2024 Jakarta EE
Developer Survey Report

October 2024

Introduction

➡ The objective of this survey is to help Java ecosystem stakeholders better understand the requirements, priorities, and perceptions of enterprise developer communities. It is also meant to help all Java ecosystem stakeholders gain a better understanding of how the cloud native world for enterprise Java is unfolding, and what that means to their strategies and businesses.

➡ It is noteworthy that some of the technologies mentioned throughout the survey, such as Jakarta EE, Spring/Spring Boot and MicroProfile, are not necessarily competing technologies; Spring/Spring Boot and MicroProfile rely on some of the Jakarta EE Specifications. Therefore, our analysis focuses on the market presence of these technologies that can be used independently.

➡ The survey was conducted between 19 March 2024 and 31 May 2024, and gathered insights from 1409 participants.

➡ The survey was promoted on social media, on the Jakarta EE and Eclipse Foundation websites, newsletters, blogs and through partners, including Chinese, Japanese, Spanish & Portuguese communities, Jakarta EE Ambassadors, JUG leaders and Java Champions, etc.

Executive Summary

➔ **Jakarta EE is the basis for the top frameworks used for building cloud native applications.**

➔ Spring/Spring Boot remains the top Java framework for building cloud native applications. **While Spring/Spring Boot usage remains steady, Jakarta EE and MicroProfile have experienced significant growth.**

➔ **32% of respondents have already migrated to Jakarta EE, an increase from 26% in 2023.**

➔ **Jakarta EE 10 adoption doubled from 17% in 2023 to 34% in 2024,** signaling a strong trend towards embracing the latest Jakarta EE version.

➔ **There is a noticeable decline in the usage of Java EE 8,** dropping from 46% in 2023 to 40% in 2024. This suggests a **shift away from older Java EE versions as organisations migrate to newer Jakarta EE versions.**
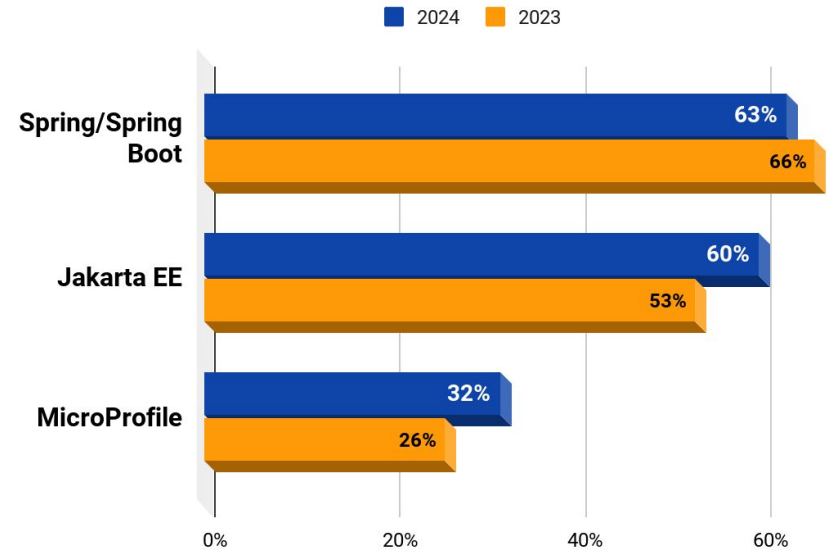
JAKARTA EE

Executive Summary

➔ **There is a growing interest in aligning Jakarta EE with Java SE innovations, such as Records and Virtual Threads. The increase from 30% in 2023 to 37% in 2024** reflects rising demand for adapting the latest Java SE features in Jakarta EE.

➔ The findings indicate that **support for testing** has become a more prominent priority for the Jakarta EE community, **rising from 23% in 2023 to 29% in 2024.**

➔ There is **an increase in the adoption of a hybrid architectural approach** for implementing Java systems in the cloud, **rising from 41% in 2023 to 46% in 2024.** Conversely, The usage of microservices architecture has decreased from 38% in 2023 to 31% in 2024.

➔ **Java 17 Usage has surged from 37% in 2023 to 56% in 2024,** demonstrating strong adoption of the latest LTS release, while Java 8 usage has decreased from 61% to 55%, signaling a gradual shift away from older versions in favor of more recent LTS releases.

