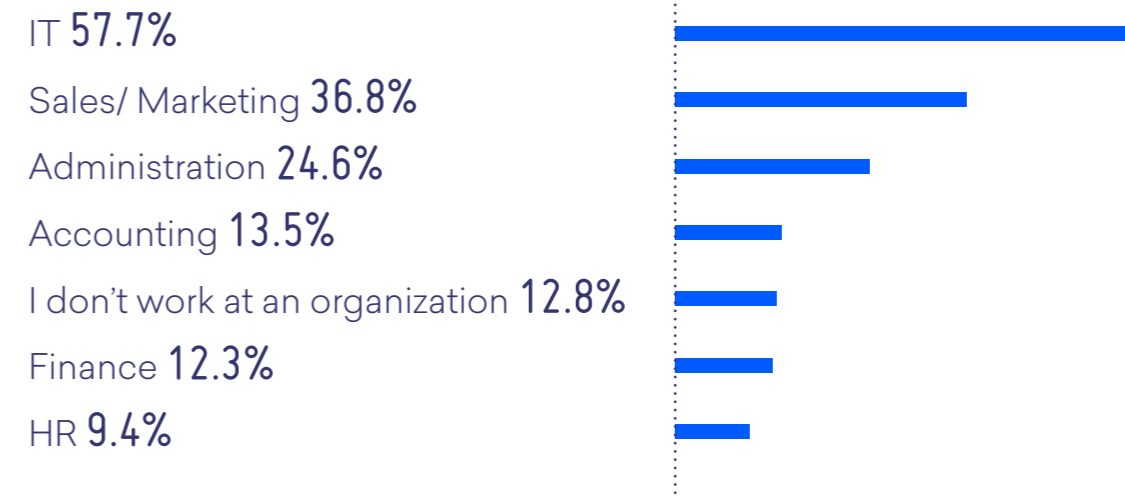
Common knowledge among developers says that it's a bad idea to deploy on a Friday because sysadmins and developers are often unavailable on weekends to fix potential problems. Despite this, we see no significant difference between the number of Droplets created on a Friday compared with other weekdays.

