

Kubernetes jobs market

Trend report 2023 Q1

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Kubernetes Job market trends for Q1 2023

The average US salary for a Kubernetes job was **\$123,126** in Q1 2022, has it increased in Q1 2023? If so, by how much?

Are the popular technologies for 2022, i.e. AWS, Docker, CI/CD *still relevant in Q1 2023?*

What about work experience? Is it still not mentioned enough in job descriptions?

The answers to the above questions (and perhaps more) await us in analysing the job data for Q1 2023. Let's see what we find out

Before we go ahead, here are a few facts about our dataset:

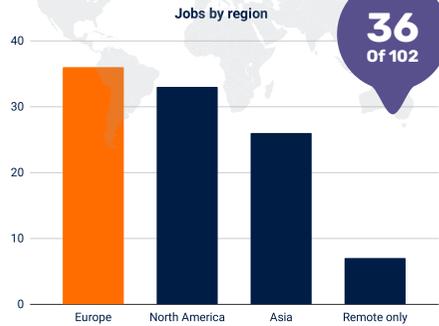
- 1 At Kube Careers, we solely focus on Kubernetes Jobs.
- 2 The dataset is comparatively small – a total of **102** job descriptions from January to March, 2023.
- 3 If a job doesn't have a clear salary range, we discard it. Many job offers don't indicate a salary range, and we think this is not good for engineers looking for work.
- 4 We discarded job offers from recruitment agencies.
- 5 We have analysed listings on platforms used by European and American audiences.

Let's start!



Where are most Kubernetes job offers located?

In Europe.



Of the 102 jobs we published in this quarter, **36 of these** came from *Europe!*

Not so far away (not geographically), *North America* came in a close second with **33 jobs**.

Third in line was the Asia-Pacific region with 26 jobs, while the remote-only jobs we published this quarter were just 7.

The difference between the two quarters is:

- The increase in North American jobs.
- The decrease in remote-only jobs (more on this later)

How did this change happen?

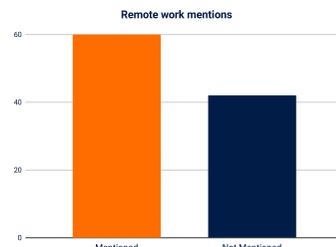
While our dataset is too small to derive conclusive patterns for a shift in geographical tendencies.

Here are our two cents:

- While remote working has been adopted wholeheartedly by the tech community, the trend has moved from remote only to remote (hybrid) or remote working in a specific region. Thus there has been a drop in remote-only jobs.
- Since most remote-only jobs have been from North America, these have shifted to a more remote (US) or remote (Canada) setup, increasing the number of North American jobs.

What about remote working? How relevant is it in 2023?

It's relevant but less than you would think.



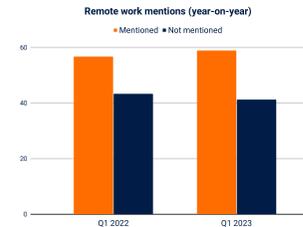
Of the 102 job descriptions we posted this quarter, **60 (58%)** mentioned a remote working nature.

Mind you, we are talking about *remote work mentions* here. This could be remote working in a particular country/region, remote-hybrid, or remote worldwide.

Have remote work mentions dropped year-on-year?

It has, and it hasn't.

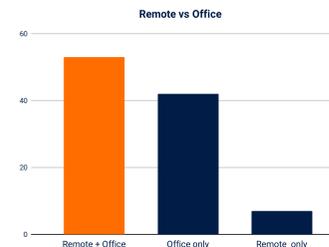
If we normalise the remote mentions for Q1 of 2022 and 2023, here is what we get:



Very little separates the two quarters, so what has changed? The answer lies in how the working trends have changed in 2023.

How have the working trends changed in Q1 2023?

Here's how



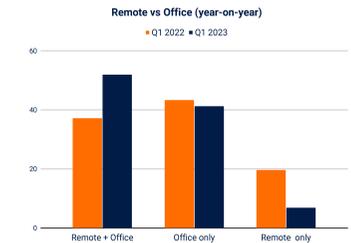
It is evident where the trends are headed!

- 53 jobs (out of the 102 we published this quarter) mentioned a Remote + Office working requirement.

- On the other hand, there were 42 jobs stating an Office only working nature, while 7 jobs were remote only.

Did Q1 2022 also exhibit similar trends?

Not really.



Here are the notable differences year-on-year:

- Remote + Office jobs have **increased by 14%** from Q1 2022.
- Office-only jobs have almost been the same between the two quarters.
- Remote-only jobs have **decreased by 12%** from Q1 2022.

What could be the contributing factor(s) to this trend? We can't know for sure.

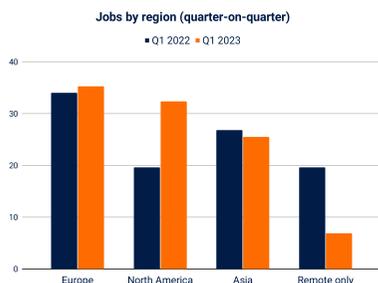
But looking at the global trends, we can say that:

- Unlike in 2021 (or the start of 2022), remote working isn't an obligation.
- Since companies are calling employees to the offices, they also offer 'Remote + Office' roles instead of Fully remote ones.

Again, we are speculating here. Do the readers of this report have a deeper understanding of this trend? If so, we'd love to hear from you.

Was the situation different in Q1 2022?

