Vietnam National University of HCMC
International University
School of Computer Science and Engineering

Web Application Development

Discussion about Java and Other Technologies

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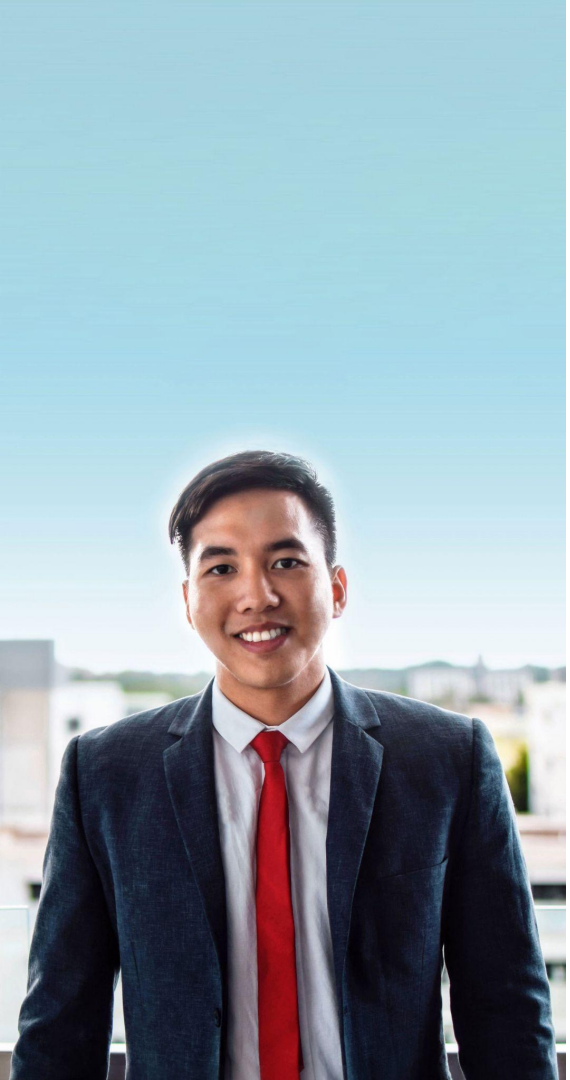


Who is Tom Huynh?

- Currently a lecturer at International University, VNU.
- Director & Instructor of Machine Learning at CoderSchool.
- Head of Web Development at Weboptimizers in Melbourne.
- Master of AI/Machine Learning, UNSW in Sydney.
- Bachelor of Computer Science, University of Melbourne, Australia.
- Google Certified Tensorflow Developer for Machine Learning/Deep Learning.
- Winners and Runner-ups of multiple Hackathons & Competitions.
- Strong passion for machine learning/data science.
    - Always love to teach and learn anything regarding Data Science.
    - Also, want to open an AI startup in the near future.