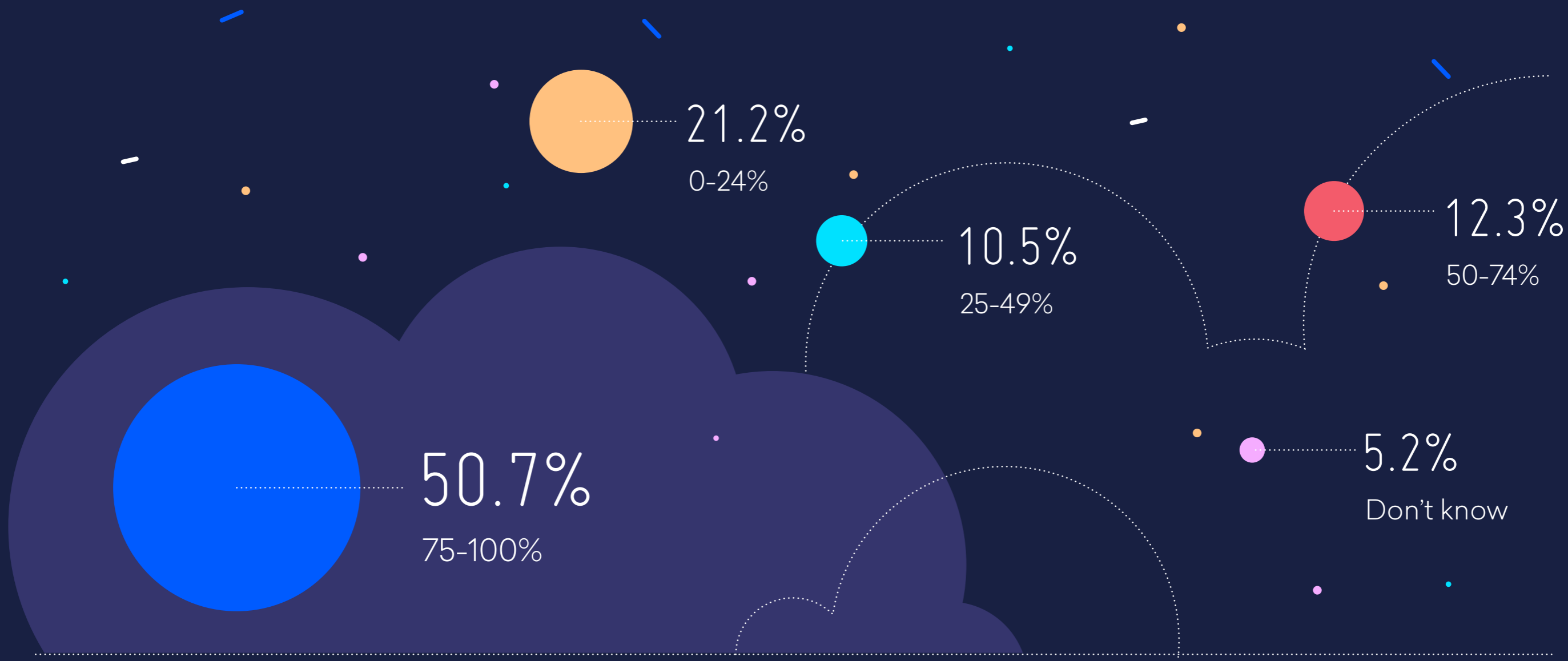
3 —

Using the cloud

As a cloud provider, we were especially interested in how respondents made use of the cloud for work. We learned that IT is the number 1 consumer of cloud services in most organizations, while sales and marketing took second place. We also found that 63 percent of respondents needed to scale their infrastructure at least once a year.

Which of your business functions are most reliant on applications in the cloud?

