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2019 Jakarta EE
Developer Survey Report

Executive Summary

Top three community priorities for Jakarta EE:

> Better support for microservices
> Native integration with Kubernetes
> Production quality reference implementation

Cloud native is critically important today and its importance will likely increase over time

The number of Java applications running in the cloud is projected to increase significantly over the next two years

Microservices is the leading architecture for implementing Java systems in the cloud

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Executive Summary (2/2)

Top frameworks for building cloud native applications:

1) Spring/Spring Boot   2) Kubernetes   3) Eclipse MicroProfile

Top cloud native technologies:

Docker | Kubernetes | Jakarta EE | Spring/Spring Boot | Eclipse MicroProfile

Top IDEs for developing cloud native applications:

Eclipse IDE | IntelliJ IDEA | Visual Studio Code | Apache NetBeans | Eclipse Che

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Introduction

The objective of the 2019 Jakarta EE Developer Survey was to **help Java ecosystem stakeholders better understand the requirements, priorities, and perceptions of enterprise developer communities**.

From March 4 to March 25, 2019, **1,772 individuals from around the world participated** in the survey online. The survey was promoted on social media, on the Jakarta.ee website and through partners, including London Java Community and the Java User Groups.

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The State of Enterprise Java

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Cloud native has emerged as an important strategy for IT modernization and business transformation initiatives. The enterprise marketplace has a strong desire to see Jakarta EE, the successor of Java EE, evolve to support containers, microservices, and multi-cloud portability.

For their part, developers need open specifications and tools that build upon the decades of enterprise-grade Java experience to create dynamic and scalable cloud native applications.

