



J4K 2022

J4K September 28, 2022 Conference Summary Newsletter

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Access Red Hat's products and technologies without setup or configuration, and start developing quicker than ever before with our new sandbox environments for Red Hat OpenShift and CodeReady Workspaces. Try your hand at the technologies with our library of activities as well.

```
[your@sandbox ~]$ lscpu
RAM: 7GB
Storage: 15GB
Time limit: 30 days
Awesome: YES
```



What is the sandbox?

The sandbox provides you with a private OpenShift environment in a shared, multi-tenant OpenShift Cluster that is pre-configured with a set of developer tools. You can create containers from your source code or Dockerfile, build new apps using the samples and stacks provided, add services such as databases from our templates catalog, deploy Helm charts, and much more.

[Get started in the sandbox](#)



J4K 2022

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Introduction

J4K 2022 Conference took place on September 28, 2022. It was a full-day developer conference that combined the best of open source communities for developing Java applications with Kubernetes on hybrid and multi-clouds. The J4K community, filled with industry leaders, delivered amazing sessions.

For this edition, we brought an awesome lineup of speakers, including:

- Elder Moraes - Java Champion, book author and Developer Advocate at Red Hat
- Ori Saporta - Systems Architect and Founder of vFunction
- Stephanie Crater - Software Engineer at Microsoft
- Josh Long - DevRel, Spring Developer Advocate, JavaOne Rock Star, and Java Champion at VMware
- Mary Grygleski - Java Champion and Developer Advocate at DataStax
- William Arias - Technical Marketing Manager at GitLab
- Ixchel Ruiz - Java Champion and Developer Advocate at JFrog
- Maciej Gruszka - Sr. Director of Product Management at Oracle
- Brian Benz - Java Champion and Cloud Advocate at Microsoft
- Sven Efftinge - CEO and Founder of Gitpod
- Eric Deandrea - Developer Advocate at Red Hat
- Ram Lakshmanan - CEO and Founder of Tier1App

Red Hat VP of Engineering, Mark Little, delivered a keynote on transactional microservices in a Kubernetes-native world and how Quarkus and MicroProfile address this. The guest keynote by Lasada Pippen, covered an inspiration talk about “hidden gems”, how to reveal and uncover your value and treasure; which may not be apparent on your resume.

Poll questions on Java, Kubernetes, and cloud computing went out throughout the day. Results are now available and included in this report.

A gracious Thank You is in order for our stellar J4K speakers, sponsors (Red Hat, vFunction, Microsoft, and GitLab), Java Users Groups (Seattle, Chicago, SOU Java, Guatemala, Bangalore, and the London Java Community), event volunteers, social media team, and everyone who helped bring life to this conference. Read on to learn more about the outcomes of J4K 2022 - September 28th event. Happy reading!

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J4K 2022

Content Availability

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J4K 2022 recorded content availability

To view J4K conference sessions, visit:

[J4K's YouTube Channel](#), click on Playlist and start.

Session videos are available on all J4K tracks.



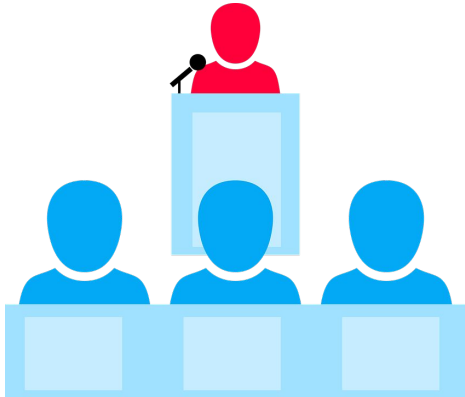


J4K 2022

The Conference in Numbers

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J4K 2022 - September 28 - virtual edition in numbers



627	Attendees
33	Speakers
1	Keynote (Mark Little)
1	Special Keynote and Guest (Lasada Pippen)
32	Sessions
1	Day (September 28)
12,533	Minutes of content viewed
25,235	Sponsor impressions on the web & mobile app



J4K 2022

Live Event Stats

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Live event stats

TOP 10 SESSIONS

1. **The life of a Java Champion... And how to become one**
2. **Transactional Microservices in a Kube-native Manner**
3. **With Cloud Native never build your application, just Continuously Integrate**
4. **How about some tests with your applications?**
5. **Using AI to Refactor Java Monoliths for Kubernetes and the Cloud**
6. **Quarkus for Spring Developers**
7. **Take the suckage out of Microservices with Container Apps**
8. **Integration with Camel Quarkus in the cloud era**
9. **From Zero to Hero in Kubernetes Native Java**
10. **Secrets of Performance Tuning Java on Kubernetes**

INDIVIDUAL SESSION TOTAL VIEWS

730

WATCHED SESSIONS MOST POPULAR STREAMS

SESSION POPULARITY BASED ON NUMBER OF ATTENDEES

1. **Transactional Microservices in a Kube-native Manner**
19.6 hours, watched by 57 attendees
2. **With Cloud Native never build your application, just Continuously Integrate**
11.7 hours, watched by 33 attendees
3. **Cloud-Native Application Development with MicroProfile and Open Liberty**
10.0 hours, watched by 31 attendees

J4K attendees were keen on learning about becoming a Java Champion, transactions, microservices, Kube-native & cloud development, Continuous Integration (CI), testing, Artificial Intelligence (AI), integration, Quarkus, and Spring Boot.