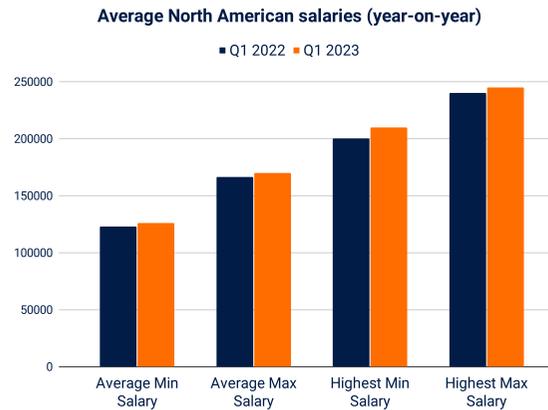
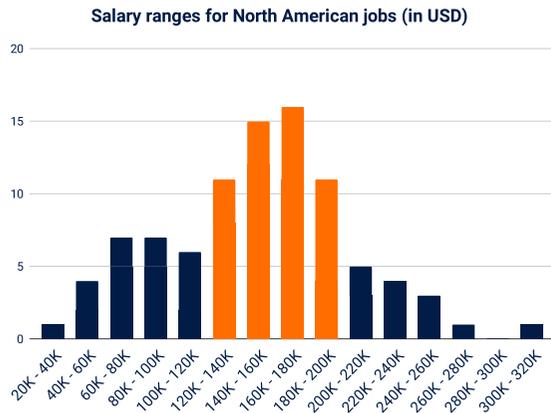
Marginally.



What's the salary range?

This quarter we have divided the salary ranges into two categories, the first being for North American jobs in USD and the second being for European jobs in Euros.

Salary ranges for North American jobs in USD



Salary ranges for European jobs in Euros



The *minimum salary* offered in North America, on average, stands at **\$125,898**, while the *maximum salary* (on average) offered stands at **\$169,719**.

The Highest salary range is between **\$245,000-245,000**.

So, have the salaries increased year-on-year? Or have they stayed the same? Or worse, have they decreased?

Yes, *the salaries have increased* through the year, but how much? Let's find out.

Here are the points to note:

- The average minimum salary has increased by 3% over Q1 2022.
- The average maximum salary has increased by 2% as well.
- And the highest salary range has also increased by 5%!

Overall, it can be said that the salary increase is between 3-5%, which is up to date with the current inflation rates in the US.

The *minimum salary* offered in the Europe, on average, stands at **€87,378**, while the *maximum salary* (on average) offered stands at **€113,010**.

The highest salary in Europe is **€150,862 - €167,025**.

Notably, the average minimum salary has *increased by 5%* since Q1 2022.

Do take this with a grain of salt. Europe is a vast, diverse continent consisting of countries with varied costs of living, economies, and technological status.

The above numbers are for representation only, and we haven't done a deep, thorough analysis to draw any concrete conclusions. We took all the salaries from European countries, normalised them, and converted them to Euros.

How often are certifications listed as a requirement? And which are the popular ones?

Explicit mentions of certifications are *a rare affair* when it comes to Kubernetes jobs!



In Q1 2023, more than **94%** of the jobs didn't mention a need for certification.

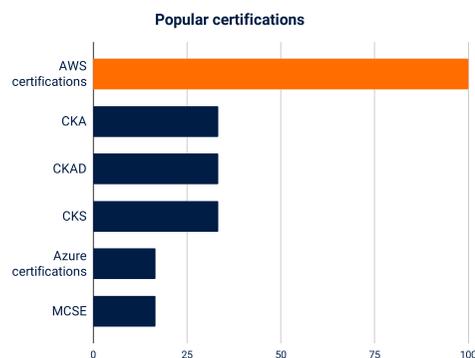
This could be due to multiple reasons. The recruiters may want lower entry barriers for applicants, but regardless, if someone has completed a popular certification, it will always be seen as a plus.

- Even in Q1 2022, **more than 88%** of the jobs didn't explicitly mention certifications.
- In fact, even if we go back to Q1 2021, there too almost **85%** of the jobs didn't list any certification as a requirement.

➤ What about the certifications that were mentioned in the job descriptions? Which ones were popular?

Interestingly, there were multiple instances wherein job descriptions cited more than **one certification requirement**.

What's more interesting is that every job listing that cited a certification also **mentioned the AWS certification!**

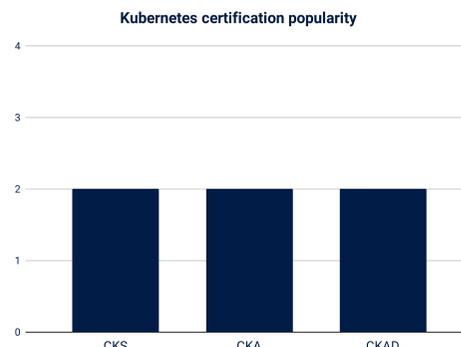


Of the jobs that mentioned a need for certification:

- 100% of these mentioned the **AWS certifications**.
- **33%** of these mentioned the Kubernetes certifications.
- while 16% mentioned the Azure and Microsoft Certified System Engineer (MCSE) certifications.

➤ What's the trend for Kubernetes certifications for Q1 2023?

Each job description that mentioned Kubernetes certification did so whilst **mentioning all three Kubernetes certifications!**

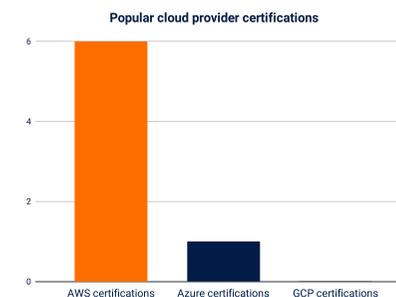


Thus in Q1 2023, **all the Kubernetes certifications were equally popular**.