Powered by a well-governed and vendor-neutral open source ecosystem, Jakarta EE represents the best way to move mission-critical Java EE applications and workloads to the cloud.
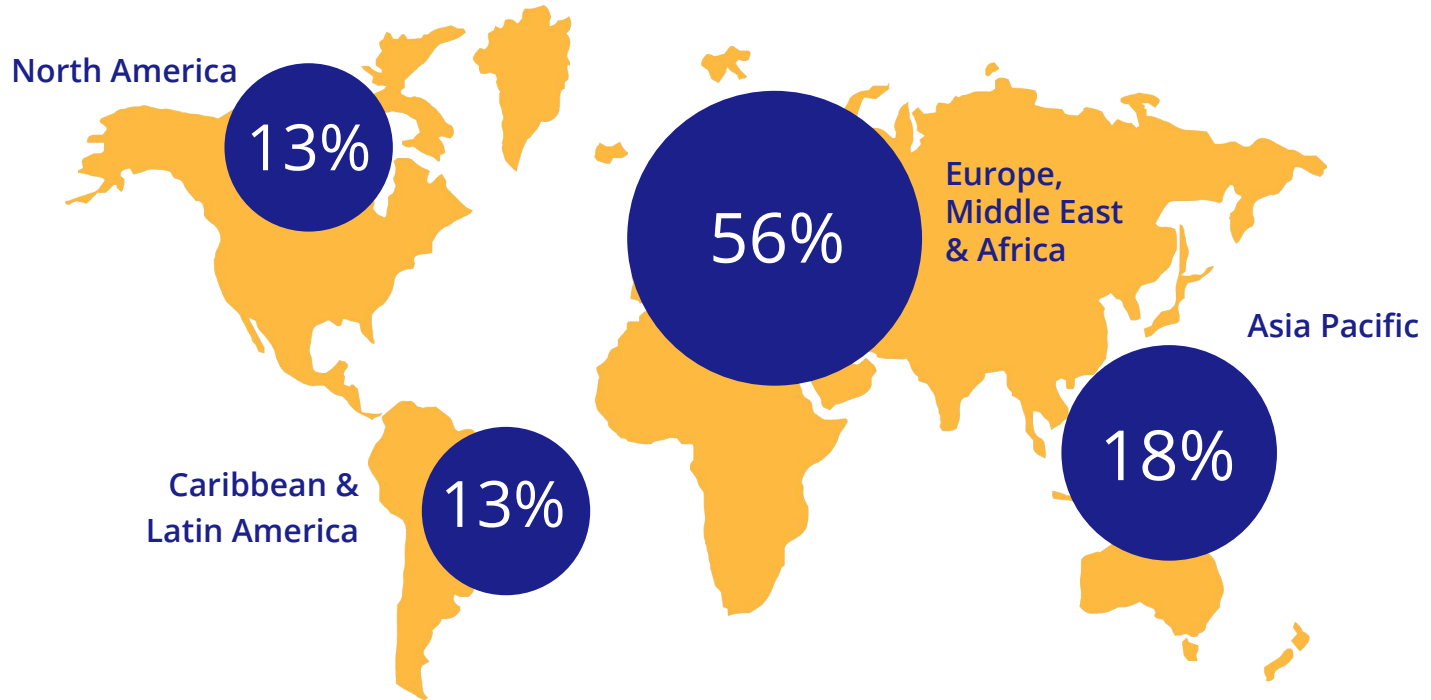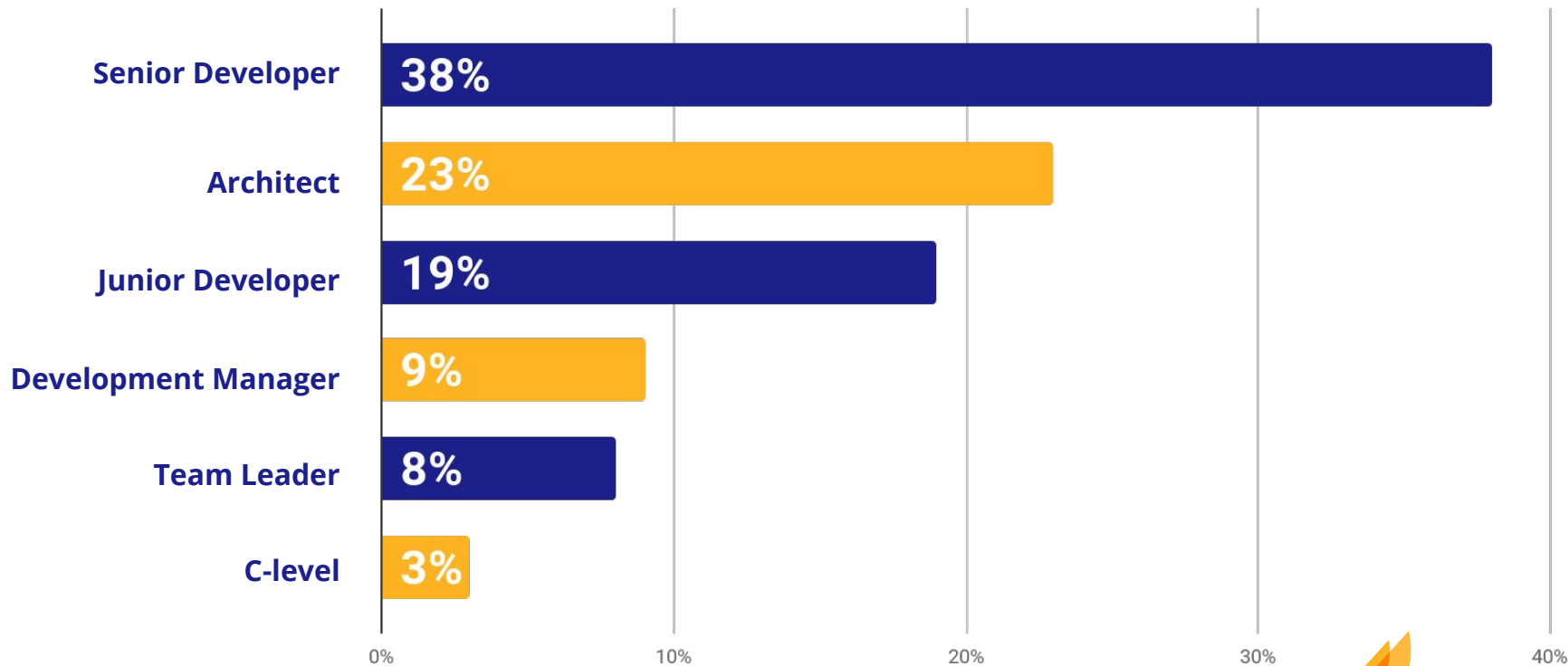
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Demographics

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Regions

What region are you located in?

North America — 13%

Europe, Middle East & Africa — 56%

Asia Pacific — 18%

Caribbean & Latin America — 13%

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Roles

What best describes your role?

- Senior Developer — 38%
- Architect — 23%
- Junior Developer — 19%
- Development Manager — 9%
- Team Leader — 8%
- C-level — 3%

(0% — 10% — 20% — 30% — 40%)

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Employees

How many employees work in your organization?