Agenda

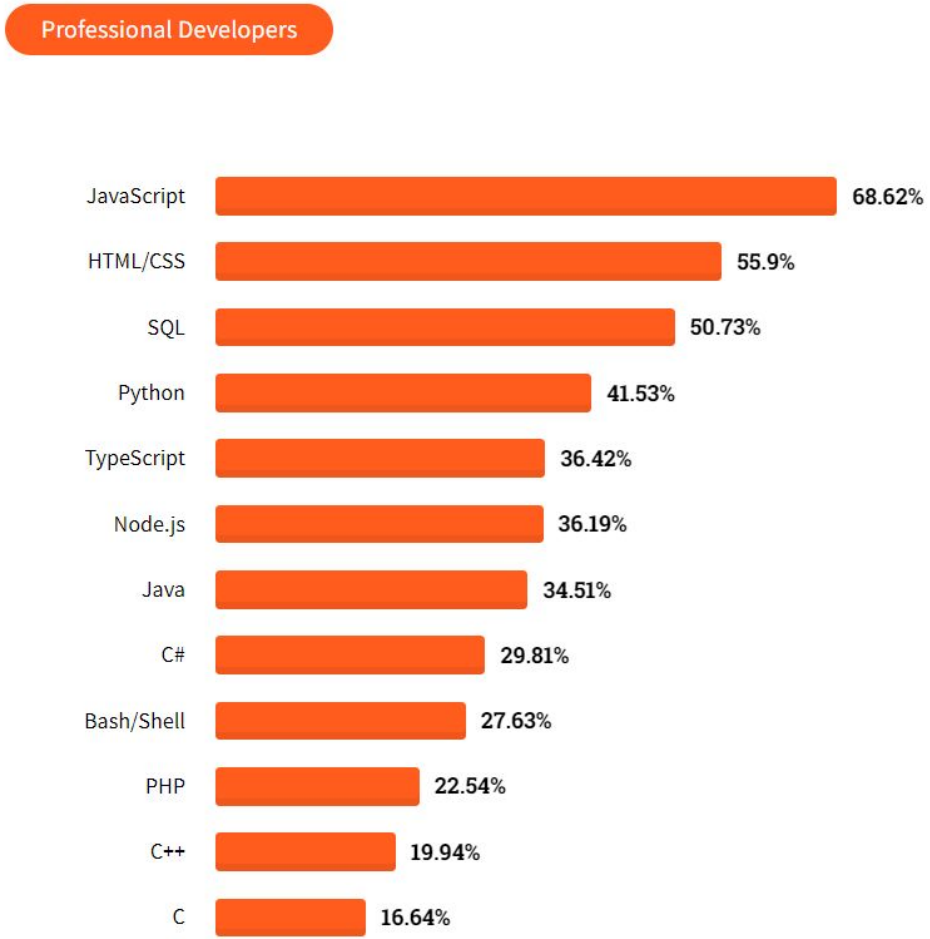
- Stack Overflow Developer Survey 2021:
  - Discuss about the technology landscape of the world.
  - Popular frameworks, libraries and tools you should look into.
- Why we should still learn Java?
  - Why is Java still popular in Vietnam? (Vietnam Developer Report 2019)
  - What kind of technologies to go with Java? (Java Developer Productivity Survey 2022)

Stack Overflow Developer Survey 2021

To discuss about different popular technologies and frameworks to learn

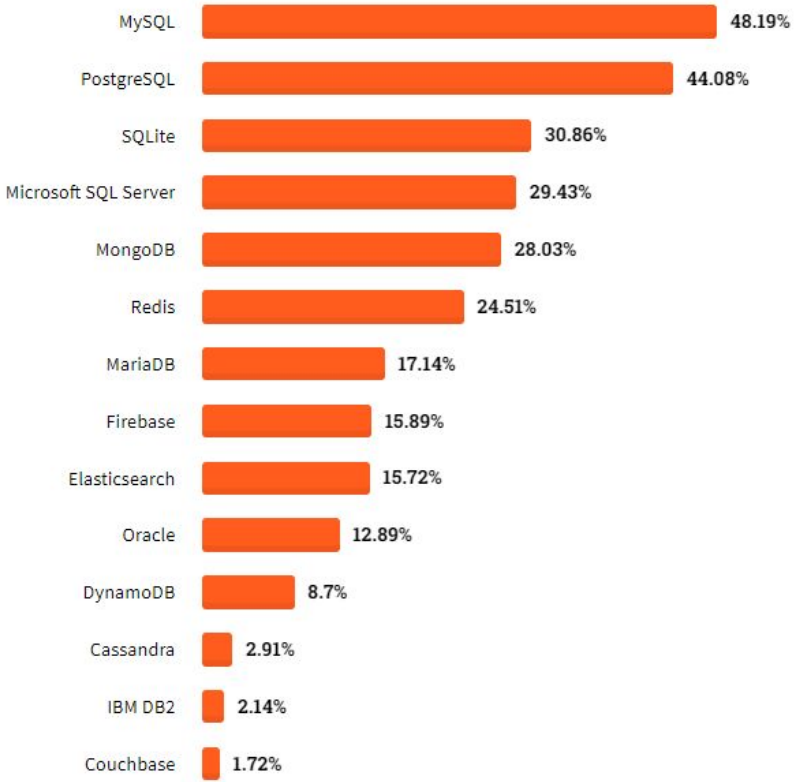
https://insights.stackoverflow.com/survey/2021#experience-learn-code