What needs to be considered is that only

2% of the jobs this quarter mentioned a requirement for Kubernetes certification; thus, we can't draw conclusive patterns of Kubernetes certification popularity.

➤ What's the trend for Kubernetes certifications for Q1 2023?



Of the total job descriptions that mentioned cloud provider certifications:

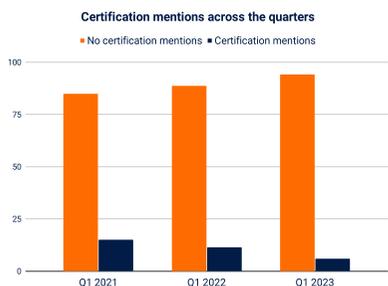
All of these mentioned a need for AWS certifications.

There were multiple instances wherein more than one cloud provider certification was mentioned.

AWS was followed by Azure certifications, while there were no mentions of the GCP certifications in this quarter.

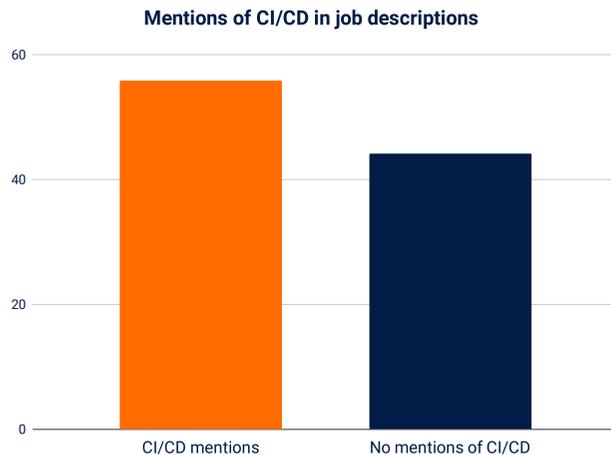
➤ Was this the case in previous years as well?

Yes, it was.



How relevant is CI/CD experience for a Kubernetes job?

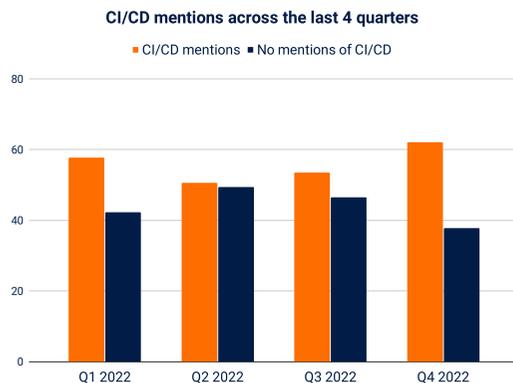
It's highly relevant!



In Q1 2023, almost **56% of the jobs** mentioned a need for experience in Continuous Integration/Continuous Deployment methodologies.

➤ Has CI/CD also been a relevant requirement in the past?

Yes, almost always.

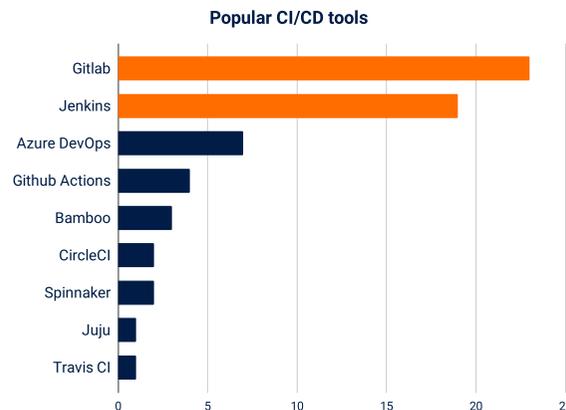


Looking at the above chart, here's what we find:

- CI/CD mentions have always exceeded the 50% mark.
- Q4 2022 has the most CI/CD mentions with 64% representation.

Thus, if you are versed in Continuous Integration/Continuous Deployment methodologies (s), it brings you one step closer to landing a Kubernetes job!

➤ Let's talk specifics. Which are the most popular CI/CD tools mentioned in Kubernetes job descriptions?



Regarding specifics, **Gitlab was the most popular** among CI/CD tools with 40% (percentage of the total job descriptions that mentioned CI/CD) representation.

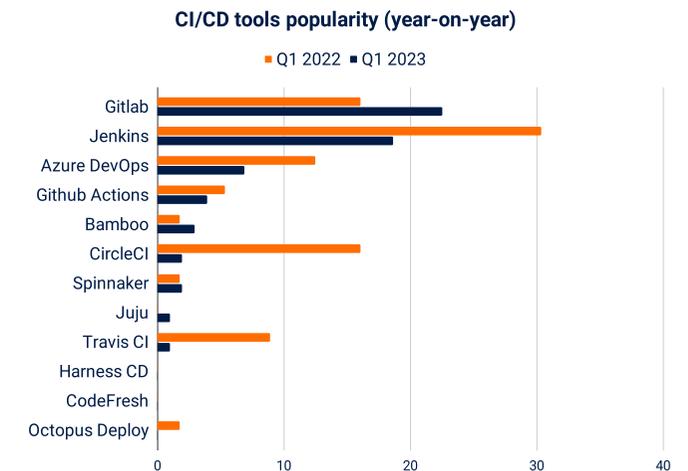
Mind you, There were instances wherein job descriptions mentioned more than one CI/CD tool.

