2023 Jakarta EE Developer Survey Report

September 2023

Agenda

- Introduction
- Executive Summary
- Key Takeaways
- Demographics

Introduction (1/2)

- 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 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. Hence, we are looking into the presence of these technologies, that can be used independently, in the market.

- Survey was fielded between **March 14, 2023 and May 25, 2023.**

Introduction (2/2)

- There were **2,203 participants (over 50% increase in responses compared to 1439 in 2022).**
- We have seen a **strong participation from the Chinese community (over 27% of the respondents**) in this year's survey.
- The survey was promoted on social media, on the Jakarta.ee website, newsletters, blogs and through partners, including Chinese, Japanese, Spanish & Portuguese Communities, Jakarta EE Ambassadors, JUG leaders and Java Champions and other Jakarta EE community channels.

Executive Summary

- **Jakarta EE is the basis for the top frameworks used for building cloud native applications.**
- **Spring/Spring Boot usage increased by 7%. Jakarta EE usage remains steady**, while **MicroProfile usage declined**.
- Despite only shipping in September 2022, **Jakarta EE 10 usage has grown to 17%.**
- **17%** of respondents **run Jakarta EE 9/9.1 in production** (up from 14% in 2022) and **28% currently run Jakarta EE 8 in production** (vs 24% in 2022).
- **Over 60%** of respondents (59% in 2022) have already **migrated to Jakarta EE, or plan to do so within the next 6-24 months.**

Executive Summary

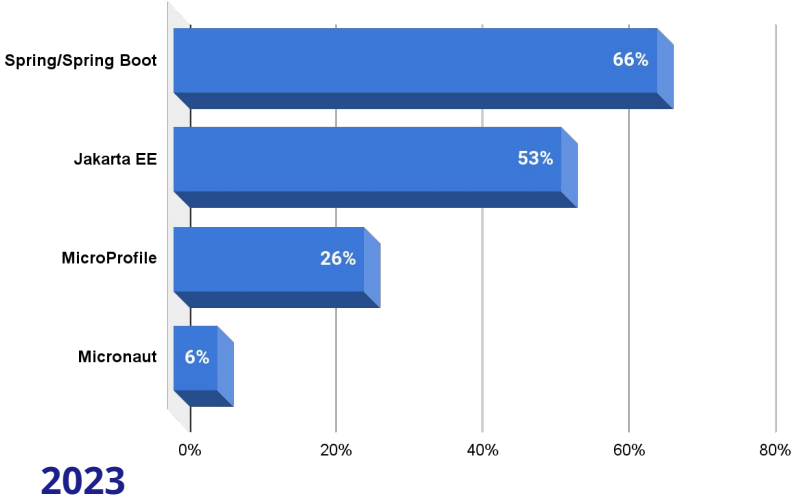
- Jakarta EE Community is looking for **adopting innovations from Java SE into Jakarta EE (30%)**.
- **Use of the hybrid architecture approach** for implementing Java systems **in the cloud** has **increased since last year with 41% adoption** reported in 2023 (up from 28% in 2022).
- **28%** of the respondents will **develop cloud native applications** to replace some or all existing services (up from 25% in 2022) while **24% will modify existing Java applications for migration in the cloud** (vs 28% in 2022)**. 22%** of the respondents are **currently running their Java applications in the cloud (vs 18% in 2022).**
- **Use of Java 17 (the LTS release of Java SE) has increased to 36%** (up from 26% in 2022). **Java 11 use decreased** from **57% in 2022 to 50% in 2023**.

Key Takeaways

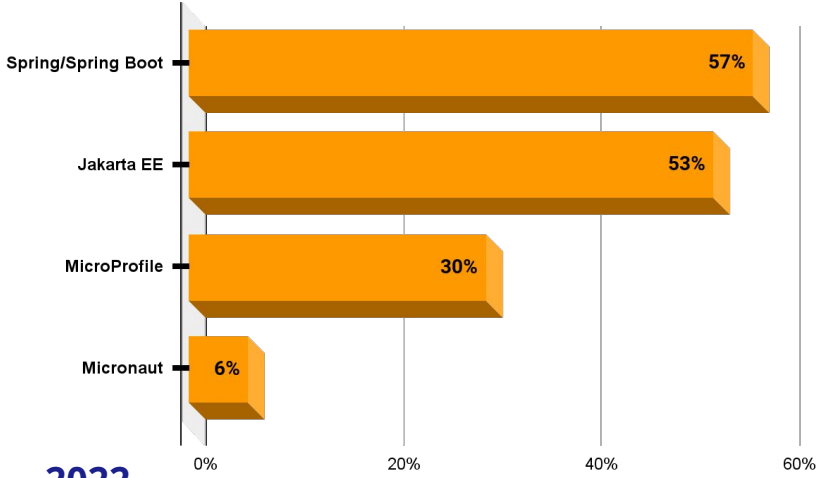
Key Takeaway 1

Top three frameworks for building cloud native applications:

Spring/Spring Boot continues to be the leading Java framework for building cloud native applications (66%), **with its share increasing 9%** (up from 57% in 2022). **Jakarta EE usage remains steady at 53%**, while **MicroProfile usage declined** (down from 30% in 2022 to 26% in 2023).