This indicates Java, in the era of Cloud Computing, is now extending into testing, integration, and transactions. It's an excellent signal as Java on Kubernetes continues to grow.



Mobile app stats

TOTAL ACTIVE USERS

256

USERS WHO SIGNED IN EITHER MOBILE
OR WEB APP

MOBILE APP ACTIVE USERS

43%

ATTENDEES WHO USED THE MOBILE
APP

112/256

WEB APP ACTIVE USERS

43%

ATTENDEES WHO USED THE WEB
APP

112/256



Community stats

The community was busy outside of scheduled sessions!

- **58** discussion topics posted in the Community Area
- **522** messages exchanged
- **137** organized meet-ups with **216** participants

MEET-UP PARTICIPATION

216

MEET-UPS ORGANIZED

137

MOST POPULAR MEET-UPS

- **Global Pulumi Meetups**
6 people joined this meet-up
- **First meetup social - tech, food, and chat**
5 people joined this meet-up
- **Amazon webmeet**
5 people joined this meet-up
- **Kentucky Open Source Society (KYOSS)**
4 people joined this meet-up
- **NDC Oslo**
4 people joined this meet-up

DISCUSSION TOPICS POSTED

58

MOST POPULAR DISCUSSION TOPICS

- **Meet-ups & Virtual Meets**
137 meet ups
- **Session Q&A**
67 questions asked
- **Article Sharing**
31 articles shared
- **Exhibitor Showcase**
7 messages
- **Serverless, Microservices, Macroservices, and Monoliths**
6 messages

COMMUNITY BOARD TOTAL MESSAGES

522



Sessions stats

12,535 minutes of live sessions recorded.

730 minutes of sessions watched.

The live sessions were recorded and viewed during the conference. The watched sessions were viewed afterwards by attendees.

TOTAL AGENDA WEBPAGE VIEWS

1247

AGENDA SESSIONS MOST POPULAR

SESSION POPULARITY BASED ON LIKES AND PERSONAL AGENDA ADDS

- How about some tests with your applications?
9 likes and 27 personal agenda adds
- Transactional Microservices in a Kube-native Manner
7 likes and 52 personal agenda adds
- From Zero to Hero in Kubernetes Native Java
2 likes and 51 personal agenda adds
- 10 Design Tips for Microservices Development with Java
1 likes and 48 personal agenda adds
- Secrets of Performance Tuning Java on Kubernetes
1 likes and 37 personal agenda adds



More sessions stats

Among the most popular session was **Lasada Phippen**. Where he encouraged minorities to advocate for themselves and not stay as a “**hidden gem**.” This topic was very well received by the community!

Sessions with the most Q&A

- 6 Unleash the power of your applications with Micronaut and GraalVM: oh, ok, thanks!
- 6 Streamline Your DevEx with Cloud-Based Developer Environments: can you share any resources to support the business models and applications so that ...
- 4 Using AI to Refactor Java Monoliths for Kubernetes and the Cloud: what are popular frameworks that can auto refactor large complex products code ...
- 4 The life of a Java Champion... And how to become one: Does Kotlin eat Java

WATCHED SESSIONS MOST POPULAR VIDEOS

SESSION POPULARITY BASED ON NUMBER OF ATTENDEES

1. Welcome to J4K 2022
1.7 hours, watched by 51 attendees
2. How about some tests with your applications?
8.5 hours, watched by 31 attendees
3. Hidden Gems - An inspirational talk by our Guest Keynote
4.9 hours, watched by 23 attendees