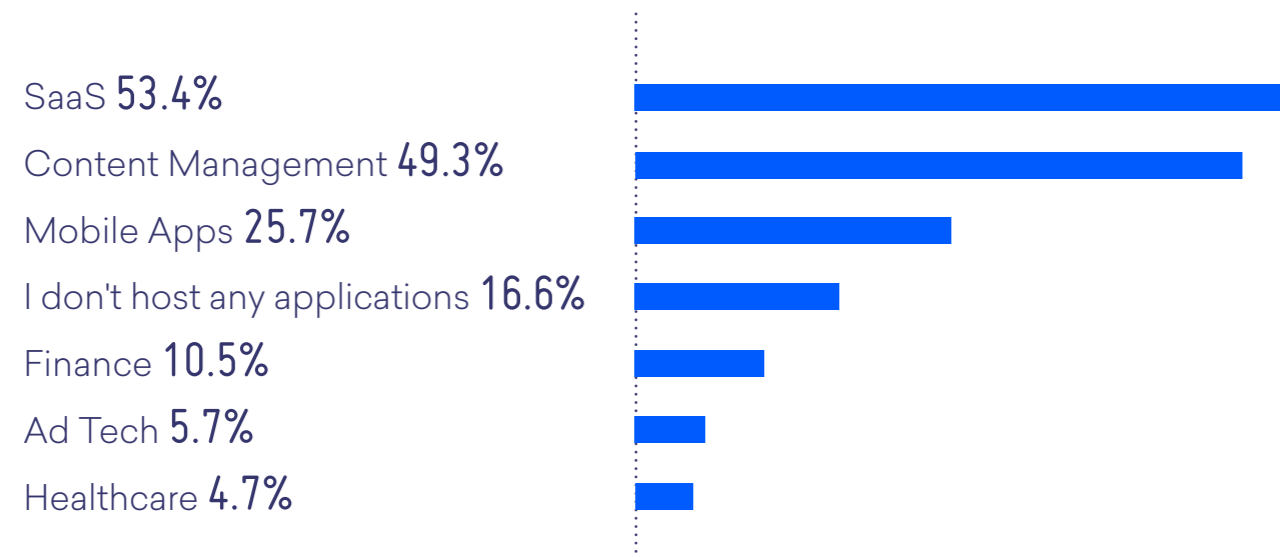




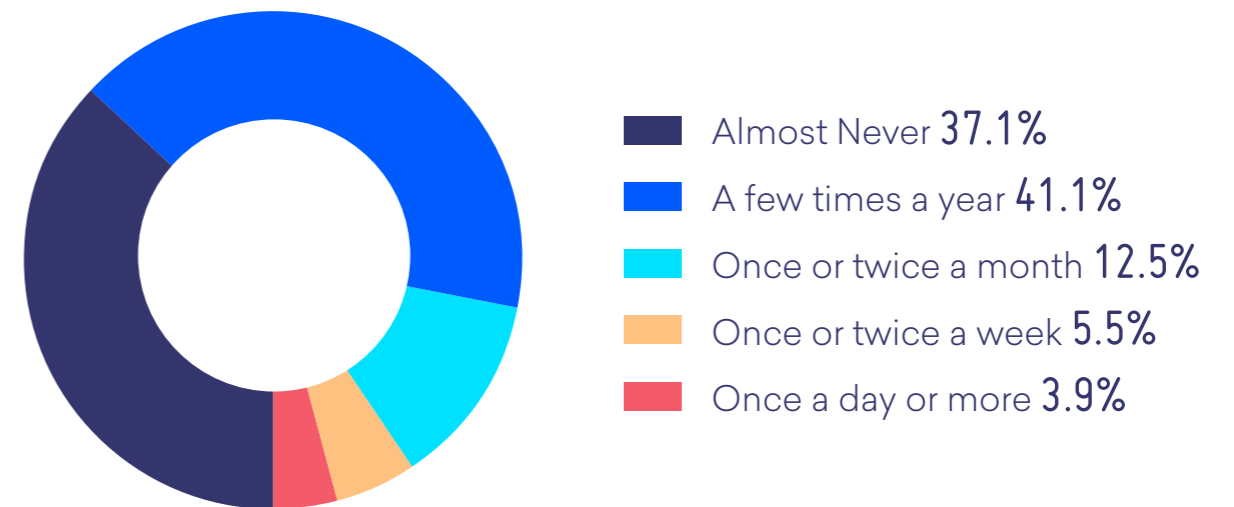
What percentage of your applications are hosted in the cloud?

We were not surprised to see that half of respondents ran most, or all, of their applications on cloud servers, while 21 percent ran less than a quarter of their application infrastructure in the cloud.

Which applications do you host most frequently in the cloud?



How frequently do you scale applications to meet new business demands?