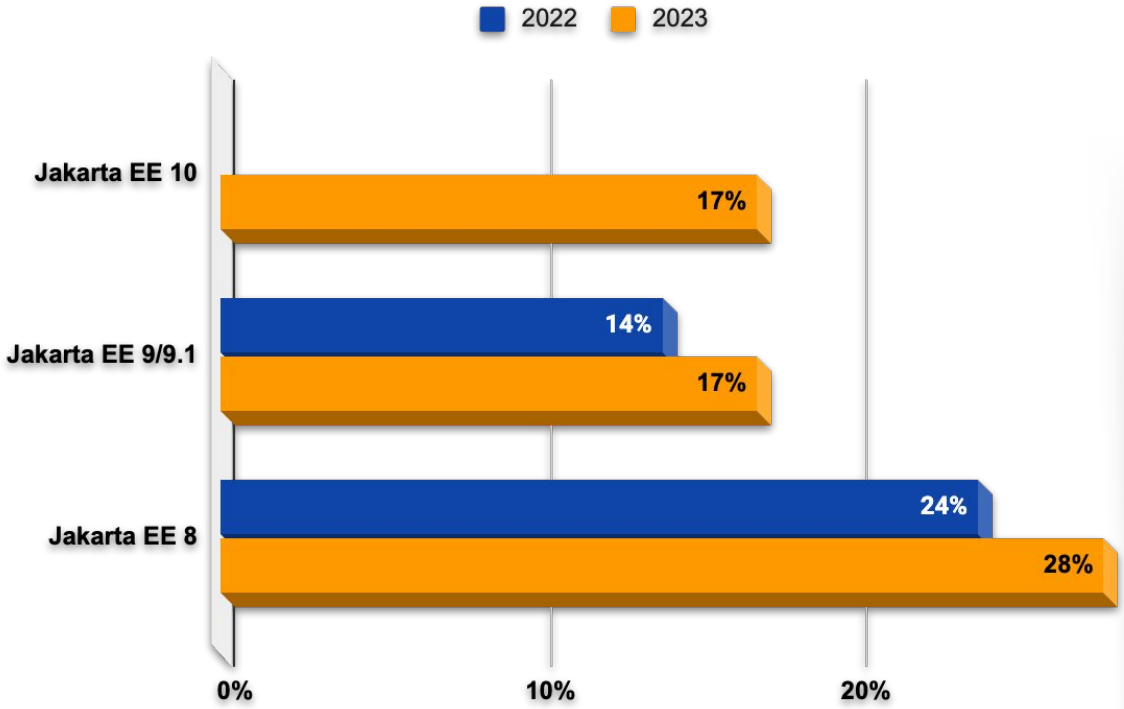
2023



2022

JAKARTA EE

Key Takeaway 2



A. Despite only shipping in September 2022, Jakarta EE 10 usage has grown to 17%.

This community-driven innovation release is attracting an increasing number of application developers to adopt Jakarta EE 10 by offering new features and updates to Jakarta EE.

B. 17% of respondents run Jakarta EE 9/9.1 in production (up from 14% in 2022) and **28% currently run Jakarta EE 8 in production** (vs 24% in 2022)

That means the increase we are seeing in the migration to Jakarta EE is mostly due to the adoption of Jakarta EE 10 as compared to Jakarta EE 9/9.1 or Jakarta EE 8.

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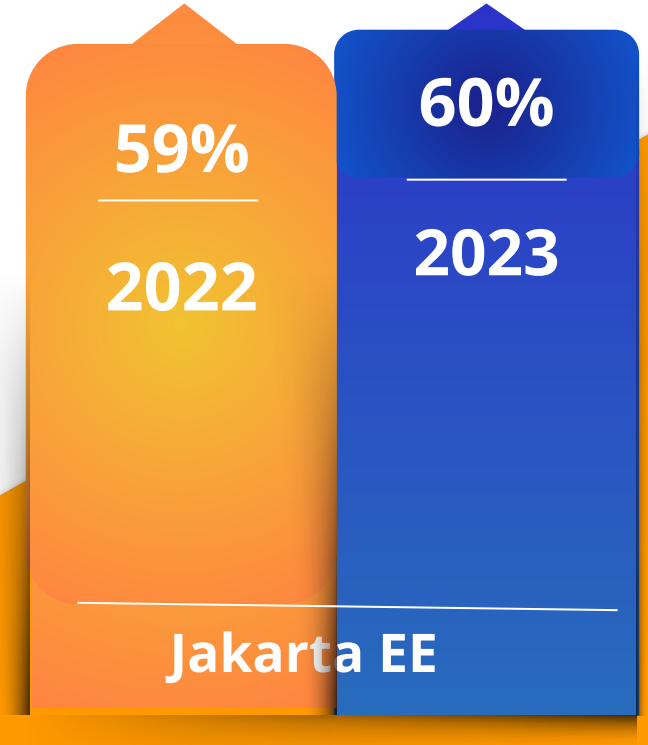
Key Takeaway 3