< 100	100-500	501-1,000	1,001-5,000	5,001-10,000	> 10,000
41%	19%	9%	12%	6%	14%

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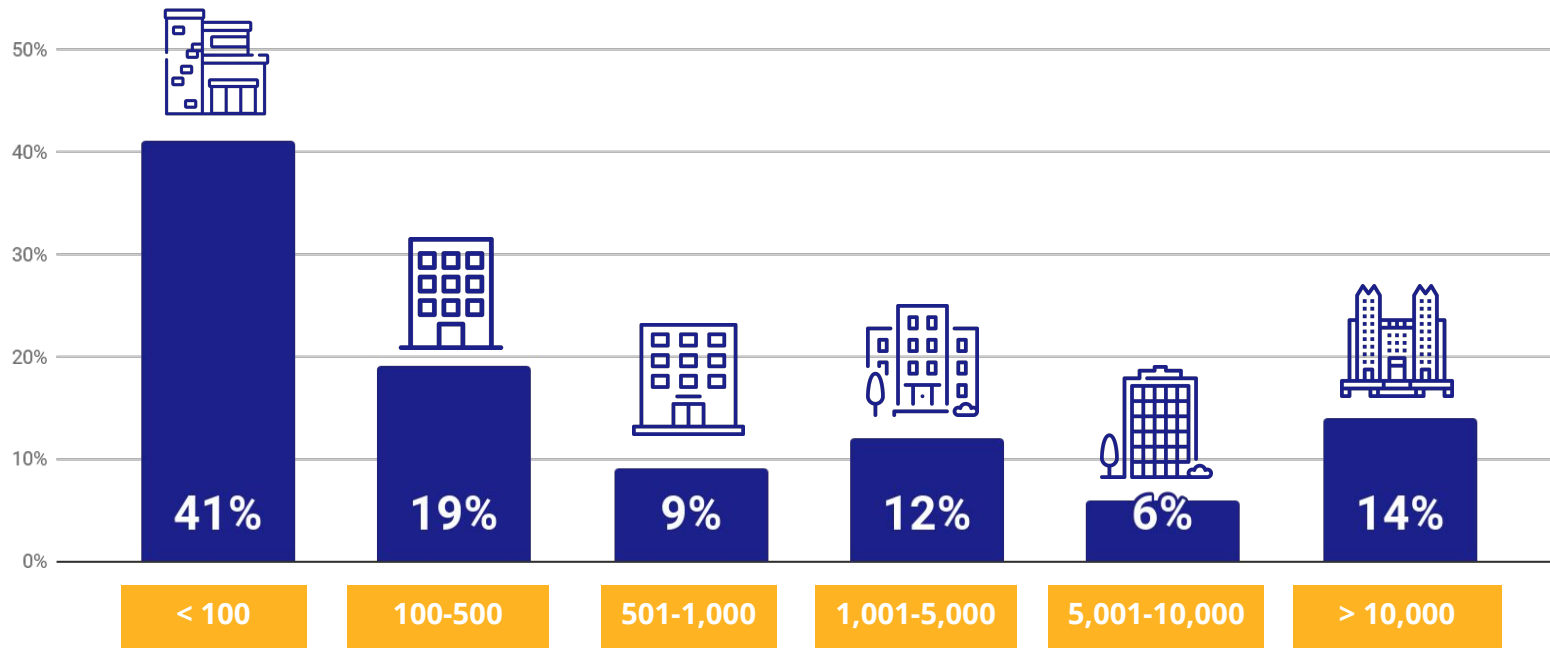
Industries

What industry do you work in?

IT/Telecommunications	Financial	Education	Other	Government
40%	18%	10%	9%	8%

Retail	Healthcare	Manufacturing	Energy	Hospitality
6%	4%	3%	2%	1%

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Findings

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Finding #1:

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Cloud native is critically important today

Finding #1 stats:
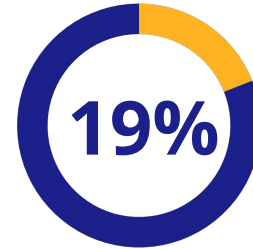
Plans for **building cloud native architectures**:

32%
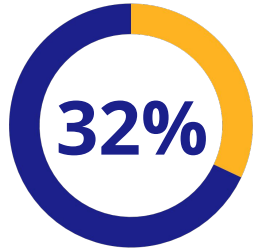
Currently building cloud native architectures

16%

Plan to build within 6 months

14%
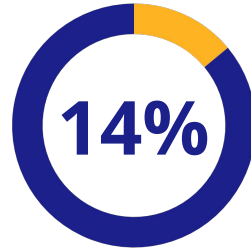
Plan to build within 12 months

19%

Probably, but not for at least 12 months

19%
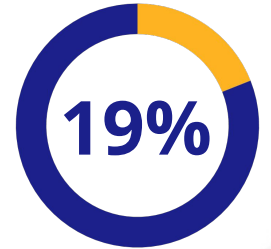
No plans to build cloud native architectures

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Finding #2:

Number of Java apps running in the cloud projected to increase significantly

Finding #2 stats:

32% expect to be running more than 60% of Java applications in the cloud in 2 years
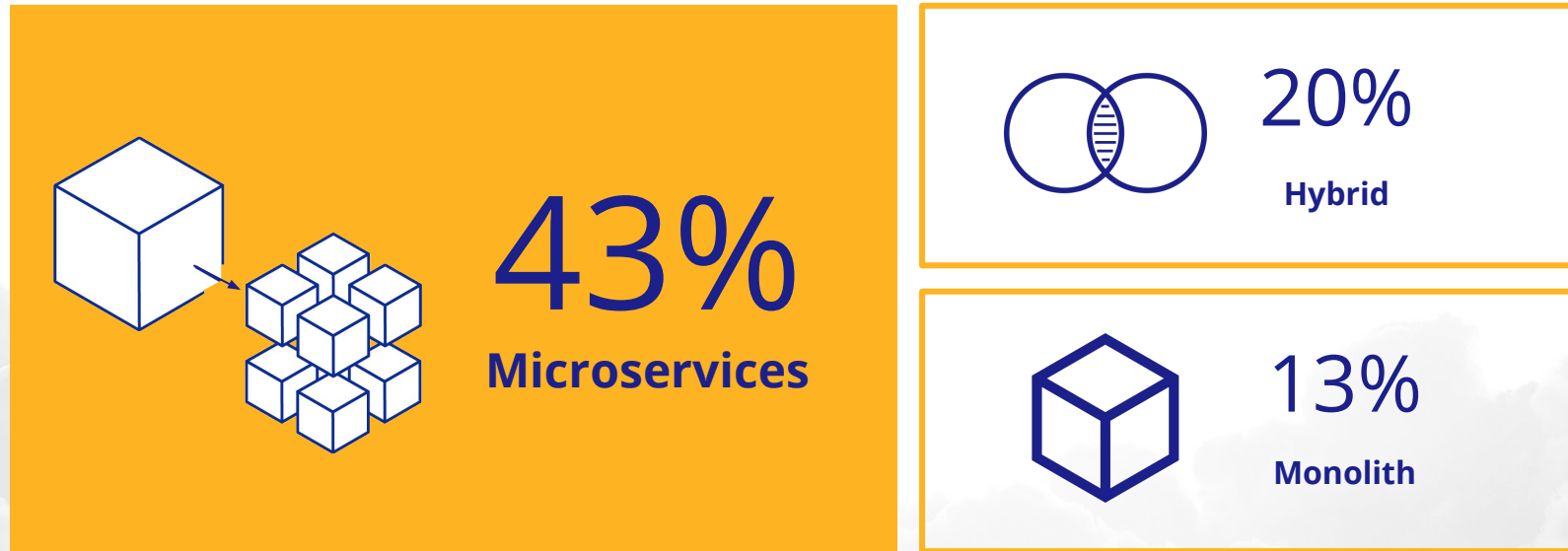
(34% in 2018)

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Finding #3:

Microservices is the leading architecture for implementing Java in the cloud

Finding #3 stats:

Architectures for **implementing Java systems in the cloud**:

43%
Microservices

20%
Hybrid

13%
Monolith

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Finding #4:

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Spring/Spring Boot continues to dominate as the leading framework for building cloud native applications

Finding #4 stats:

Top frameworks for **building cloud native applications:**

Spring Boot

57%
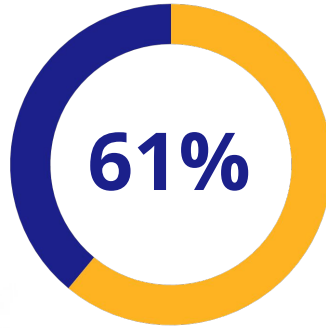
Kubernetes

40%

Eclipse MicroProfile

28%

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Finding #5:

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Microservices, Kubernetes integration, and reference implementation top the community's agenda
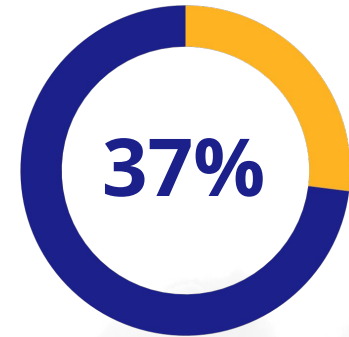
Finding #5 stats:

Top three Jakarta EE community priorities:
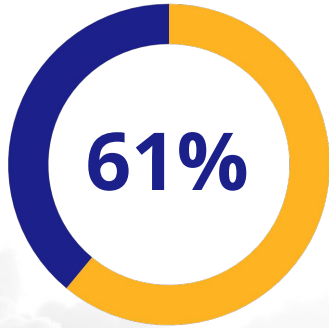
61%