QUESTIONS ASKED

64

SESSIONS WHERE QUESTIONS WERE ASKED
26

REPLIES TOTAL FOR ALL QUESTIONS

73



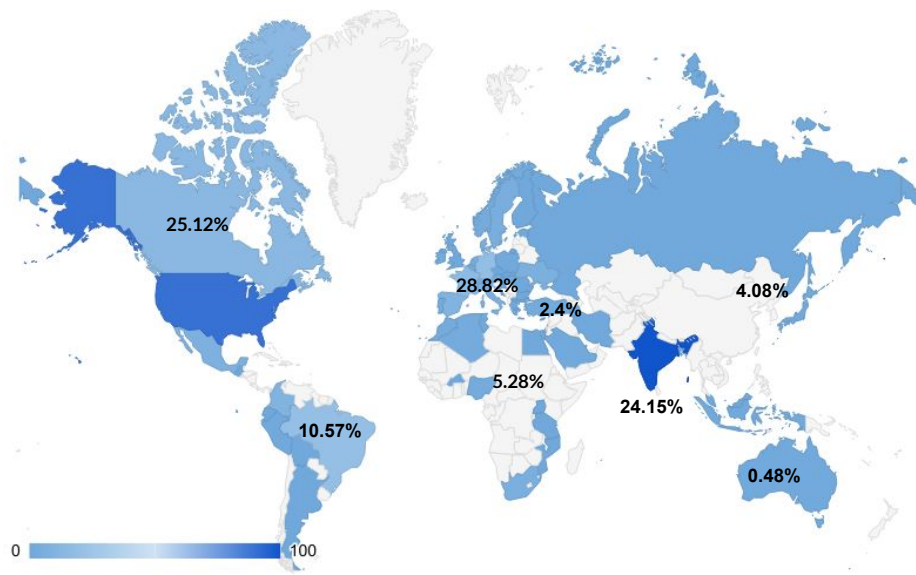
Where were attendees from?

It's great to continue to see we have a global audience! This shows the convergence of open source, Java, Kubernetes, and cloud-computing is of worldwide interest.

Top 10 countries:



Top 4 regions:

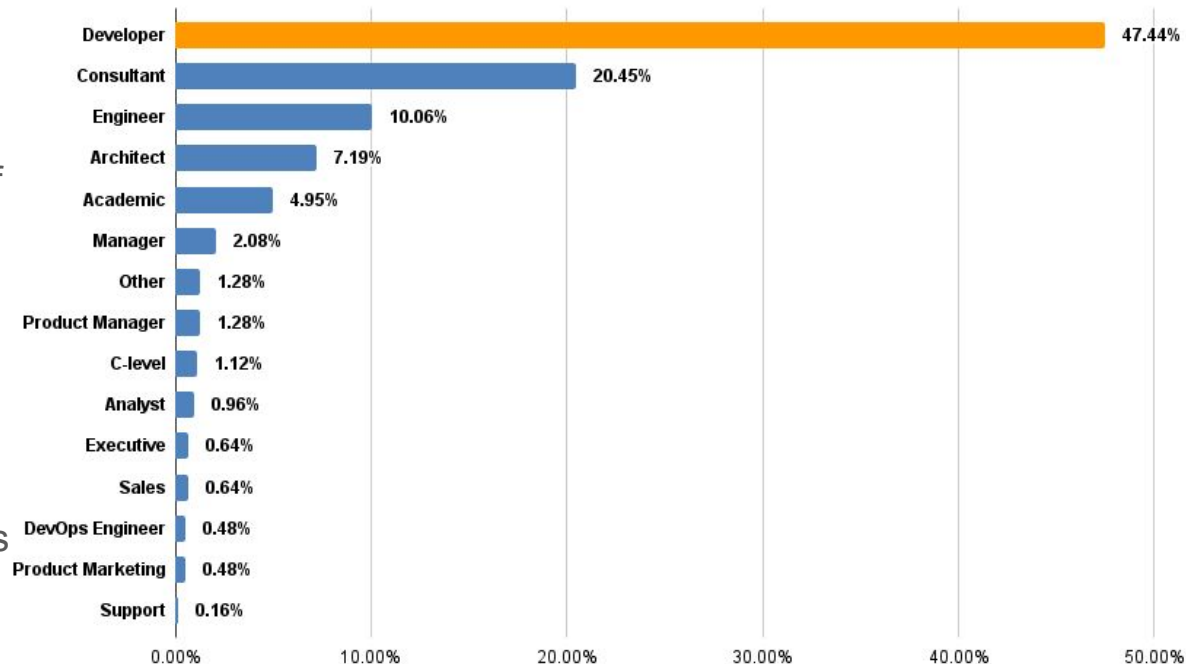


Percentage per global regions

What is your current role?

Based on attendees self-identified role, it's evident that **hands-on technical professionals** are the bulk of the attendees.

It's not surprising that **Developers** eclipse all other roles. Followed by **Consultants and Engineers**. The rest were less than 8% per category starting with Architect.





J4K 2022

POLL RESULTS RECEIVED

654

Poll Questions Results

NOTE: The poll questions were rolled out during the conference and these results reflect the answers from those attendees who participated in each poll question.

All but one of the poll questions were the same as during the October 2021 conference; this is to observe the trend on hot topics.