Over **60%** of respondents (59% in 2022) have **already migrated to Jakarta EE, or plan to do so within the next 6-24 months.**

Key Takeaway 4

Top Five Jakarta EE community priorities:

1st priority

Better support for Kubernetes 50% (51% in 2022)

1 

2nd priority

Better support for microservices (48%)

2 

3rd priority

Adapt to Java SE innovations (such as Records and Virtual Threads) (30%)

3 

4th priority

Improve support for serverless (25%)

4 

5th priority

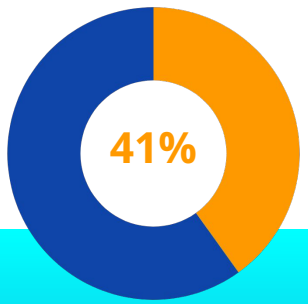
Faster support from existing Java EE / Jakarta EE or cloud vendors, improve support for testing & faster pace of innovation (23%)

5 

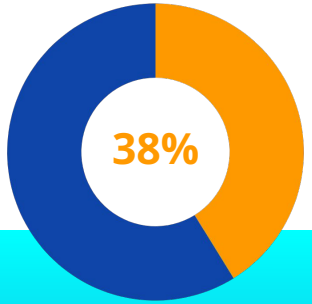
While the first 2 community priorities remain consistent from 2022 to 2023, we are seeing an **increased interest in adopting innovations from Java SE into Jakarta EE**. This is a good indicator that **Jakarta EE 11 release plan** is on the **right direction by adopting new Java SE 21 features.**

Key Takeaway 5

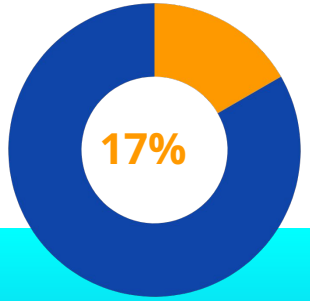
Top three architectural approaches for implementing Java systems in the cloud



Hybrid



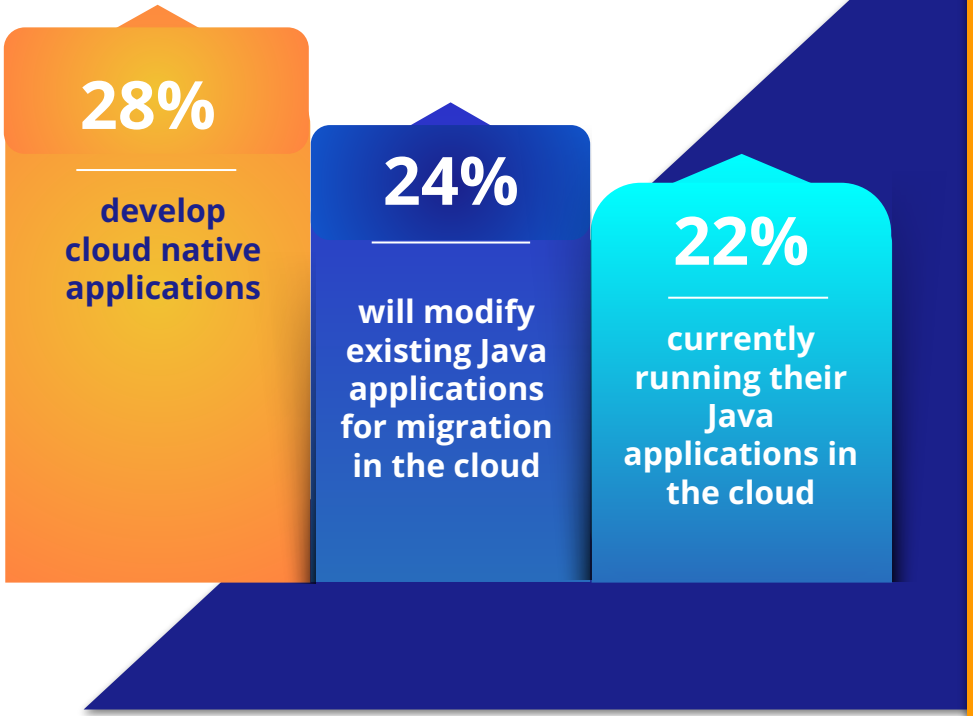
Microservices



Monolith

Use of the hybrid architecture approach for implementing Java systems **in the cloud** has **increased since last year with 41% adoption** reported in 2023 (up from 28% in 2022) and has outpaced Microservices, which was ahead of hybrid last year.