The popularity order after that was:

- Jenkins (33%), Azure DevOps (12%), GitHub Actions (7%), and Bamboo (5%)

Were the same tools popular in Q1 2022 as well?

There was a difference.



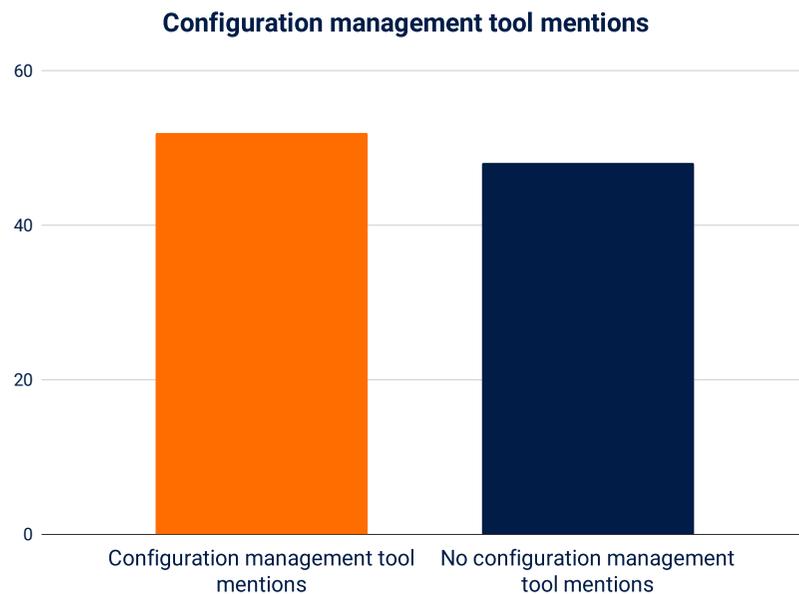
Here are the notable differences between the two quarters:

- **Jenkins was the most popular CI/CD tool in Q1 2022** (and also all the quarterly reports of 2022), and interestingly Gitlab has overtaken it to take the top spot this quarter.
- Circle CI and Travis CI were *far more popular* in Q1 of 2022 than in Q1 of 2023.

Overall, if you are well verse with Gitlab and Jenkins, you are more than fit to apply for Kubernetes jobs.

How important are configuration management tools for a Kubernetes job?

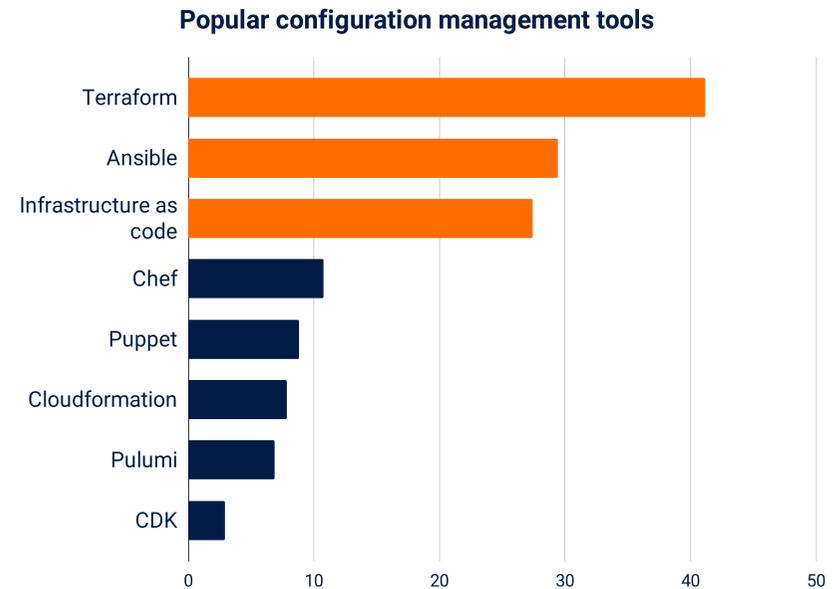
These are important for Kubernetes jobs.*
Let's find out how.



In this quarter, almost **52%** of the jobs we published mentioned a need for experience using configuration management tools.

Interestingly, this metric has dropped by **6% year-on-year**.

➤ Of the mentioned configuration management tools, which ones are popular?



As far as specifics are concerned, **Terraform** is still the most popular Configuration management tool, with 41% mentions (of the total jobs published)

In fact, Terraform has been the most popular choice for the **last four quarters!**

Ansible and Infrastructure as Code come in 2nd and 3rd place with 29% and 27% representation.

Other notable mentions were:

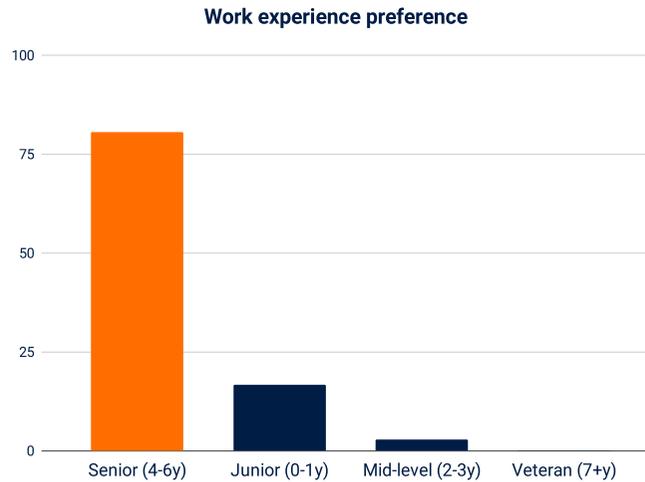
- Chef and Puppet with **11% and 9%** popularity.
- Cloudformation and Pulumi with **8% and 7%** representation.