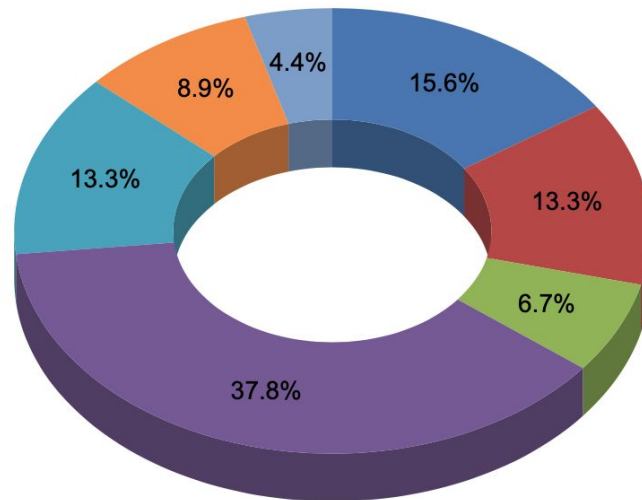
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Which K8s distribution are you currently using the most?

OpenShift still holds the #1 spot among the K8s distributions. However, its usage **dropped** by 13.7% to **37.8%** as compared to the previous poll.

Other notable changes were:

- 1) **AKS** - **increased** of 3.5% to 15.6%
- 2) **EKS** - **increased** of 4.2% to 13.3%
- 3) **Other** - **increased** from 6.1% to 13.3%
- 4) **GKE** - **decreased** of 2.4% to 6.7%
- 5) **VMWare Tanzu** - **decreased** by 4.7% to 4.4%
- 6) **Rancher** - **increased** by 5.9% to 8.9%



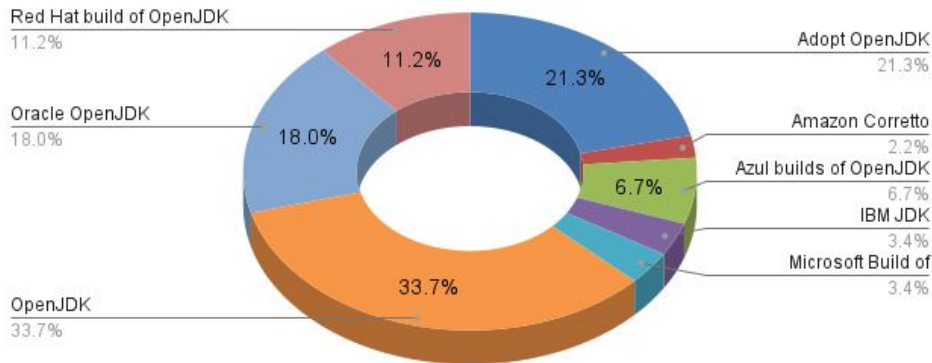
● AKS ● EKS ● GKE ● OpenShift ● Other ● Rancher ● VMWare Tanzu

Which JDK distribution do you use in production?

OpenJDK is used the **most at 33.7%** with a modest **increase** of 0.4%. Followed by **Adopt OpenJDK** which **decreased** by 1.5% to **21.3%**. **Oracle OpenJDK** **increased** by 2.2% to third place with **18%**. **Red Hat build of OpenJDK** saw an **increase** of 2.4% and is situated in fourth place with **11.2%**. **AWS Corretto**, **IBM** and **Microsoft** saw slight **decreases** and **Azul** saw the largest **increase** of 3.2% at 6.7%.

Unsupported open source projects are still preferred by developers. Perhaps this is an opportunity for the commercially supported open source versions?

Which JDK distribution do you use in production? [check all that apply]

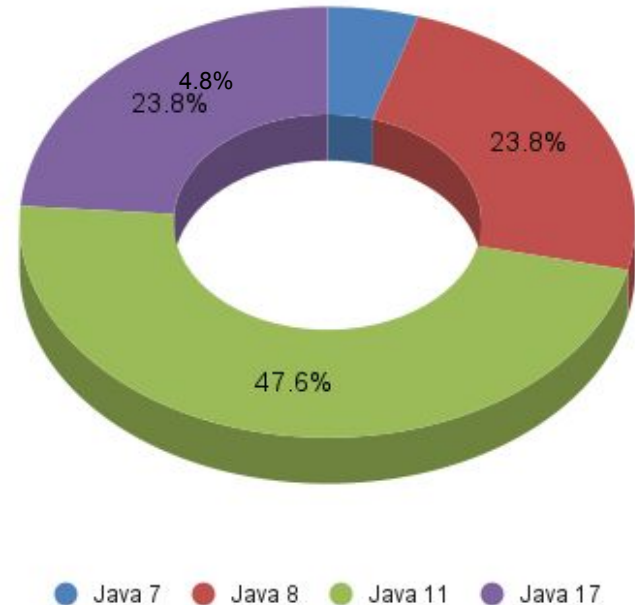


Which Java LTS version are you mostly using?

Compared to the responses from the previous event, **Java 11 decreased by 20.1% to 47.6%**, while **Java 17 increased by 14.1% to 23.8%**. This is an indication that **organizations are migrating from Java 11 to 17** since the latter has an end-of-Premier support of September 2026 or later.