➔ **Java 21 has achieved a notable adoption rate of 30%,** highlighting strong interest in the latest features and enhancements of this new release.

JAKARTA EE

Key Takeaways

JAKARTA® EE

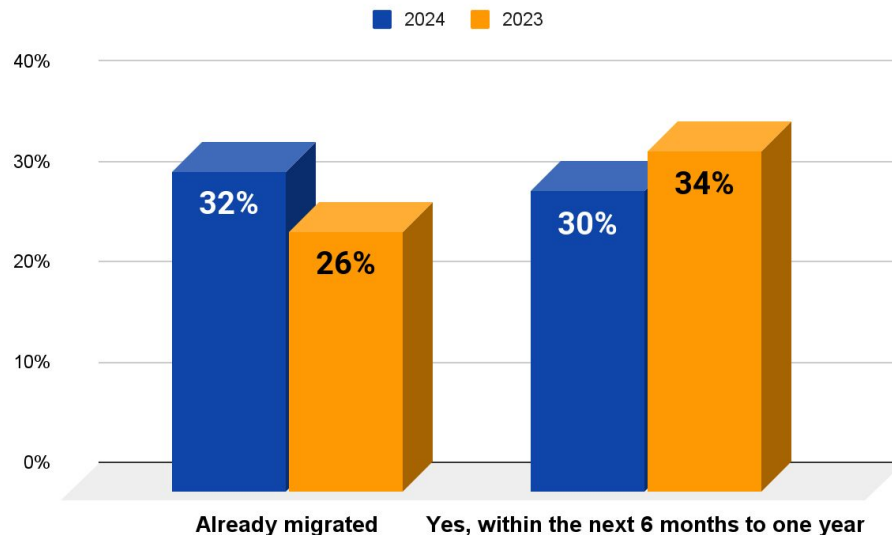◤ **Top three Java frameworks for building cloud native applications:**

➔ Spring/Spring Boot remains the top Java framework for building cloud native applications, with usage holding steady (66% in 2023 vs 63% in 2024).

➔ Jakarta EE has seen a notable rise in usage, growing from 53% in 2023 to 60% in 2024.

➔ MicroProfile has also experienced growth, with usage rising from 26% in 2023 to 32% in 2024.

These results reflect a growing interest and adoption of Jakarta EE and MicroProfile among developers, while Spring/Spring Boot maintains its strong position in the market.
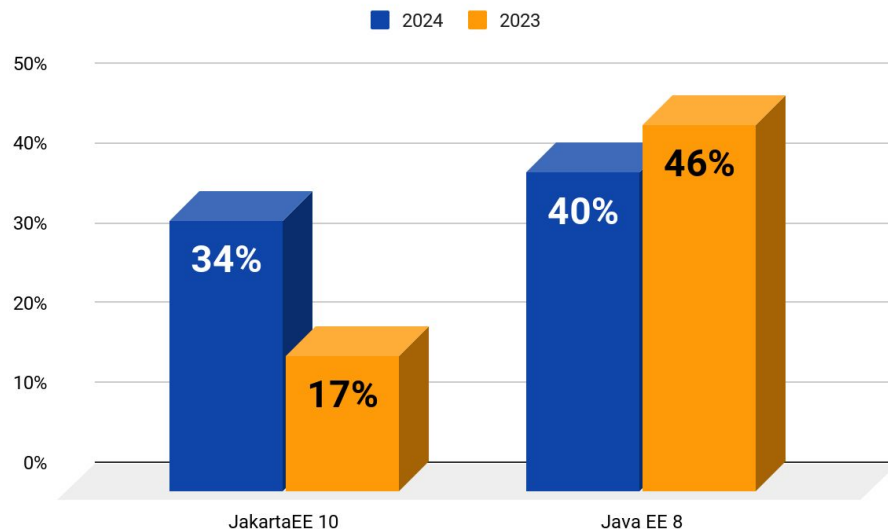
■ 2024 ■ 2023

Framework	2024	2023
Spring/Spring Boot	63%	66%
Jakarta EE	60%	53%
MicroProfile	32%	26%

JAKARTA EE

→ **32% of respondents have already migrated to Jakarta EE, an increase from 26% in 2023.**

→ **30% of respondents plan to migrate to Jakarta EE within the next 6-24 months** (vs 34% in 2023).