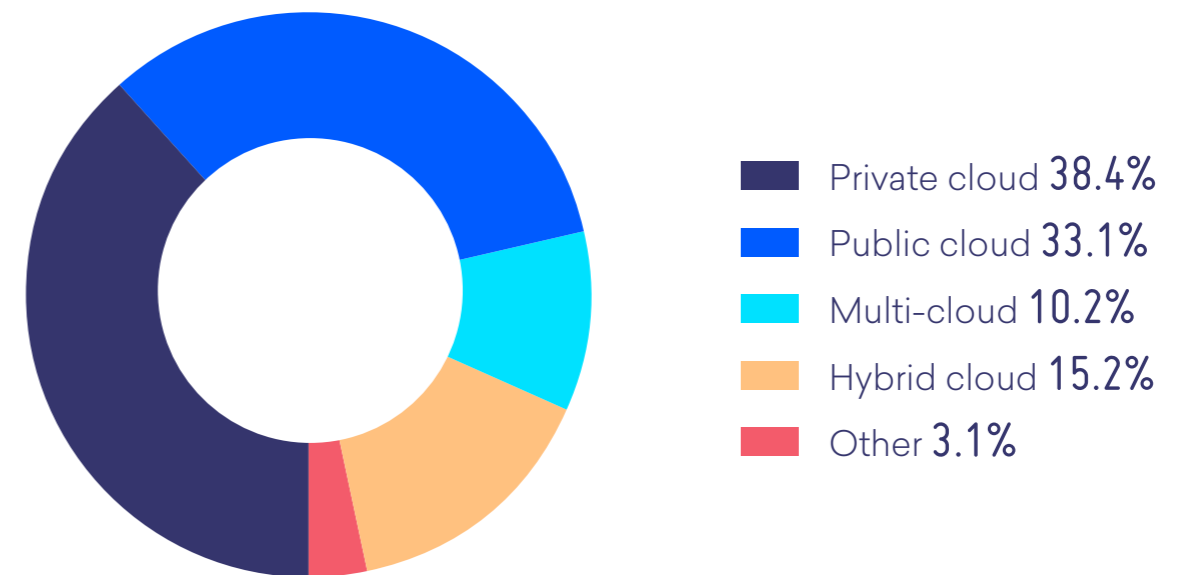


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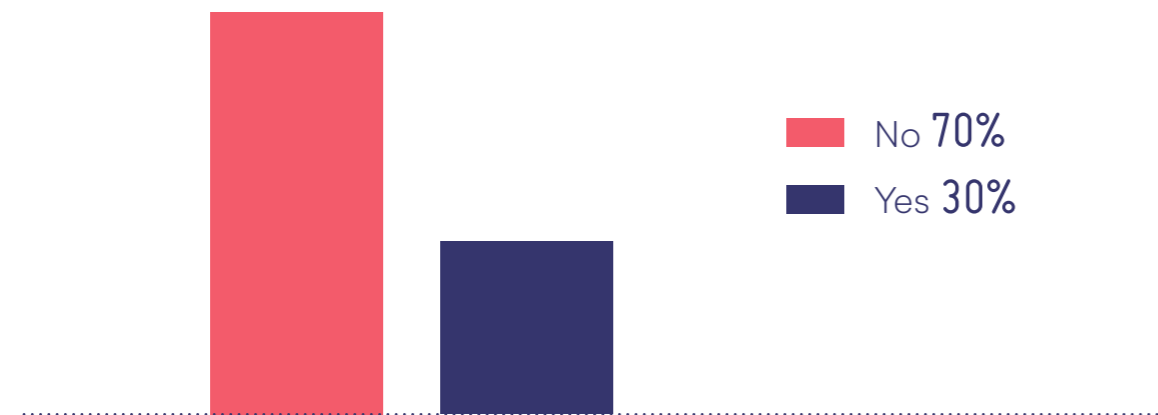
Multi-Cloud

Multi-cloud refers to the use of multiple cloud computing services in a single heterogeneous architecture. We asked respondents whether they had, or were planning to adopt, a multi-cloud strategy for hosting their applications and services. While 47 percent of respondents report using more than one cloud provider, only 10 percent considered their strategy to be “multi-cloud”. It also appears that vendor lock-in was not a major issue for cloud users; only 23 percent of respondents reported concern.