How much work experience is required for Kubernetes jobs?

It's complicated, and how!

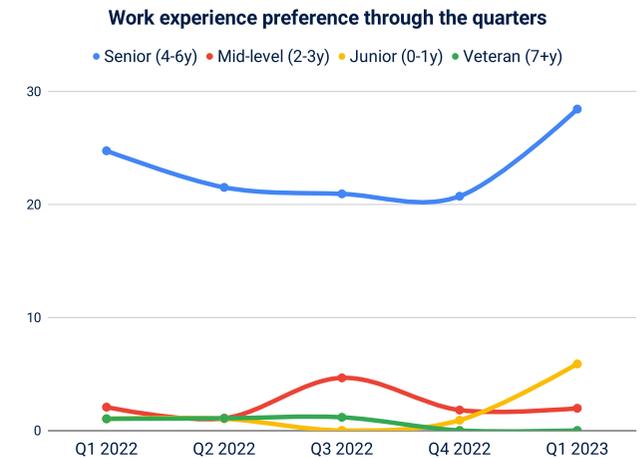


➤ Of the ones that mentioned experience, what is the preference?



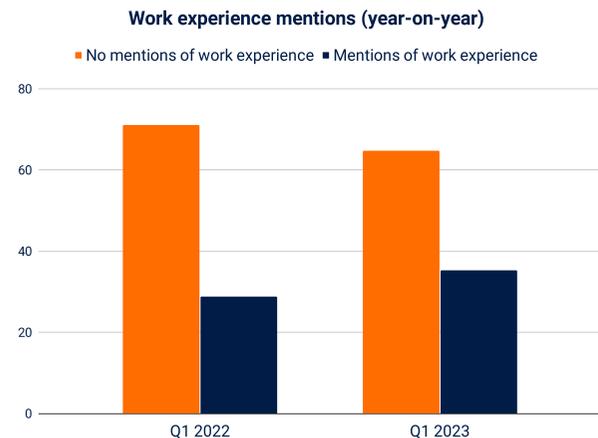
➤ Is senior-level experience always the most sought-after?

To understand this better, let's plot the data for Q1 2023 and all the quarters of 2022.



In Q1 2023,

- Only 35% of our published jobs mentioned the required work experience.
- Interestingly, this metric has increased by 7% compared to Q1 of 2022.



Looking at the charts, it's visibly apparent what the companies are looking for: **Senior-level experience**

Off all the jobs that mentioned work experience (36 in total),

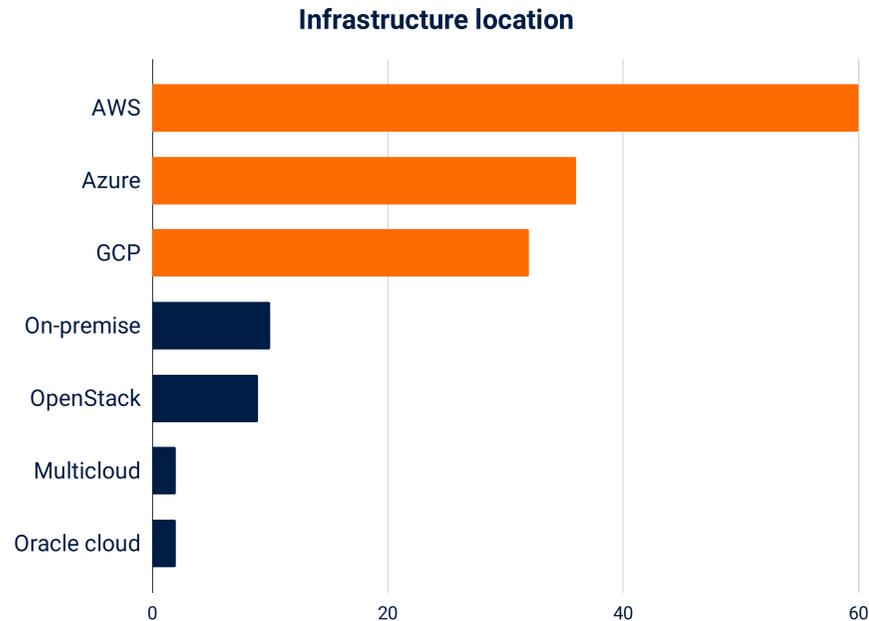
- 80% of these mentioned a Senior level experience (4-6 years).
- Followed by Junior (0-1 years) and Mid-level (2-3 years) experience with 16% and 4% representation.
- There were no mentions of Veteran level (7+ years) experience.

Here are some noteworthy points from the analysis:

- Without an ounce of confusion, **Senior level experience** is the most sought-after for Kubernetes jobs.
- Although a distant second, Mid-level experience has **been consistent** across the quarters.
- There was a single mention of Veteran-level experience in Q1, Q2, and Q3 of 2022, and no mentions for the next two quarters.
- There has been a **massive increase** in Junior-level roles in Q1 of 2023. Let me disclose: **We have pushed more junior roles** in Q1 2023 since we found a huge void of junior roles.

Infrastructure Location: Where do companies host their clusters?

Mostly on AWS.



Of the total jobs we published,

- 58% of these mentioned **AWS** as their preferred hosting location.
- What's more interesting is that of all the job descriptions that disclosed infrastructure location(s), almost **76% of these** included AWS!