Programming, scripting, and markup languages

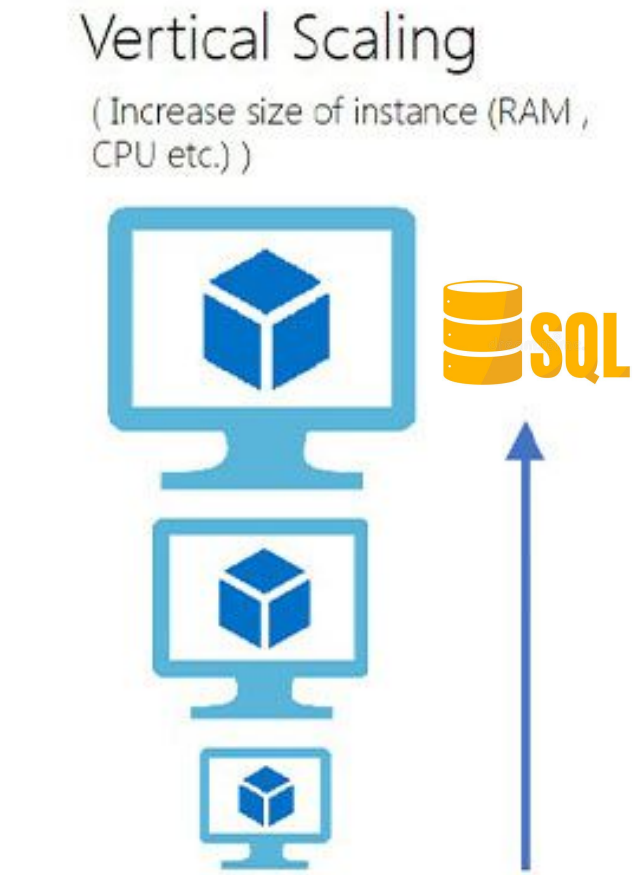


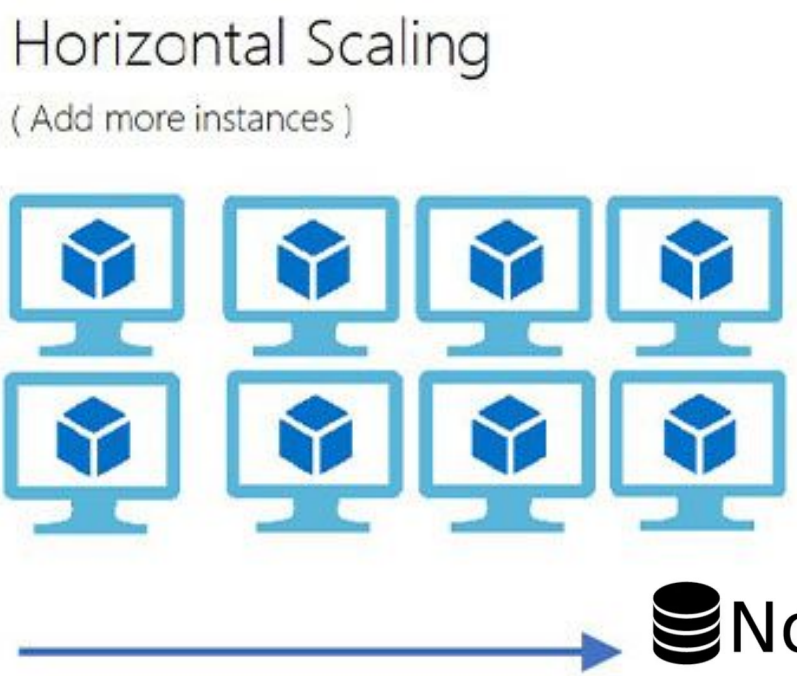
Database

Professional Developers



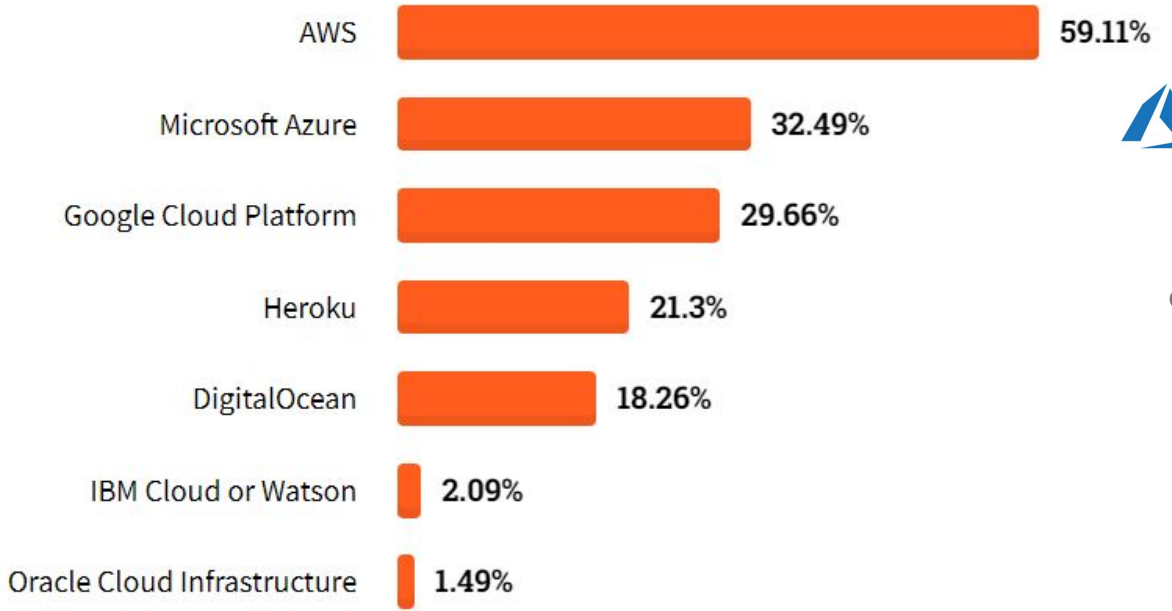