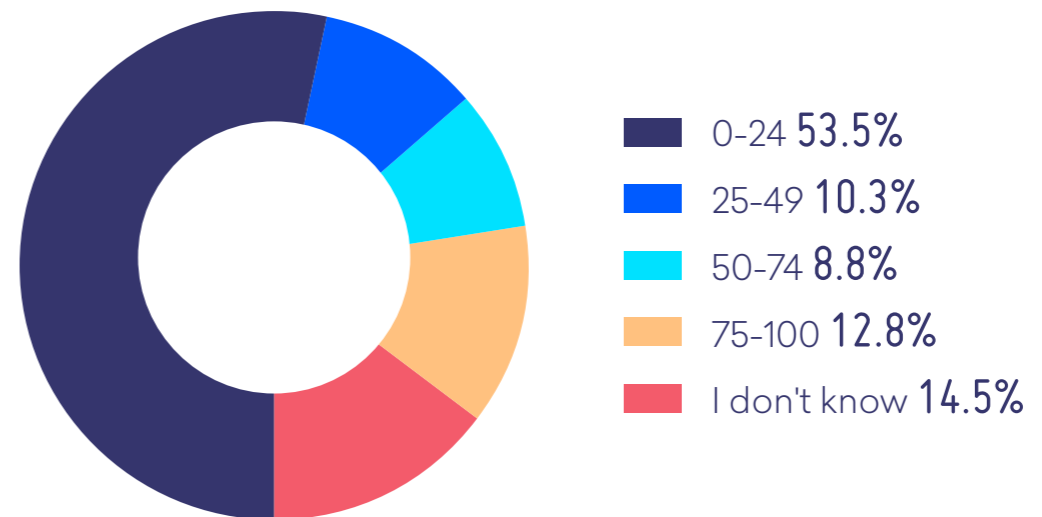
What term best describes your cloud strategy?



If you don't have a multi-cloud strategy, do you have plans for one within the next year?



What percentage of your applications run across public clouds from multiple providers?