Java 8 Premier support ended in March 2022 and **Java 11 ends in September 2023**.

This is an important motivation factor for organizations to migrate, at least to a version with a longer support product life cycle.



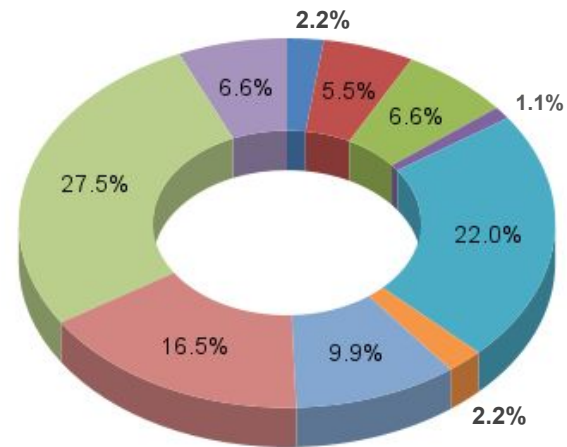
Which Java framework are you using [check all that apply]?

Quarkus and Other categories experienced growth of 5.6% and 8.1% respectively. The next iteration of the survey should delve into Other more.

DropWizard, Jakarta EE, Micronaut and Spring Boot saw modest increases of 0.4%, 0.2%, 0.4% and 0.2% respectively, as compared to the previous poll.

MicroProfile and Spring Native dipped by -7.2% and -4.2% respectively.

This indicates that Quarkus is gaining market share.



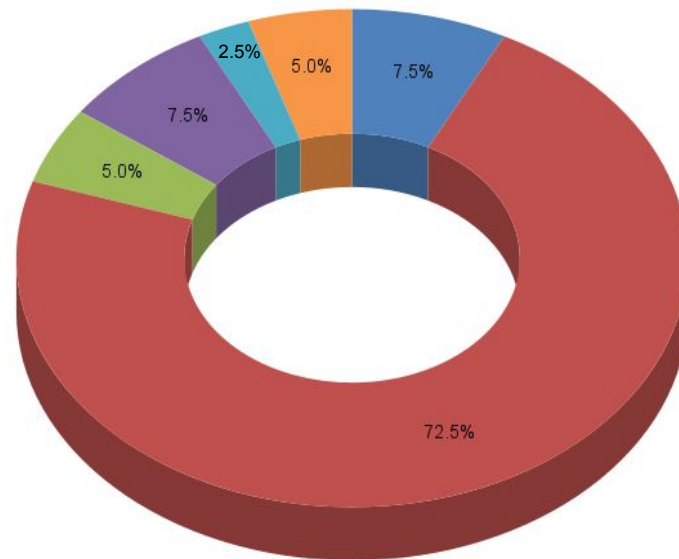
Which container runtime technology are you mostly using?

Poll results showed **Docker declined by -7.5% to 72.5%** as compared to last event's results.

MS Containers experienced the **largest increase to 5%**, followed by **Containerd and Other to 7.5%** each.

Other Cloud containers increased by 2.5% to 2.5% and **Podman increased by %1 to 5%**.

Although slightly declining, Docker seems to still be the preferred container runtime with developers.



How many applications have you containerized?

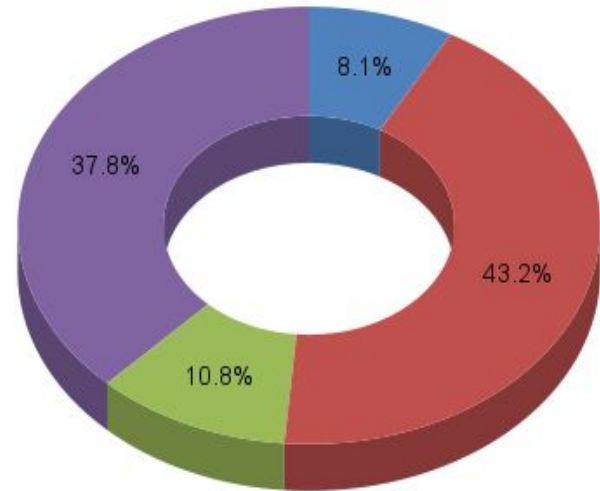
Compared to the October 2021 poll, 37.8% replied that they had containerized **“more than 25” applications**, an **increase of 12.8% to 38.8%**.

The “0” range saw a slight **decrease** of -0.2% to **8.1%**.

And the “1-10” saw an **increase** of 1.5% to **43.2%**.

Most of this gain was inversely proportional to the **decrease** in the “11-25” range to **10.8%**.

This is an indication that organizations are speeding up their containerization of applications.