Better support for
microservices

61%

Native integration
with **Kubernetes**

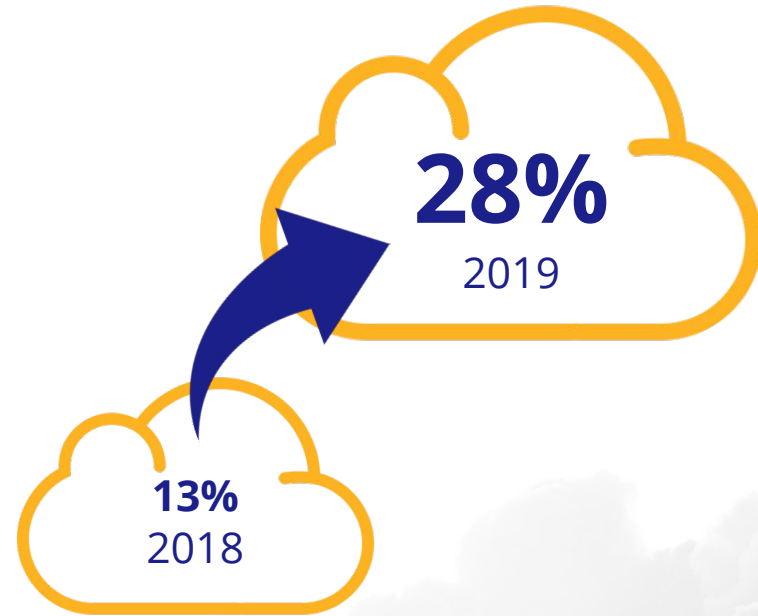**37%**

Production quality
reference implementation

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Finding #6:

Eclipse MicroProfile usage surges

Finding #6 stats:

Eclipse MicroProfile's adoption has surged with reported usage growing from 13% in 2018 to 28% in 2019

28%
2019

13%
2018

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Finding #7:

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It's a polyglot world

Finding #7 stats:

Most applications today are being built by development teams using multiple programming languages. **But most enterprise applications are usually built primarily using frameworks based on languages such as Java** that have stood the test of time.

Java 95%

JavaScript 59%

Python 21%

C/C++ 14%

C# 12%

0% 25% 50% 75% 100%

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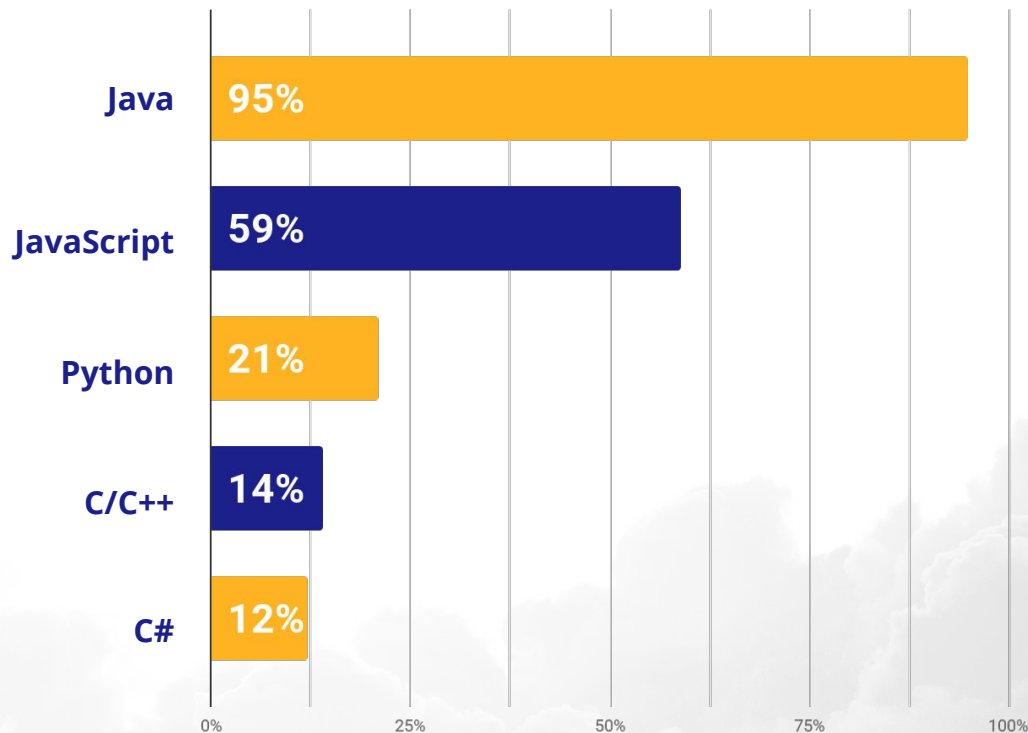
Finding #8:

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Java dominates when it comes to production deployments

Finding #8 stats:

Java clearly dominates when it comes to deploying applications in production environments. Consequently, it comes as no surprise that **most companies are intent on protecting their past strategic investments in Java** — including retaining internal Java developer expertise.