33.2%

Flexibility

29.4%

Reduced
downtime risk

15.5%

Other / Don't know

14.5%

Scalability

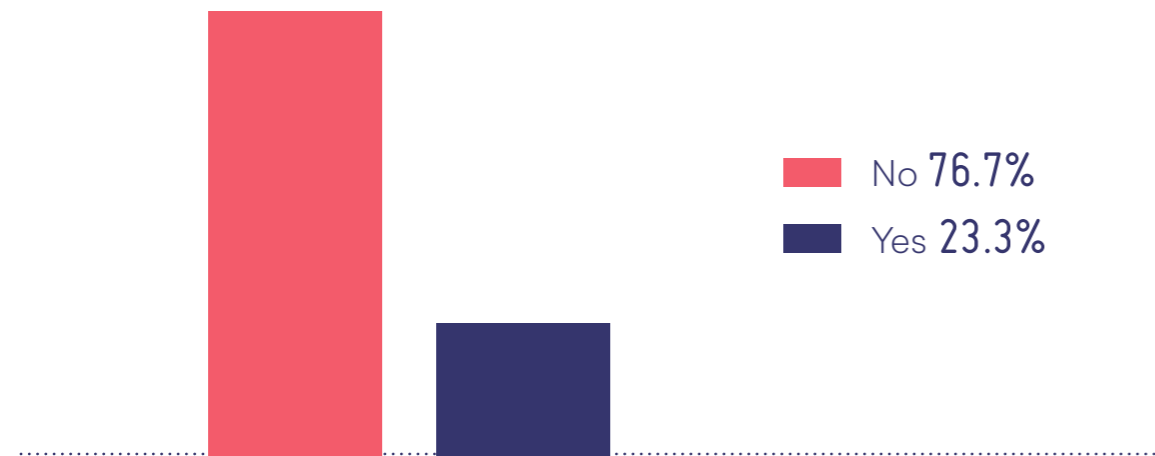
7.4%

Geographic reach

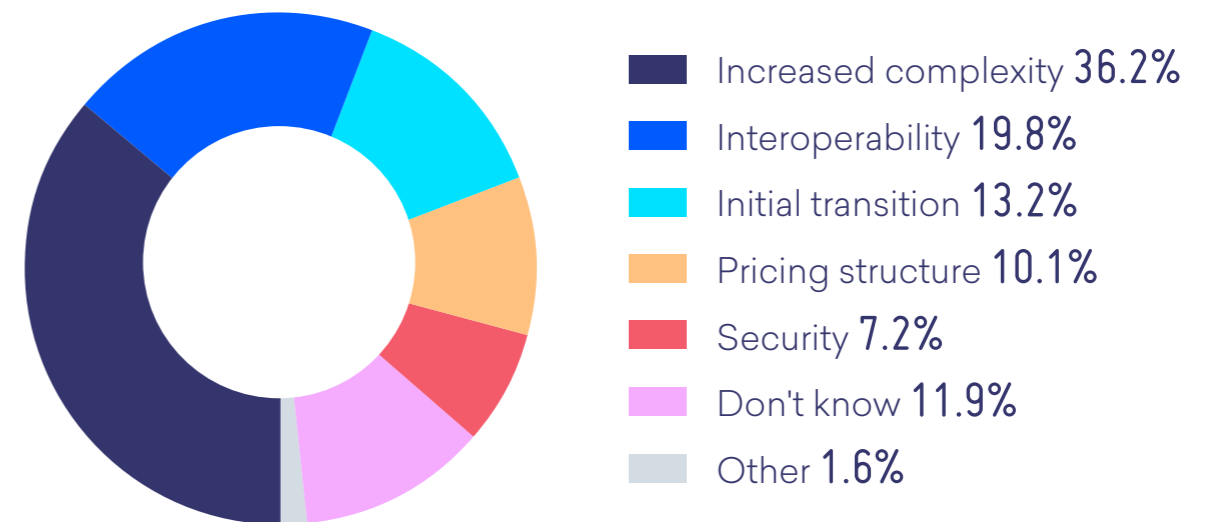
What is the greatest benefit of implementing a multi-cloud strategy?

Flexibility was considered the greatest benefit of a multi-cloud strategy by the largest number of respondents (33 percent), while only seven percent considered geographic reach to be the primary benefit. Twenty-nine percent found the greatest benefit to be the reduced risk of downtime for their applications.