These findings demonstrate a strong and accelerating shift towards Jakarta EE adoption. The notable rise in migrations, along with a substantial number of respondents planning future migrations, indicates that Jakarta EE is gaining traction and confidence within the enterprise Java community.
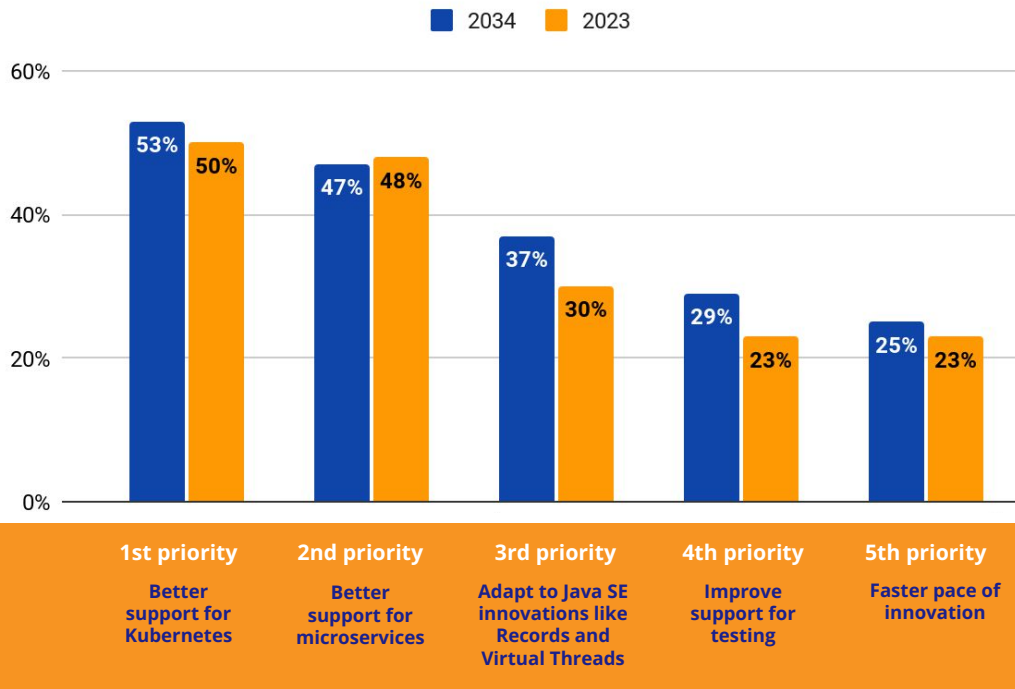
■ 2024 ■ 2023

32% **26%** **30%** **34%**

Already migrated   Yes, within the next 6 months to one year

JAKARTA EE 7

Jakarta EE 10 adoption doubled from 17% in 2023 to 34% in 2024, signaling a strong trend towards embracing the latest Jakarta EE version.

There is a noticeable decline in the usage of Java EE 8, dropping from 46% in 2023 to 40% in 2024. This suggests a shift away from older Java EE versions as organisations migrate to newer Jakarta EE versions.

Top five community priorities for Jakarta EE

Legend: ■ 2034 ■ 2023

Priority	2034	2023
1st priority — Better support for Kubernetes	53%	50%
2nd priority — Better support for microservices	47%	48%
3rd priority — Adapt to Java SE innovations like Records and Virtual Threads	37%	30%
4th priority — Improve support for testing	29%	23%
5th priority — Faster pace of innovation	25%	23%

While **the top 2 priorities remain consistent** from 2023 to 2024, **there is growing interest in aligning Jakarta EE with Java SE innovations, such as Records and Virtual Threads. The increase from 30% to 37% reflects rising demand for adapting the latest Java SE features in Jakarta EE,** validating the direction of the **Jakarta EE 11 release plan**, with it's adoption of new Java SE 21 features.