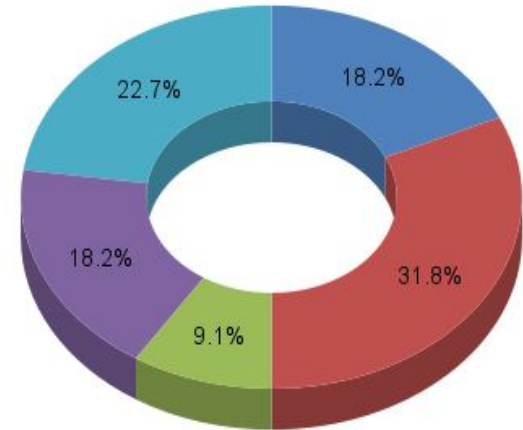
● 0 ● 1-10 ● 11-25 ● more than 25

If you're planning to migrate from on-premises to cloud next year, which percentage of your workload would you move?

Compared to October 2021 poll, there's a **large decline** in the “26-50%” category of 27.3% to 9.1%. There is also a modest **decline** of 9.1% in the “>75%” category to 22.7%.

The **largest increases** were seen for the “1-10%” and “11-25%” categories with 13.7% and 13.6% to 18.2% and 31.8% respectively.

Organizations appear to be focusing on lower percentages of workloads to migrate to the cloud.



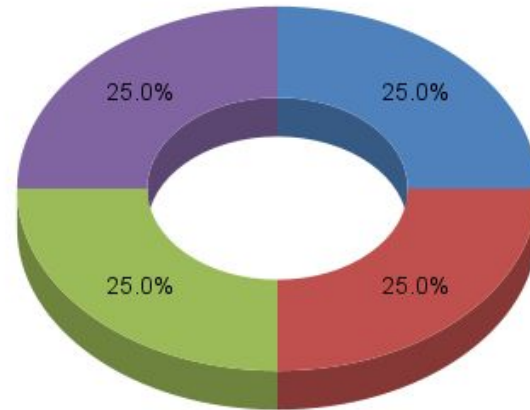
● 1-10% ● 11-25% ● 26-50% ● 51-75% ● more_than_75%

When migrating to the cloud, how are your Java apps distributed between VMs and managed services (PaaS)?

The **largest decrease to 25%** as compared to last event to 44.4% was for **Managed Services ONLY (PaaS)**.

In contrast, **the largest increase of 13.9%** was for **IaaS to 25%**. **VMs and Managed Services dropped by -2.8%** and **N/A increased by 8.3%**.

There appears to be no preference for how Java applications are being distributed among the different deployment options.



● Managed Services only (PaaS) ● N/A ● VMs and Managed Services ● VMs only (IaaS)

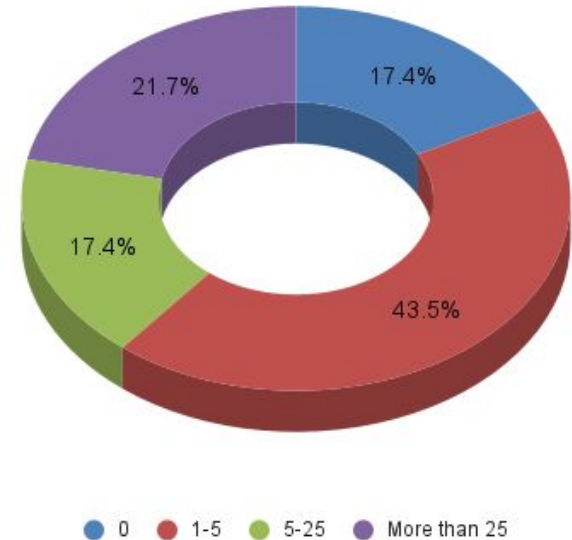
How many applications have you converted/modernized into Kubernetes?

Compared to the last event, there was a **slight increases in the “0” and “> 25” categories** of 4.4% and 4.3% to **17.4%** and **21.7%** respectively.

The **largest decrease** was experienced by the **“5-25” category** with a **-8.7% dip**. The **“1-5” category** experienced **no change**.

This trend indicates organizations are either nearing completion of modernizing their Java applications on Kubernetes, or are accelerating their modernization.

This change fits with the expectation that Kubernetes continues to gain momentum with Java developers.

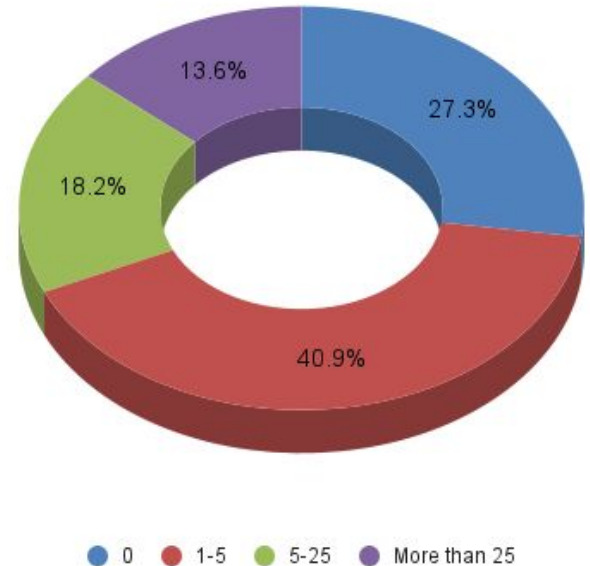


How many net-new apps have you developed on K8s?