Have you ever decided to not use a cloud service because of vendor lock-in fears?



What is the biggest challenge of implementing a multi-cloud strategy?



5 —

Cloud Storage

With the launch of Spaces, our own object storage product, we were very interested in how respondents use it. We found that 45 percent of respondents are using object storage, and the most important features when choosing a storage service are cost effectiveness, uptime, and backup capabilities.

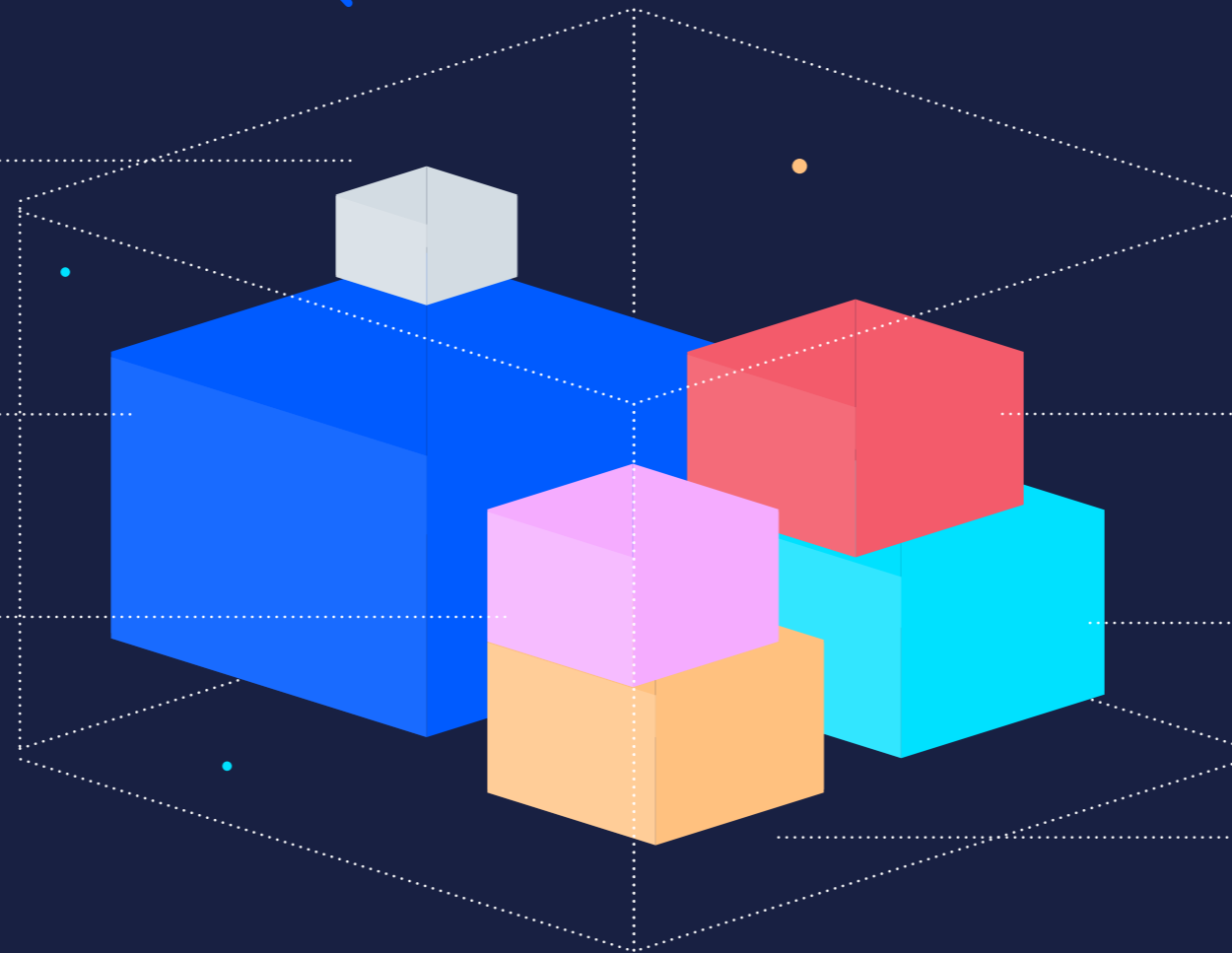
Do you currently have an object storage solution?