The findings also indicate that **support for testing** has become a more prominent priority, **rising from 23% to 29%.** This shift underscores the **community's need for better tools and frameworks to enhance the reliability and quality of cloud native applications.**
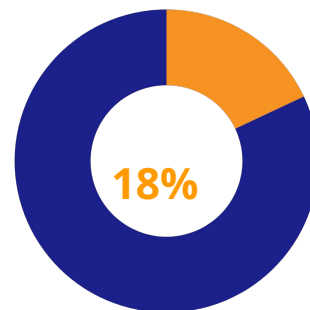
◢ **Top three architectural approaches for implementing Java systems in the cloud**

46%

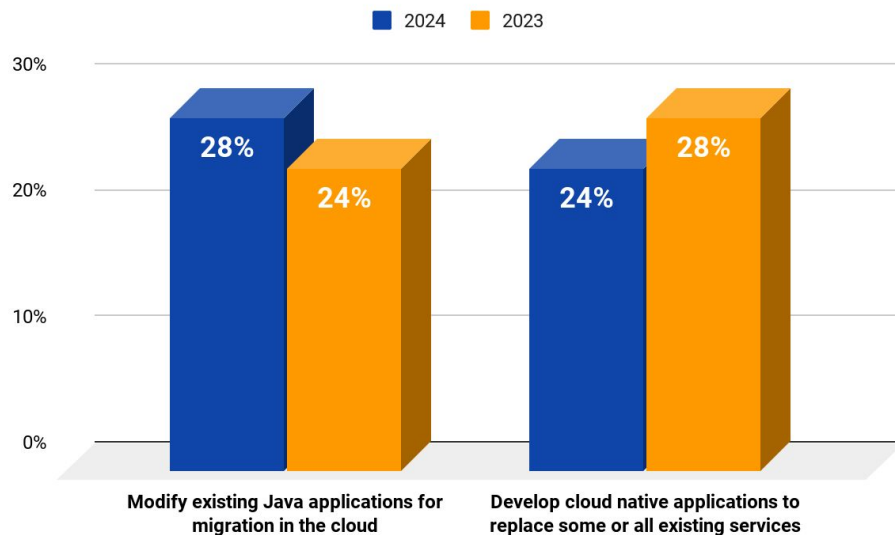**31%**

18%
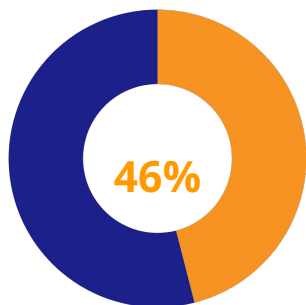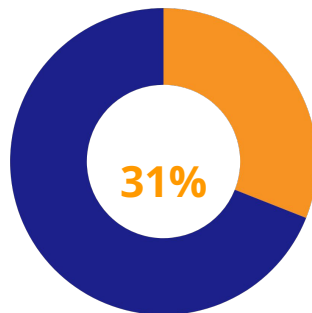
Hybrid

Microservices

Monolith

There has been **a notable increase in the adoption of a hybrid architectural approach** for implementing Java systems in the cloud, **rising from 41% in 2023 to 46% in 2024.** This suggests that more organisations are recognising the benefits of combining monolith and microservices, likely to leverage the strengths of both approaches.

Conversely, the usage of microservices architecture has decreased from 38% in 2023 to 31% in 2024. This decline may indicate that while microservices remain popular, some organisations are turning to hybrid solutions to more efficiently address complexity and integration challenges.

JAKARTA® EE

The percentage of respondents planning to modify existing Java applications for cloud migration has increased, from 24% in 2023 to 28% in 2024, reflecting a growing focus on adapting current applications to leverage cloud benefits.

Although the development of cloud native applications to replace existing services has slightly declined (down from 28% in 2023 to 24% in 2024), it remains a key strategy. The percentage of respondents with Java applications already running in the cloud remains steady at 22%, showing consistent cloud adoption.

Legend: 2024, 2023

- Modify existing Java applications for migration in the cloud: 28% (2024), 24% (2023)
- Develop cloud native applications to replace some or all existing services: 24% (2024), 28% (2023)

56%

2024

37%

2023

Java 17

Java 17 usage has surged from 37% in 2023 to 56% in 2024, demonstrating strong adoption of the latest LTS release, as organisations prioritise stability and long-term support.

Conversely, Java 8 usage has decreased from 61% in 2023 to 55% in 2024, signaling a gradual shift away from older versions in favor of more recent LTS releases.

Java 21 has achieved a notable adoption rate of 30%, highlighting strong interest in the latest features and enhancements of this new release.