Production systems built using Java

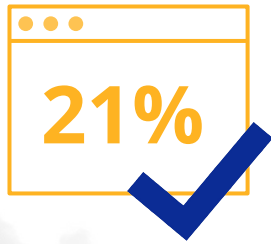● More than 80%   ● 60 to 80%   ● 40 to 60%   ● Less than 20%
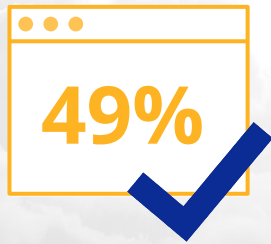

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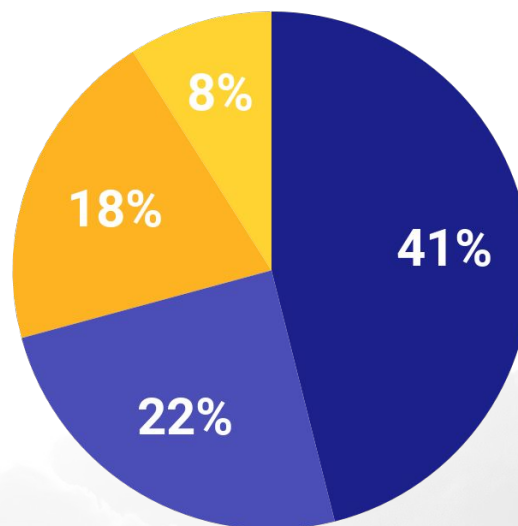
Finding #9:

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Migrating Java systems to the cloud is still a work in progress

Finding #9 stats:

Given the **mission-criticality of Java systems**, it makes sense that IT organizations would be cautious and deliberate about making the move.

21% **are running over 60% of Java applications** in the cloud
(slightly up from 18% in 2018)

49% **say they are running less than 20% of Java systems** in the cloud
(steady compared to 50% running <20% in 2018)

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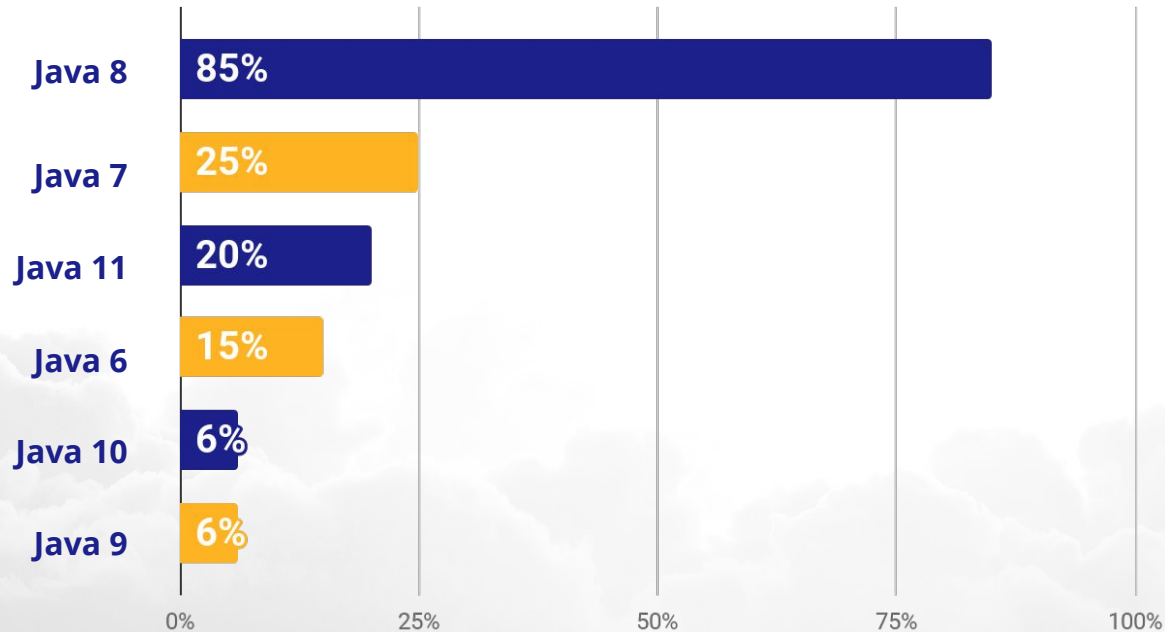
Finding #10:

Java SE in production: Java 8 is steady and Java 11 use has surged

Finding #10 stats:

85% of survey respondents are running Java 8, with another 25% still running Java 7. **Adoption of Java 11 has taken off**, leapfrogging Java 9 and 10.