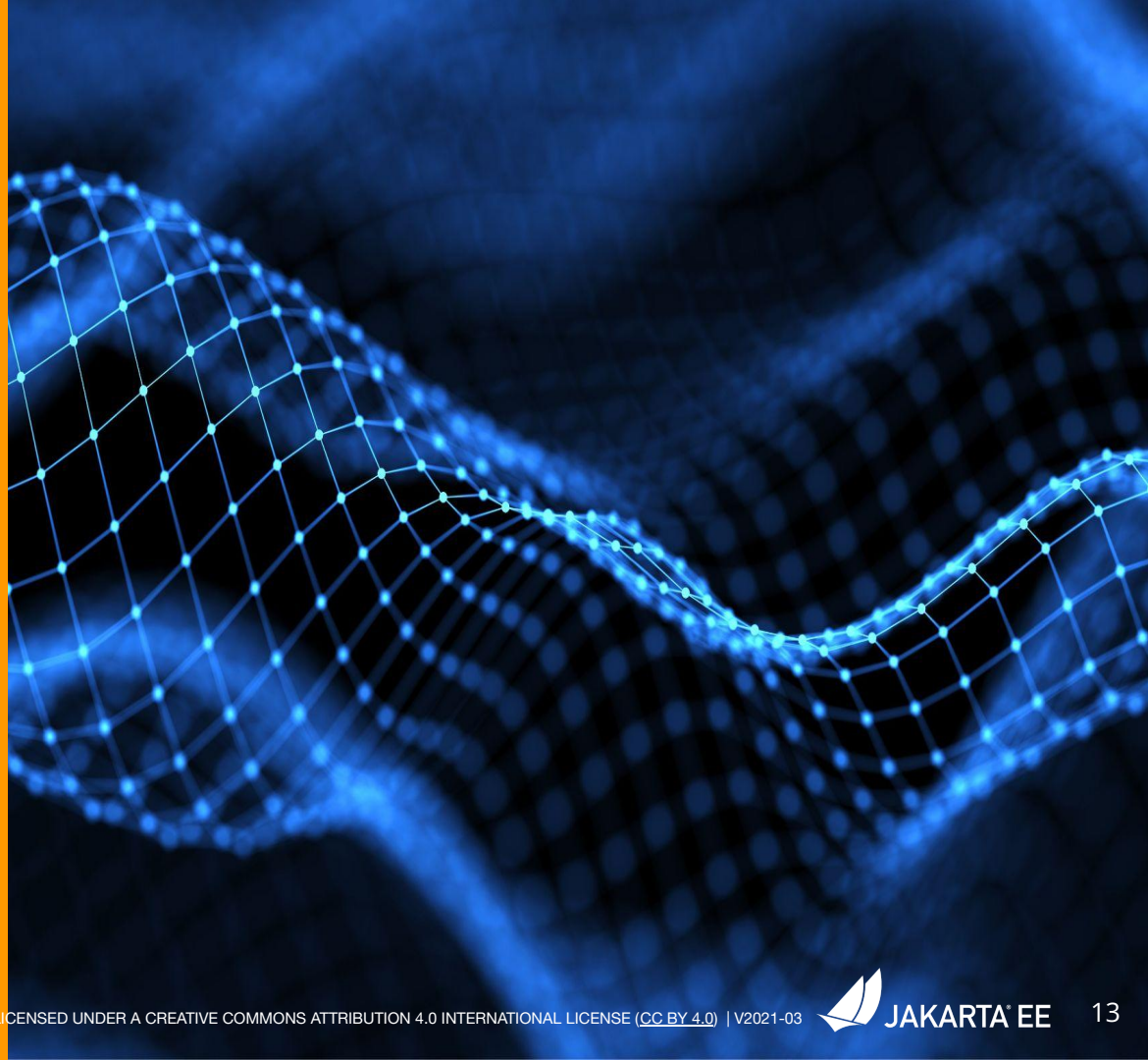
Key Takeaway 6



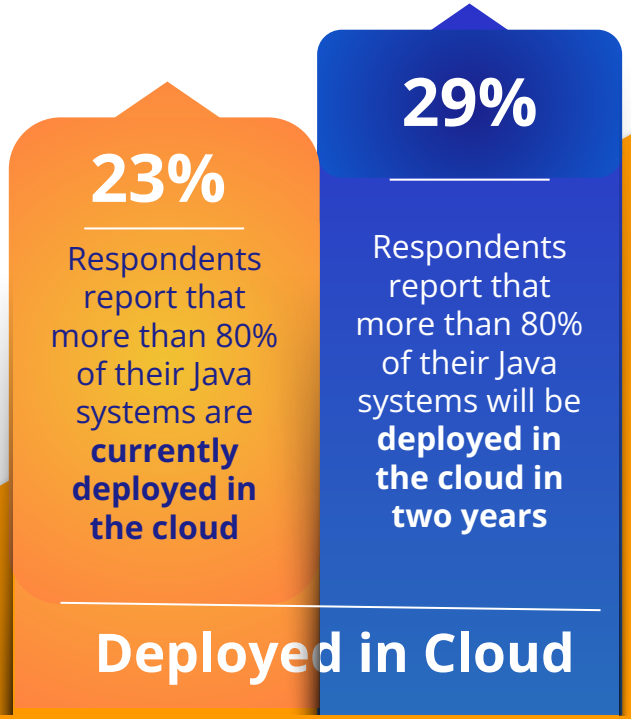
28% of the respondents will **develop cloud native applications** to replace some or all existing services (up from 25% in 2022) while **24% will modify existing Java applications for migration in the cloud** (vs 28% in 2022)**. 22%** of the respondents are **currently running their Java applications in the cloud (vs 18% in 2022).**

Key Takeaway 7

Use of Java 17 (the LTS release of Java SE) has increased to 36% (up from 26% in 2022). **Java 11 use decreased** from **57% in 2022 to 50% in 2023**. This is a good indicator that **enterprises closely follow the LTS releases.**



Key Takeaway 8

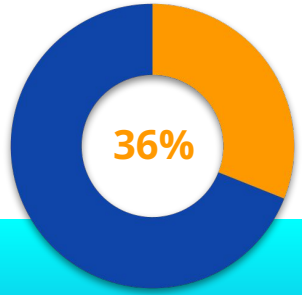