These findings highlight
a clear trend towards increased cloud
adoption for Java applications.
Organisations are not only moving a
significant portion of their applications
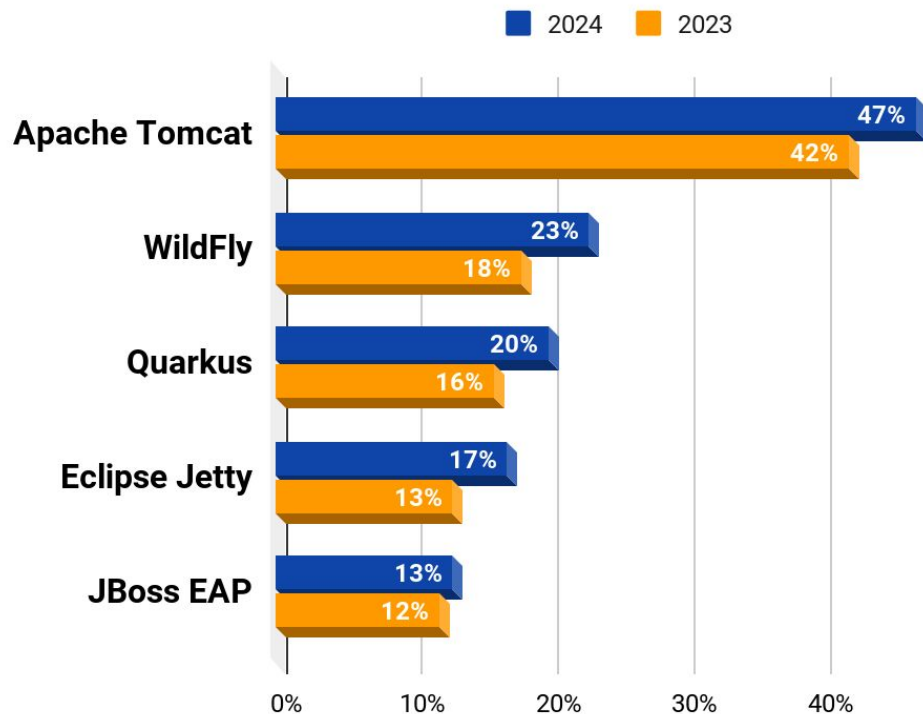to the cloud now but also plan to
expand this shift in the future.

25%

Respondents
report that
more than 80%
of their Java
systems are
**currently
deployed in
the cloud,up
from 23% in
2023.**

33%

Respondents
report that
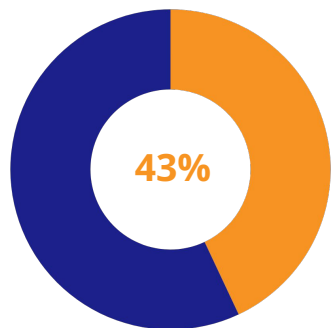more than 80%
of their Java
systems will be
**deployed in
the cloud in
two years,
compared to
29% in 2023.**

Deployed in Cloud 2024

JAKARTA EE 13

◢ Top 5 Runtimes/Implementations

Legend: ■ 2024 ■ 2023

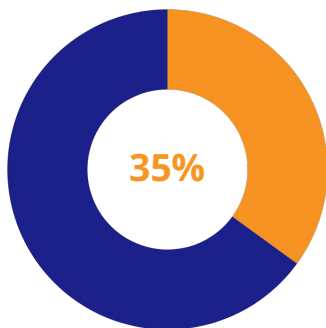| Runtime/Implementation	2024	2023
Apache Tomcat	47%	42%
WildFly	23%	18%
Quarkus	20%	16%
Eclipse Jetty	17%	13%
JBoss EAP	13%	12%

The top 5 runtimes/implementations for 2024 reflect a growing adoption trend across the board. **Apache Tomcat remains the leading choice, while WildFly, Quarkus, and Eclipse Jetty have experienced notable growth.** JBoss EAP continues to hold steady, showcasing the wide range of options developers have for deploying Java applications based on their specific needs and preferences.
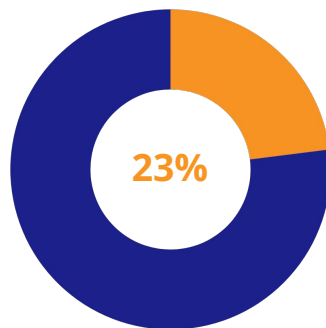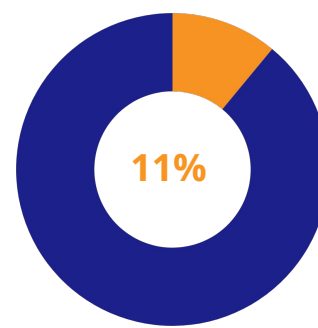
◢ **Top Cloud Platform Providers**