The **largest increase of 13.7%** took place in the **0** category, and the **second largest increase of 9.1%** in the **“1-5”** category as compared with the last event’s poll.

Conversely, the **“5-25”** category saw the **largest decrease of 18.2%** and the **“> 25”** category the **second largest decrease of 4.6%**.

A possible indication of these changes is that organizations are choosing more carefully what net-new applications to develop on Kubernetes.



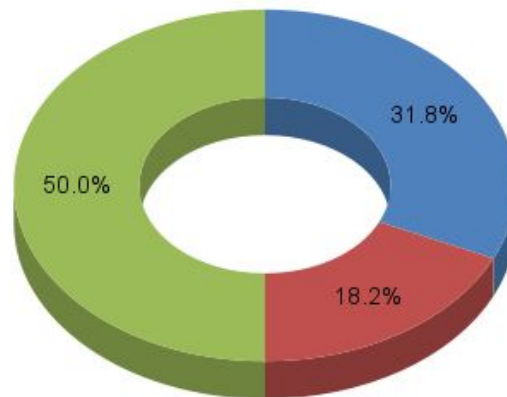
Where are you developing serverless applications?

Compared to the previous event, there was a **significant decrease of -27.3%** of in the “Cloud Provider Serverless Offering (e.g., AWS Lambda, Azure Functions, ...)” category to 31.8%.

Conversely, there was a **slight increase of 9.1%** in the “Non-Cloud Provider Serverless Platform (e.g., OpenWhisk, Knative, ...)” category to 18.2%.

The **largest increase of 18.2%** was in the “We are not developing serverless applications yet” category to 50%.

There seems to be a shift to non-cloud provider serverless technologies; as well as a slowdown in the adoption of serverless applications.



- Cloud Provider Serverless Offering (e.g., AWS Lambda, Azure Functions, Google Functions, etc.)
- Non-Cloud Provider Serverless Platform (e.g., OpenWhisk, Knative, Fission, Kubeless, OpenFaaS, etc.)
- We are not developing serverless applications yet

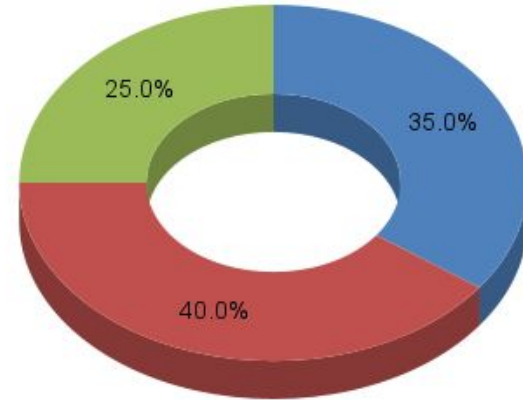


Has your organization begun microservices modernization across your enterprise or per project?

When asked about modernizing with microservices, the **enterprise-wide category** showed yet another **increase of 8.7%** from 26.3% **to 35%** compared to the previous event. In addition, the **not-started category** saw an **increase of 9.2%** **at 25%**.

Conversely, the **project-by-project category** a experienced a **decrease of -17.9%** **at 40%**.

Based on this finding, it's evident that enterprises continue to increase their adoption of microservices modernization.

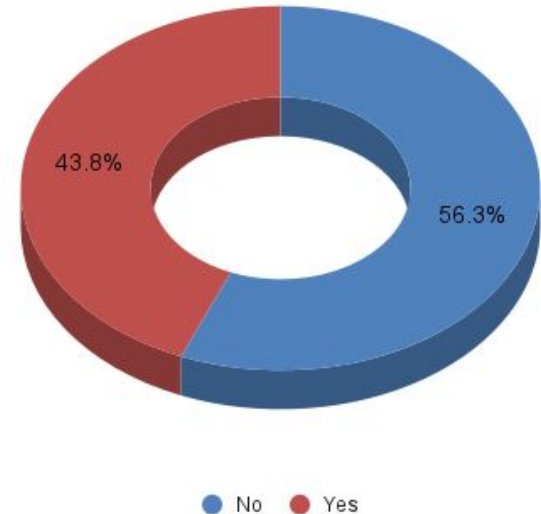


- Enterprise wide effort to modernize
- Modernizing project by project
- We have not started any microservices modernization

Have you started leveraging Micro Frontend architectures along with microservices?

Compared to last event's result, the “yes” category saw an **increase** of +8.5% to **43.8%** whereas the “no” experienced almost an equivalent **decrease** of -8.4% to **56.3%**.