23% of respondents report that more than 80% of their Java systems are **currently deployed in the cloud** (19% in 2022).

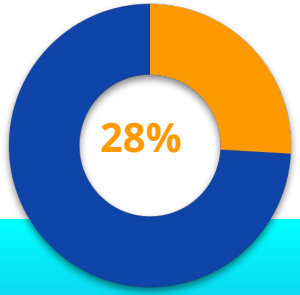
29% of respondents report that more than 80% of their Java systems will be **deployed in the cloud in two years** (26% in 2022).

Key Takeaway 9

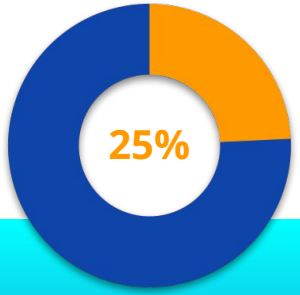
Top 5 Jakarta EE 10 features that respondents are interested in:



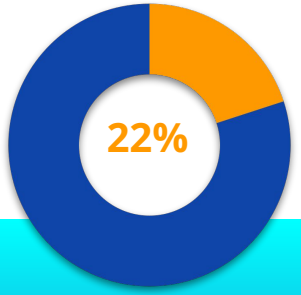
1 Jakarta EE Core Profile



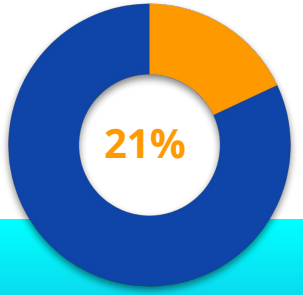
2 OpenID Connect Support



3 @Asynchronous in Jakarta Concurrency



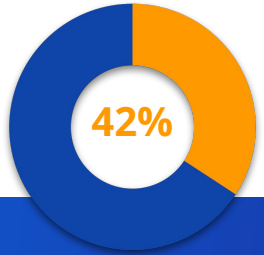
4 CDI Lite



5 Support for multipart/form-data in Jakarta REST

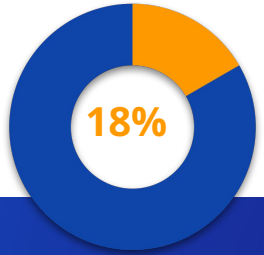
Key Takeaway 10

The top 5 runtimes/implementations being used:



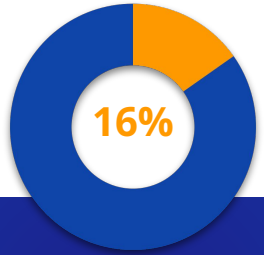
1

Apache Tomcat



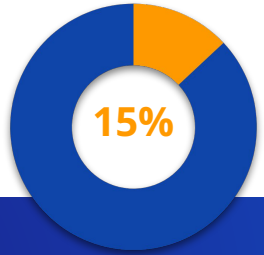
2

WildFly



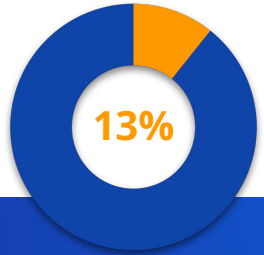
3

Quarkus



4

InforSuit Application server

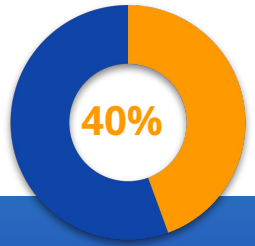


5

Eclipse Jetty

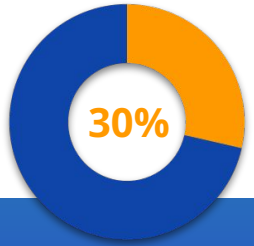
Key Takeaway 11

Top Cloud Platform Providers



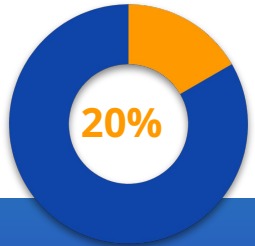
1

Amazon Web Services (AWS)



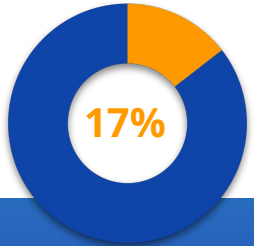
2

Microsoft Azure



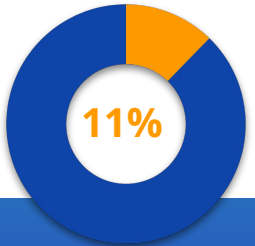
3

Google Cloud Platform (GCP)