14.7%
My provider offers it

75%
Cost

28.3%
Interoperability



33.6%
Backup Capabilities

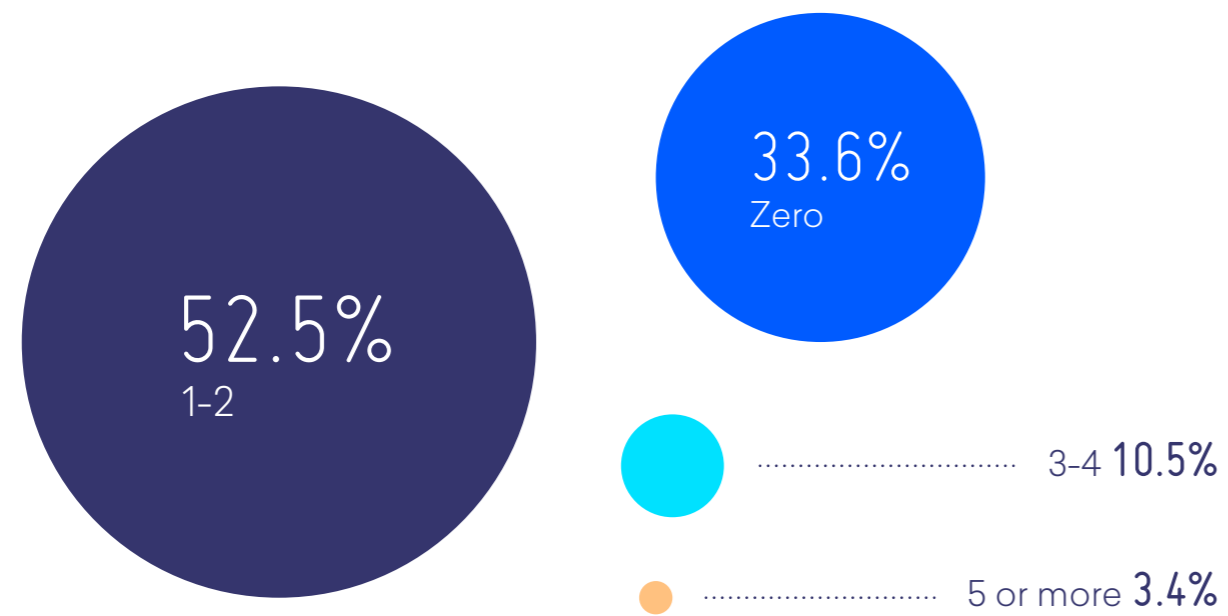
45.1%
Up-time Guarantee

30%
Capacity

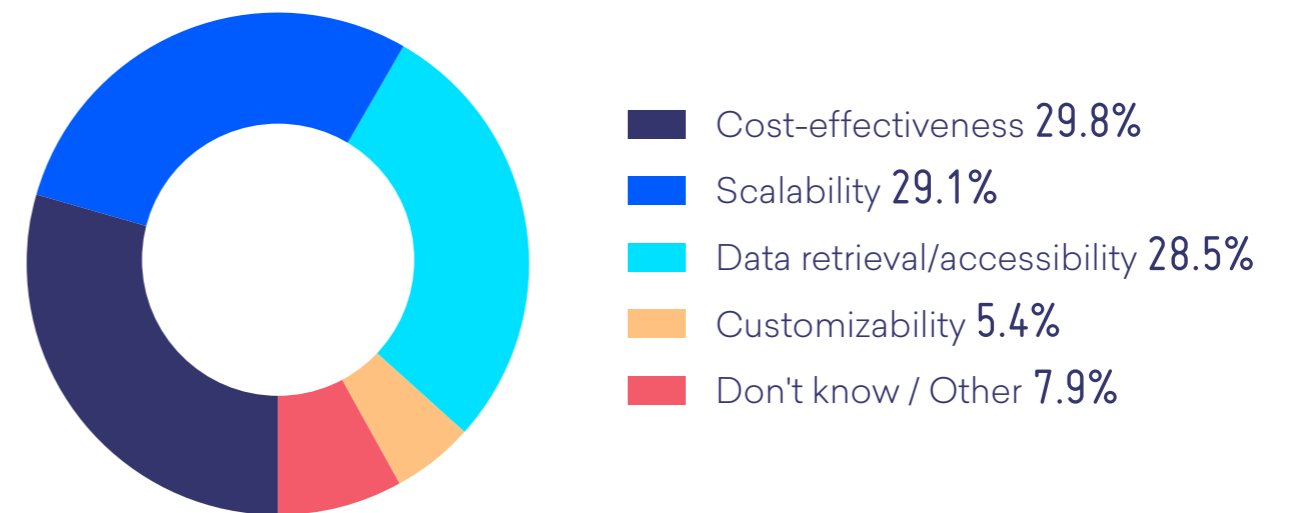
What are the most important factors to you when choosing a storage service?

Seventy-five percent named cost as the biggest consideration when choosing a provider for cloud storage, while uptime (45 percent) and reliable backups (34 percent) were also factors.

Over the past 5 years, how many object storage services have you considered?



What is the greatest benefit to object storage (compared to other types)?



Definitions

Public Cloud - Computing and infrastructure services including virtual servers provided by a third party to the general public over the public Internet.

Private Cloud - Computing and infrastructure services including virtual servers which is provided either over the public internet or on a private intranet and only offered to select users such as those within a single organization.

Hybrid Cloud - Services offered through a combination of public and private cloud services to an organization.

Multi-Cloud - The utilization of multiple public cloud providers in order to power an application or service.

Object Storage - Object storage is a way of storing and managing files as objects which can be manipulated via an API rather than as a single filesystem comprised of various folders and files. Most object storage solutions also allow making the stored data available via a unique URL.

Methodology

All survey data included in this report was collected from 1074 respondents through an online survey conducted in August 2017. Internal DigitalOcean usage data is based on an average of data collected from May-July 2017.