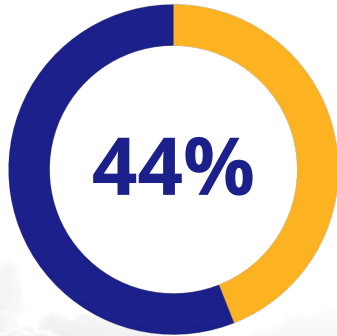| Version	Percentage
Java 8	85%
Java 7	25%
Java 11	20%
Java 6	15%
Java 10	6%
Java 9	6%

0%   25%   50%   75%   100%

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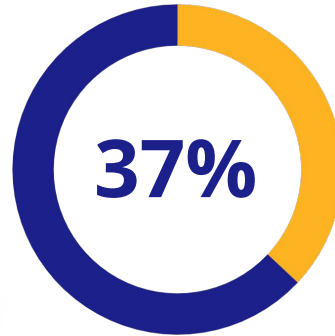# Finding #11:

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Java EE 8 adoption has picked up

Finding #11 stats:

Developers are **embracing newer versions of Java EE.**
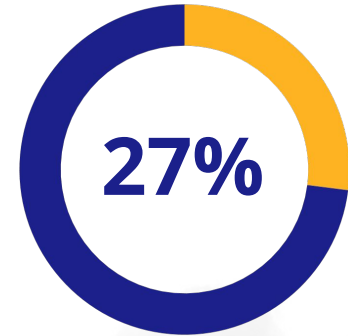
44%

Java EE 7
(55% in 2018)

37%

Java EE 8
(21% in 2018)

27%

Java EE 6
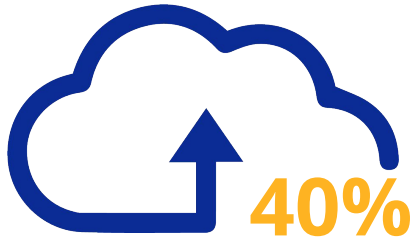(38% in 2018)

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Finding **#12:**

Respondents are more likely to modify existing Java applications for migration to the cloud
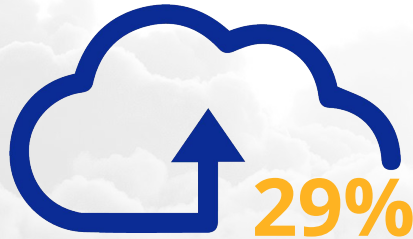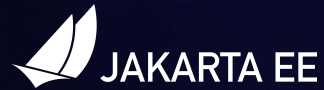
Finding #12 stats:

Developers are **more likely to modernize Java systems for cloud migration** than create brand new cloud native services.

40% **more likely to modify existing Java applications** for migration to the cloud

29% **will develop brand new** cloud native **applications**

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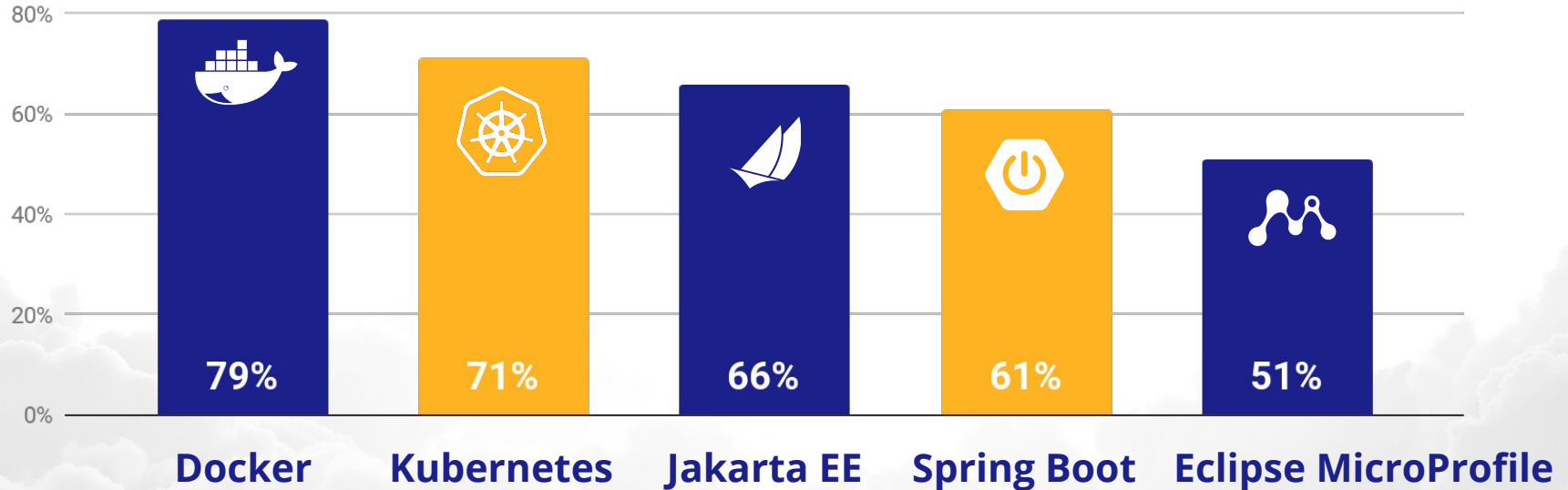
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Finding #13:

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Top cloud native technologies
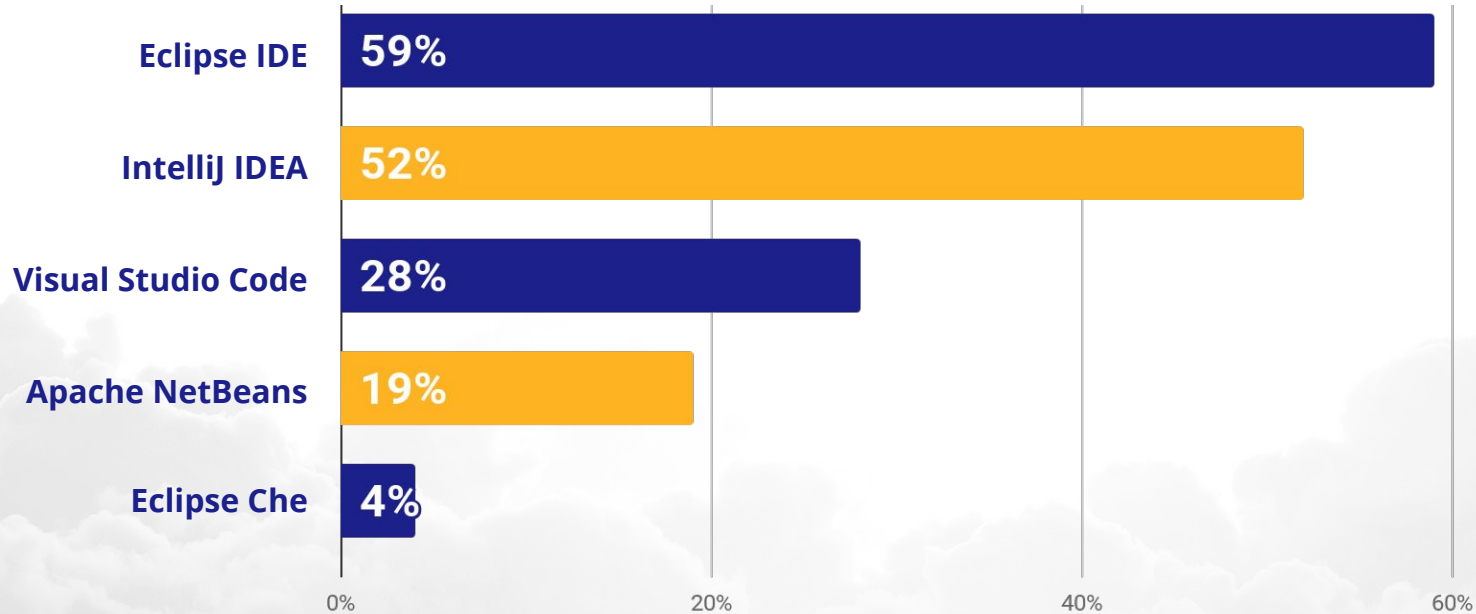
Finding #13 stats:

Top 5 cloud native technologies:

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Finding #14:

Top IDEs for cloud native applications

Finding #14 stats:

Top 5 IDEs for cloud native applications:

IDE	Percentage
Eclipse IDE	59%
IntelliJ IDEA	52%
Visual Studio Code	28%
Apache NetBeans	19%
Eclipse Che	4%

0% 20% 40% 60%

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Thank you!

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