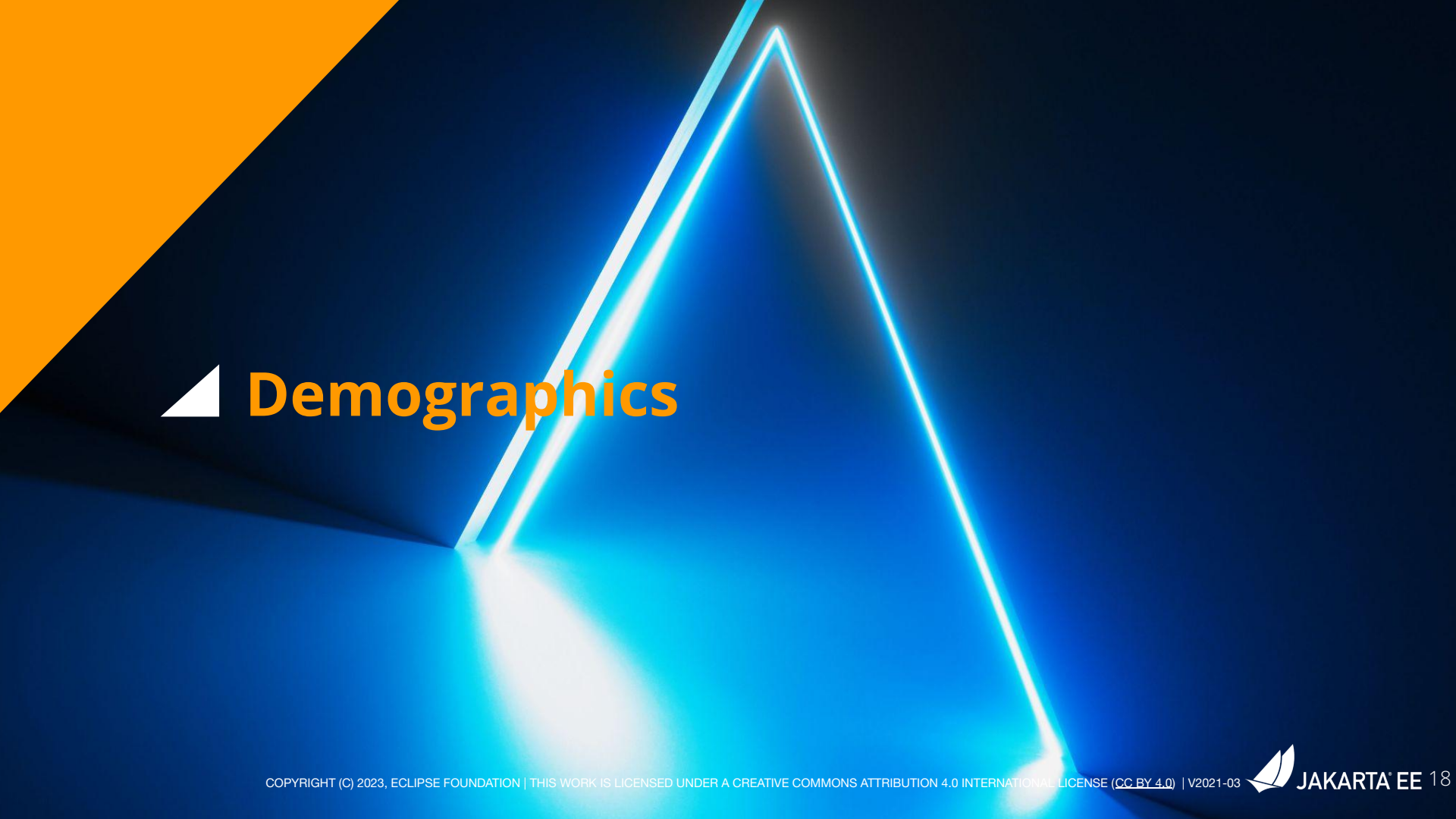
4

Alibaba Cloud



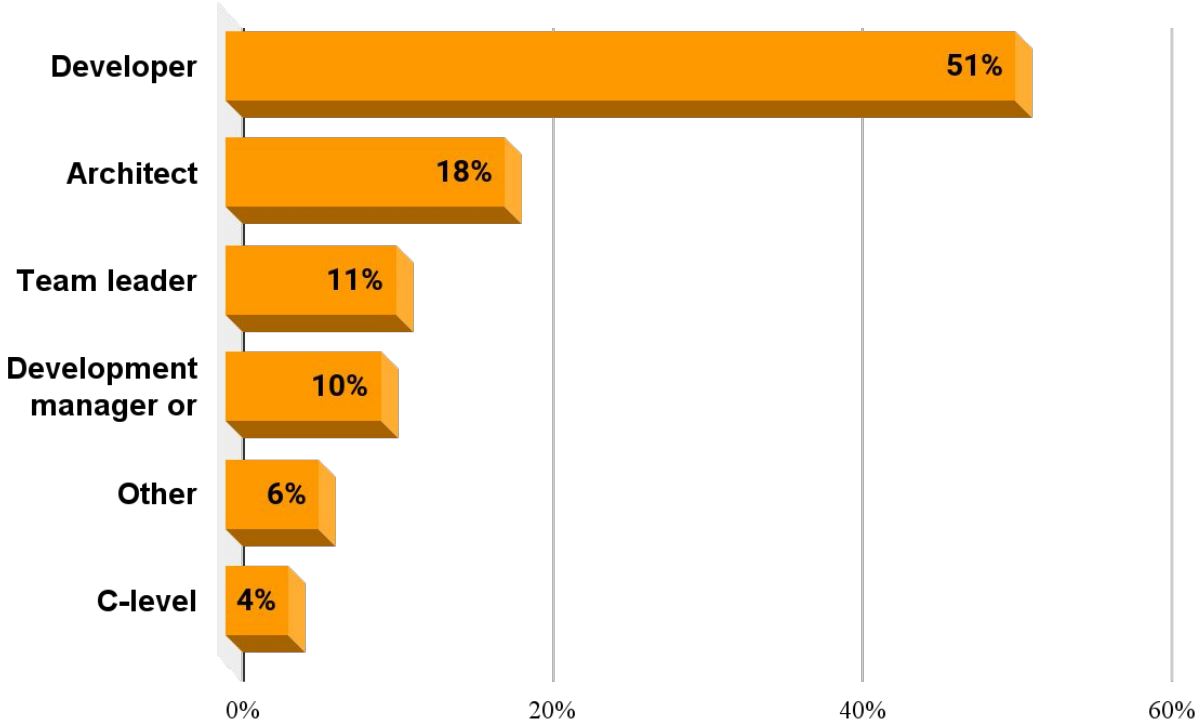
5

IBM Cloud



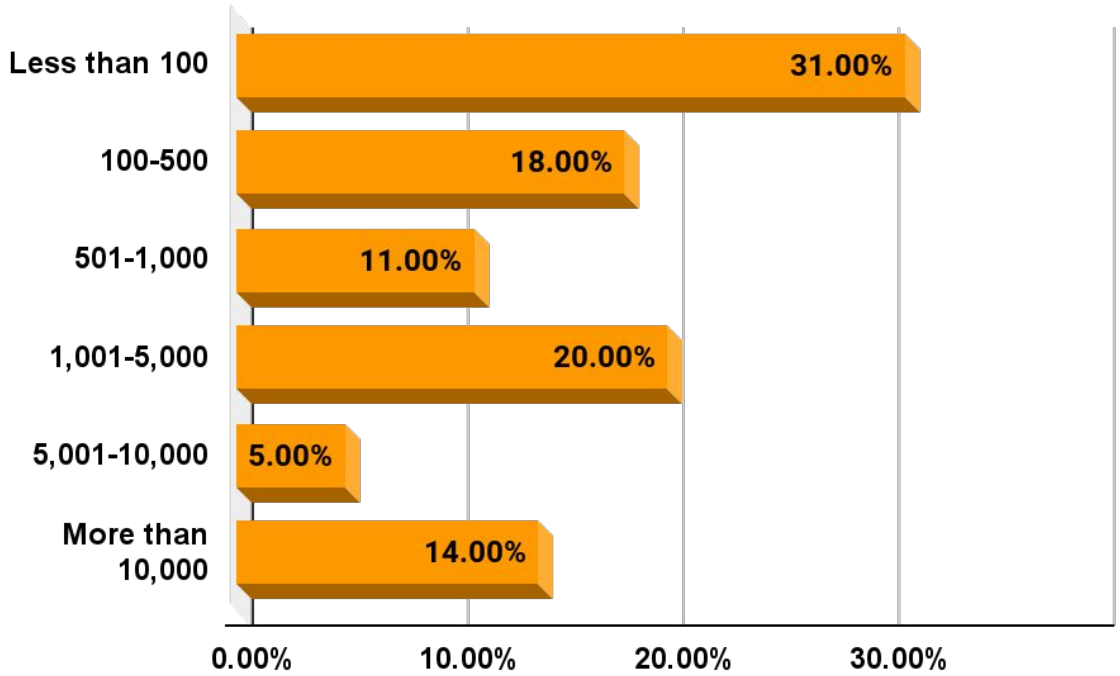
Roles

What best describes your role?



Employees

How many employees work in your organization?



Industries

IT

24%

Software

28%

Computer & Electronics Manufacturing

12%

Education