Being distant to AWS popularity but closer to each other, **Azure and GCP** were mentioned in **35% and 31%** of the total job descriptions we published in Q1 2023.

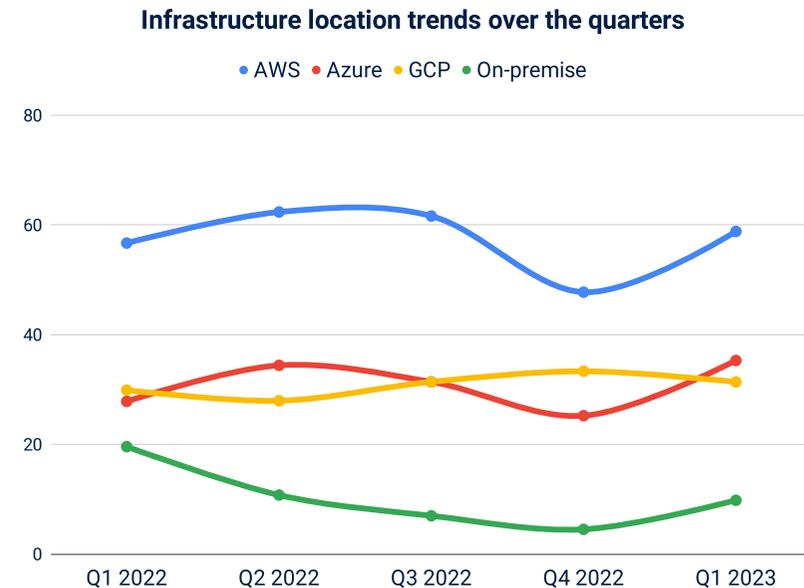
On-premise and OpenStack were 4th and 5th with 9% and 8% representation.

As you can see, the others were Multicloud and Oracle Cloud, with 2% representation each.

➤ Has the choice of infrastructure location changed over the quarters?

Yes, it has, but not by much.

If we take a view of all the quarters in 2022 and Q1 of 2023 for infrastructure location, here's what we find:

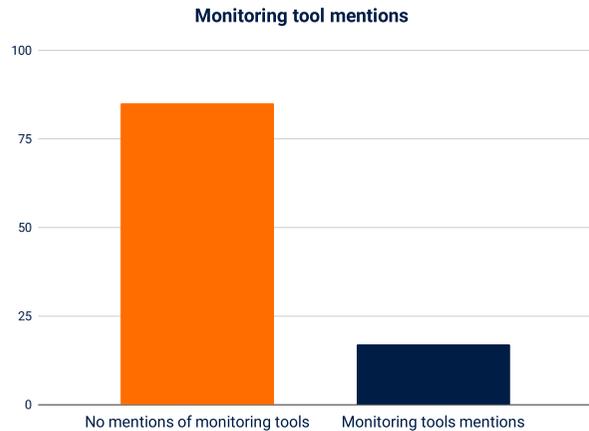


Points to note from the above chart are:

- 1 AWS is most preferred infrastructure location.
- 2 GCP and Azure take turns to take the distant second spot.
- 3 Although a little down in Q2 and Q3 of 2022, on-premise remains steady at the 4th position.

What about monitoring stack? Which tools are popular?

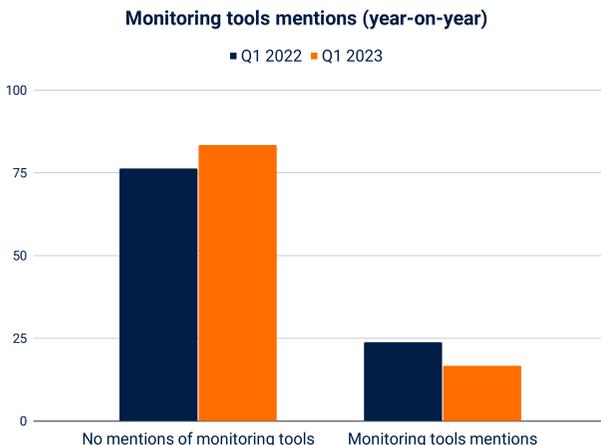
Are monitoring tools a popular requirement among Kubernetes jobs? **Not really.**



In Q1 2023, out of the 102 jobs we published, **only 17** mentioned a need for a monitoring tool experience.

➤ **Has monitoring tools experience always been less popular among job requirements?**

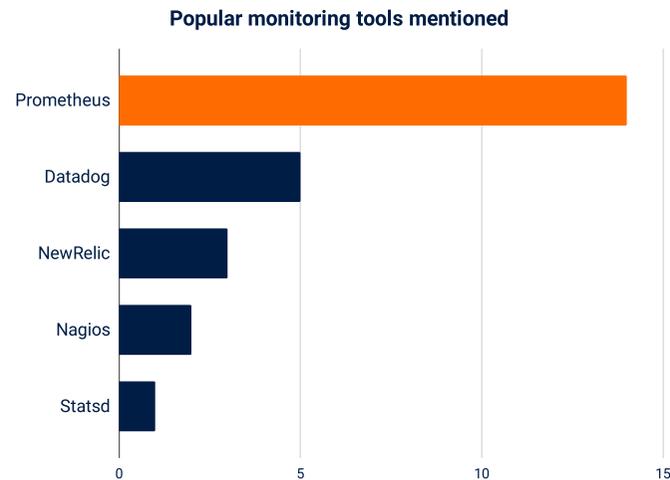
yes



Even in Q1 of 2022, only **23% of the jobs** we published mentioned a monitoring tool experience requirement.