43%	**35%**	**23%**	**11%**	**10%**
1	2	3	4	5
Amazon Web Services (AWS)	**Microsoft Azure**	**Google Cloud Platform (GCP)**	**Alibaba Cloud**	**IBM Cloud**
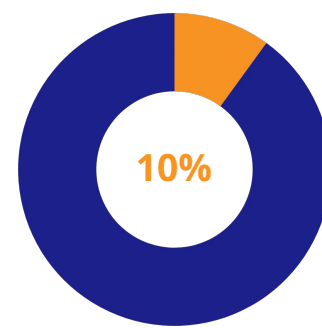
JAKARTA EE 15

Demographics

JAKARTA EE

Q1: What best describes your role?

2024 Survey:
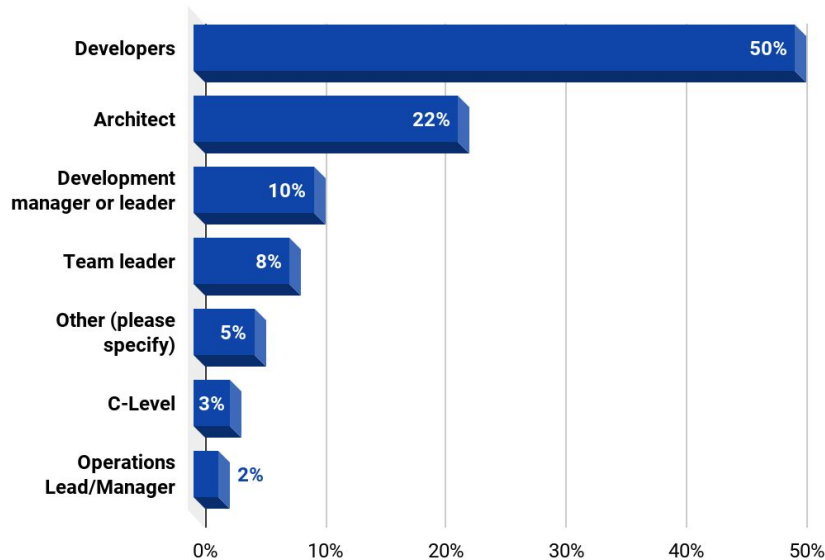
2023 Survey:
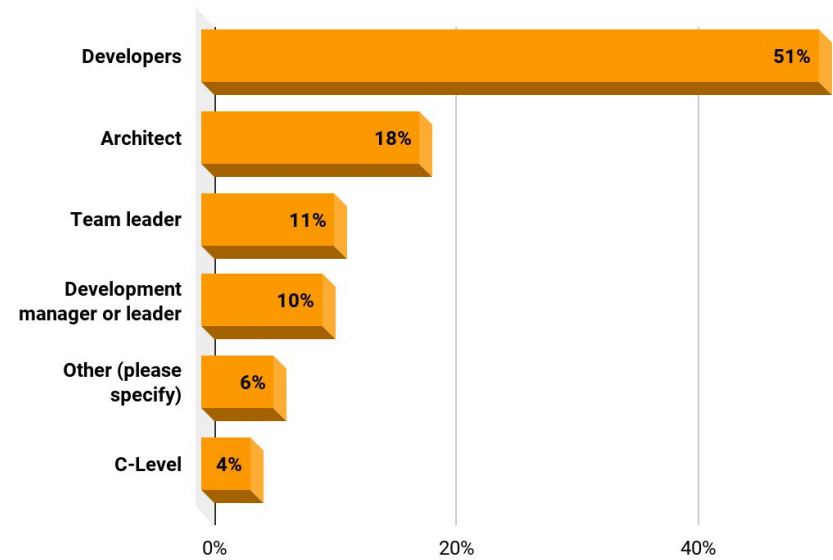
JAKARTA EE

Q2: How many employees work in your organisation?