5%

Financial Services

13%

Government

5%

Retail & Consumer Services

3%

Telecommunications

3%

Healthcare & Pharmaceutical

2%

Manufacturing

2%

Energy/Utilities

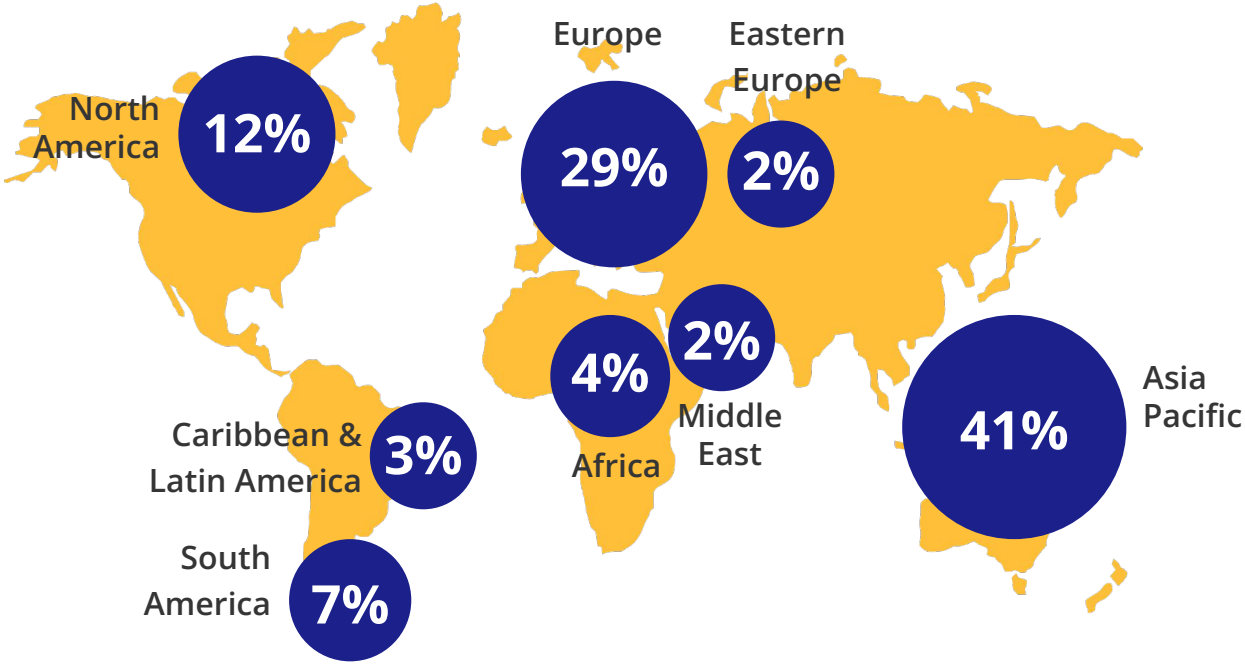
2%

Hospitality

1%

Regions

What region are you personally located in?



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