While the percentage of mentions isn't significant, it isn't minuscule either.

➤ **Let's look at the popular monitoring tools mentioned in job descriptions**



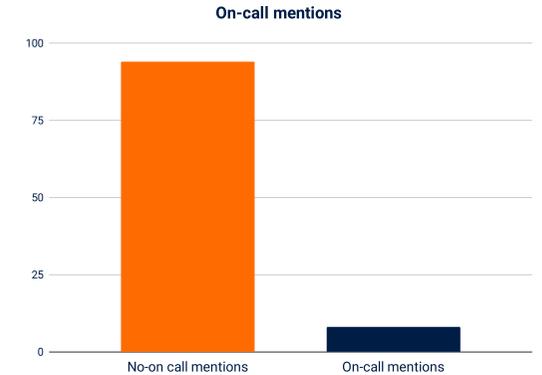
Of all the jobs that mentioned monitoring tools, **82%** mentioned **Prometheus!**

A distant second was **Datadog with 29%**, and the third was **NewRelic with 17%** representation.

In fact, the top 3 order was the same in Q1 of 2022 as well: Prometheus > Datadog > NewRelic

➤ **On-call rotation, how often is it a requirement?**

For most, **it's an obligation that's part of the job.** But there's good news!



In Q1 of 2023, of the 102 jobs we published, **only 8** of these mentioned a need for being on-call!

Even more interesting is the trend through *the last five quarters.*

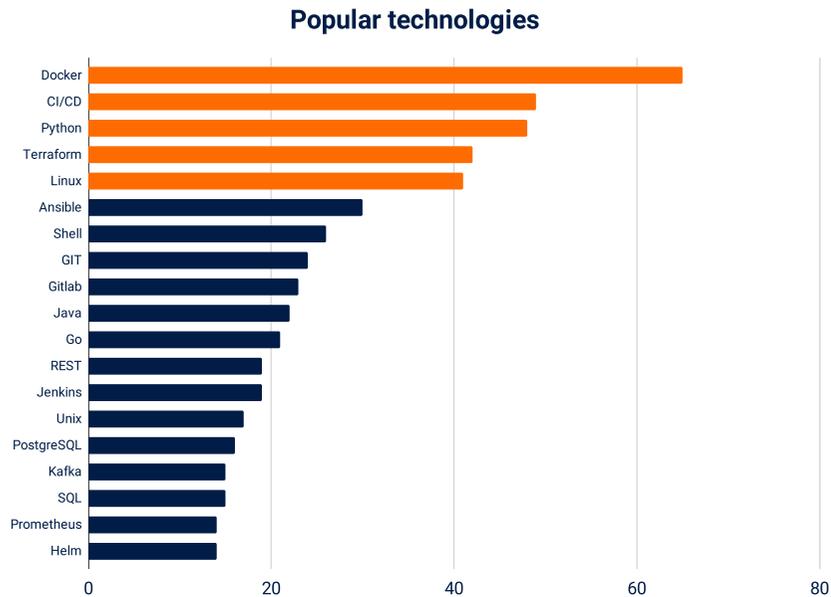


If we look at the numbers, Q1 2023 has been the quarter **with the least on-call mentions!**

We hope this trend continues in the coming quarters as well.

Which popular technologies other than Kubernetes should you learn?

The following list is an excellent guide for engineers seeking to round out their skill sets.



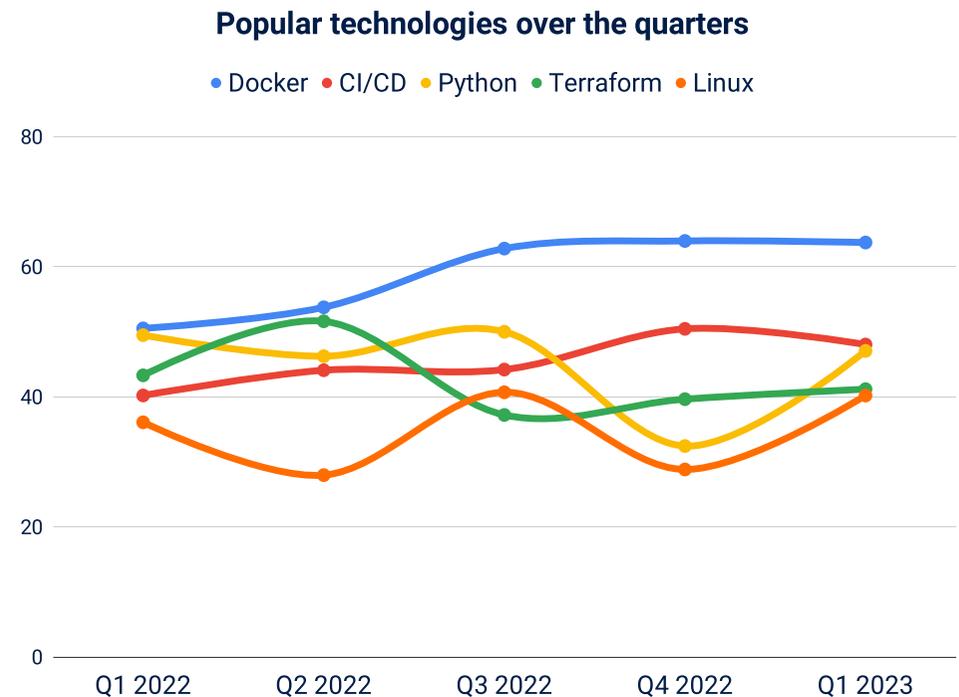
The most popular choices of technology among Kubernetes engineers are:

- ✓ Programming languages: **Python, Java and Go.**
- ✓ Containers: **Docker.**
- ✓ Operating systems: **Linux.**
- ✓ Infrastructure as Code: **Terraform.**
- ✓ Database management: **PostgreSQL.**
- ✓ Configuration management: **Ansible.**
- ✓ CI/CD: **Gitlab.**

It's essential to notice that if you already master **Docker, CI/CD,** and **Python,** you can confidently apply for more than **60%** of job offers.