2024 Survey:

Category	2024
Less than 100	36%
100-500	18%
1,001-5,000	17%
More than 10,000	16%
501-1,000	8%
5,001-10,000	5%

2023 Survey:

Category	2023
Less than 100	31%
100-500	20%
1,001-5,000	18%
More than 10,000	14%
501-1,000	11%
5,001-10,000	5%
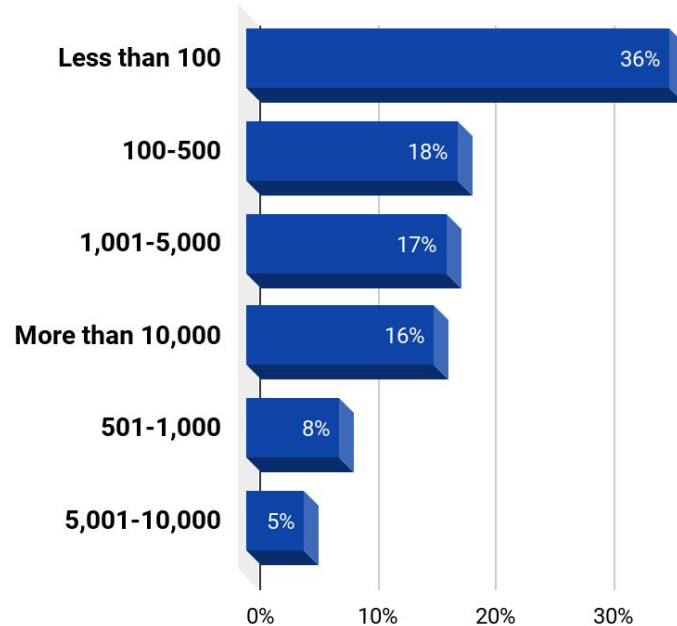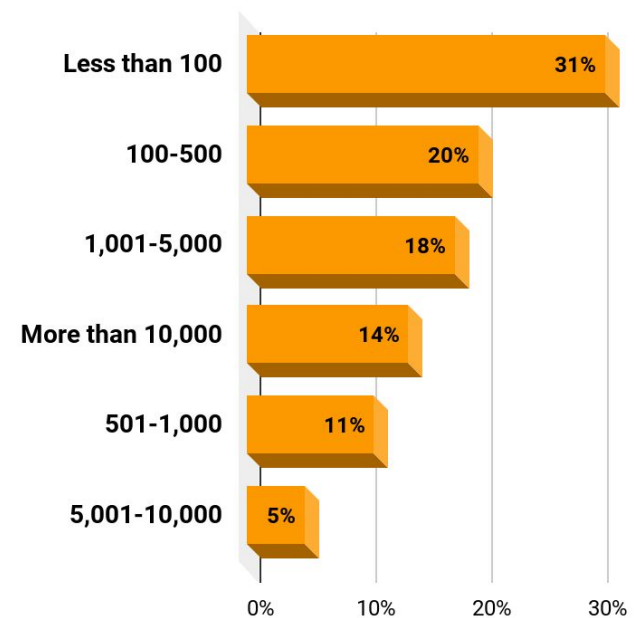
JAKARTA EE

Q3: What industry do you work in?

2024 Survey:

Industry	Percentage
Software	32%
IT	23%
Financial Services (e.g., banking,	14%
Government	7%
Education	6%
Computer and electronics Manufacturing	4%
Retail & Consumer Services	4%
Healthcare & Pharmaceutical	2%
Energy / Utilities	2%
Telecommunication	2%
Manufacturing	2%
Hospitalilty / Hotels & leisure	1%

2023 Survey:

Industry	Percentage
Software	28%
IT	24%
Financial Services (e.g., banking, insurance, etc.)	13%
Computer and electronics Manufacturing	12%
Education	5%
Government	5%
Telecommunication	3%
Retail & Consumer Services	3%
Healthcare & Pharmaceutical	2%
Energy / Utilities	2%
Manufacturing	2%
Hospitalilty / Hotels & leisure	1%

JAKARTA EE

Q4: What region are you personally located in?

2024 Survey:

Region	2024
Europe	37%
Asia Pacific	30%
North America	15%
South America	8%
Africa	4%
Caribbean and Latin America	3%
Middle East	3%

2023 Survey:

Region	2023
Asia Pacific	41%
Europe	29%
North America	12%
South America	7%
Africa	4%
Caribbean and	3%
Eastern Europe	2%
Middle East	2%

JAKARTA EE