This is an indication that Micro Frontend architecture is an area that organizations are starting to explore.



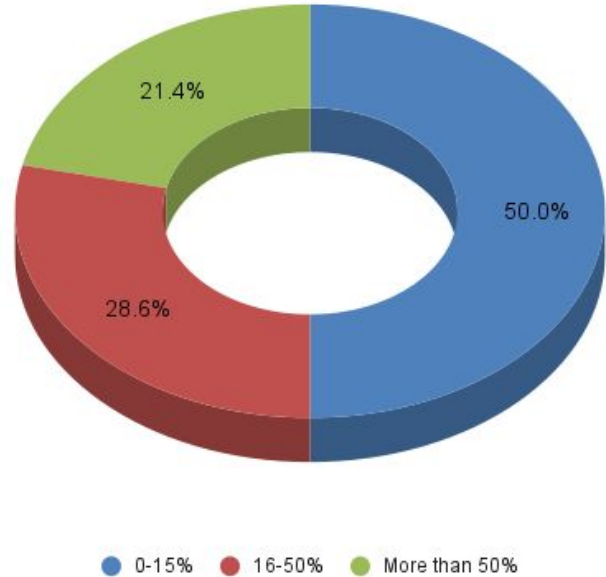
What percentage of applications do you have on-premises vs. the Cloud?

As compared to last event's poll, there was a significant shift in result around the "0-15%" category, which **increased** by 16.7% to **50%**.

Likewise, the "> 50%" category **increased** by 10.3% to **21.4%**.

Conversely, the "16-50%" category **decreased** by 27% at **28.6%**.

This indicates that enterprises are either being more selective about what applications to move to the cloud, or moving them faster at a faster pace.



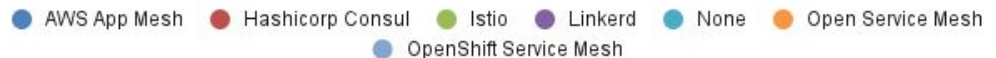
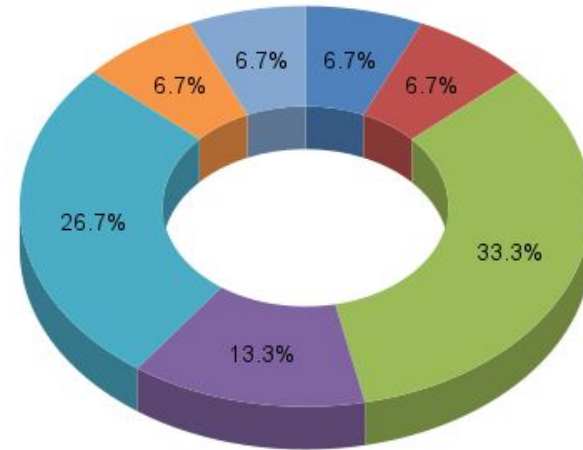
What service mesh do you use (multiple choice)?

This was a revised version of the service mesh question from last event's poll that delved deeper into the the type of service mesh being used.

These results indicate that **there is a preference for Istio (33.3%)** when it comes to service meshes.

The **second highest preference is Linkerd (13.3%)**.

The **third highest percentage** indicates that service meshes are **still not being adopted (26.7%)**.



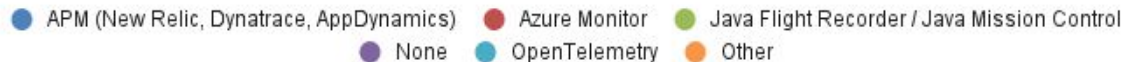
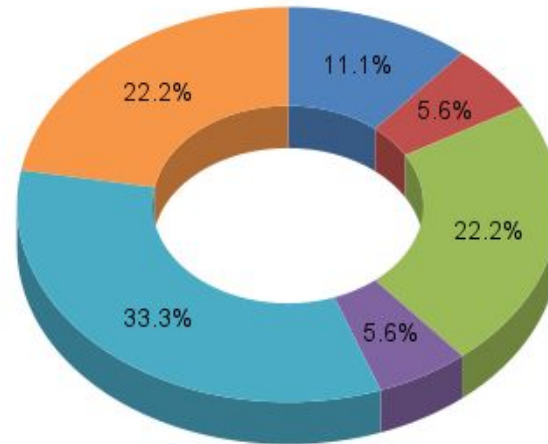
What monitoring/telemetry do you use (multiple choice)?

Compared to last event's responses, the **OpenTelemetry** category **increased** by 11.1% to **33.3%**.

The **second largest increase** was the **“Other”** category followed by **“None”**.

The rest of the categories **experienced a decrease** with the **“APM”** being **the largest one**.

It appears that developers have started adopting OpenTelemetry at a faster pace.



ONEK8s

ONEJAVA

ALLCLOUDS



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See you at J4K 2023!



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