How have these technologies trended over the past year?

If we take the five most popular technologies in this quarter, here's how they have trended over the year:



Points to note here are:

- Docker has been mentioned the most (which is pretty obvious)
- All the other technologies have pretty much show the same deviation path.

What about Programming languages? Which ones are the most in-demand?

Were the same programming languages popular in 2022 as well?

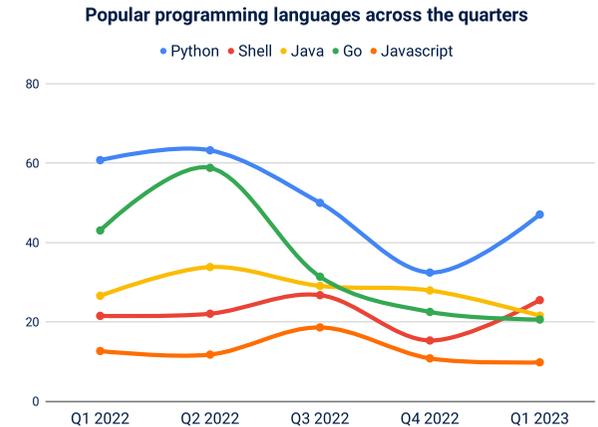
Yes, and No.

What hasn't changed throughout the quarters is:

- **Python** is the undisputed champion when it comes to popular programming languages.
- **Javascript** is a consistent fifth in popularity across the quarters.

And what has changed though is:

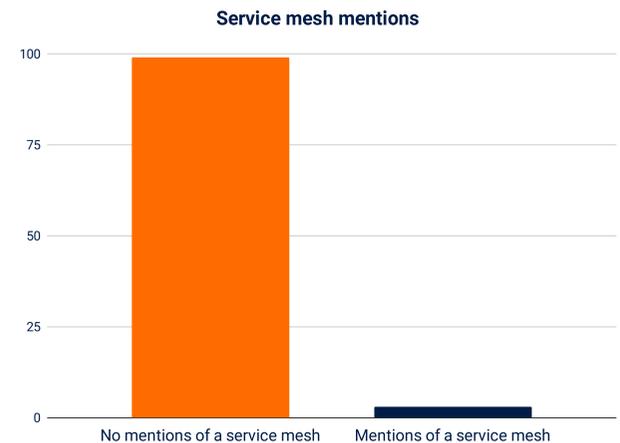
- **Golang (Go), Java, and Shell** have traded places in Q1 2023.



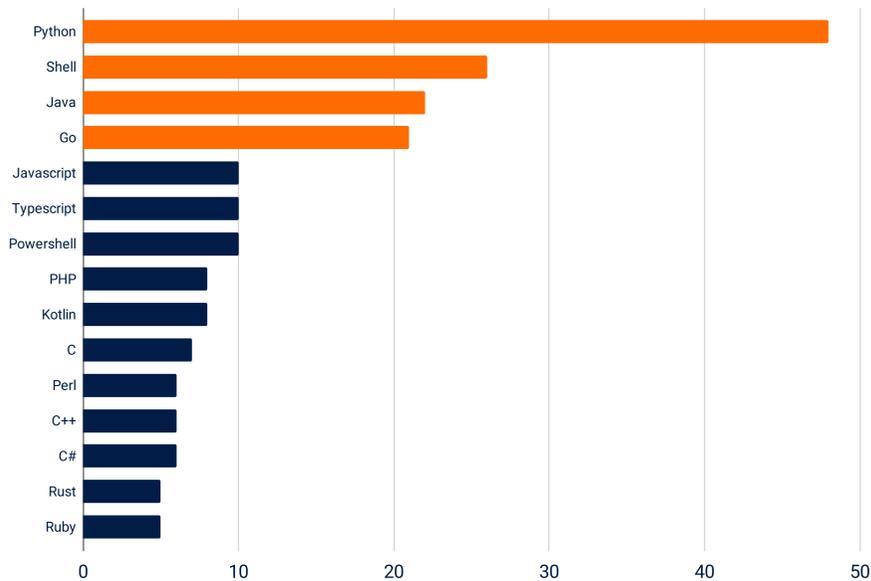
Service meshes: is there a demand/requirement for such skills?

Not really.

Of the 102 jobs we published in Q1 2023, *only 3* mentioned a requirement for service mesh experience.



Popular programming languages



Python remains the preferred programming language for the cloud, with almost 50% mentions of the total jobs published.

Interestingly, **Shell** comes in second with 26% popularity.

There were multiple instances wherein more than one programming language was mentioned for a single job listing.

Other important programming languages include: • Java (21%) • Golang (20%) • Javascript (10%) • Typescript (10%)

Final Remarks

Gosh! We did a lot of data mining here. We hope you found some gold at the end!

Hopefully, you learned what all skills/tools expertise companies are looking for when hiring a Kubernetes Engineer.

Did you like what you read? Could it have been better?

Would you like us to include a new category?

Let us know!

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