SQL vs NoSQL


Vertical Scaling
(Increase size of instance (RAM , CPU etc.))
SQL

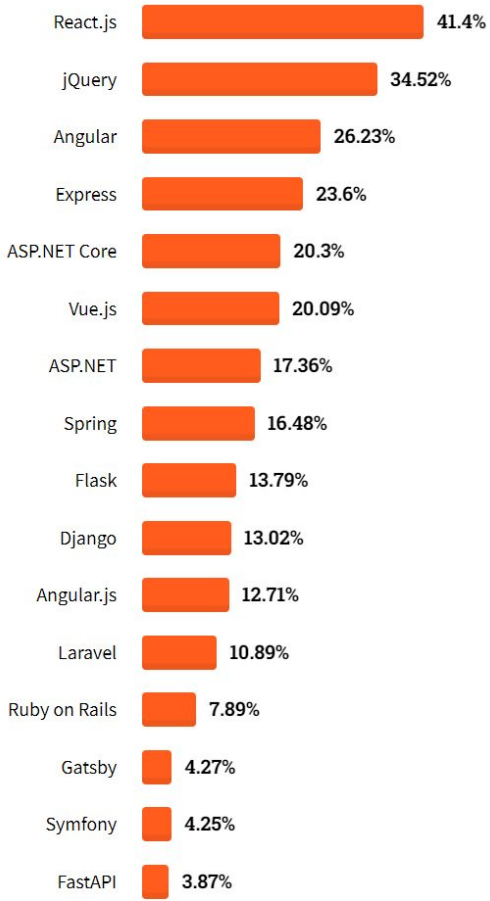

Horizontal Scaling
(Add more instances)
NoSQL

Cloud Platform

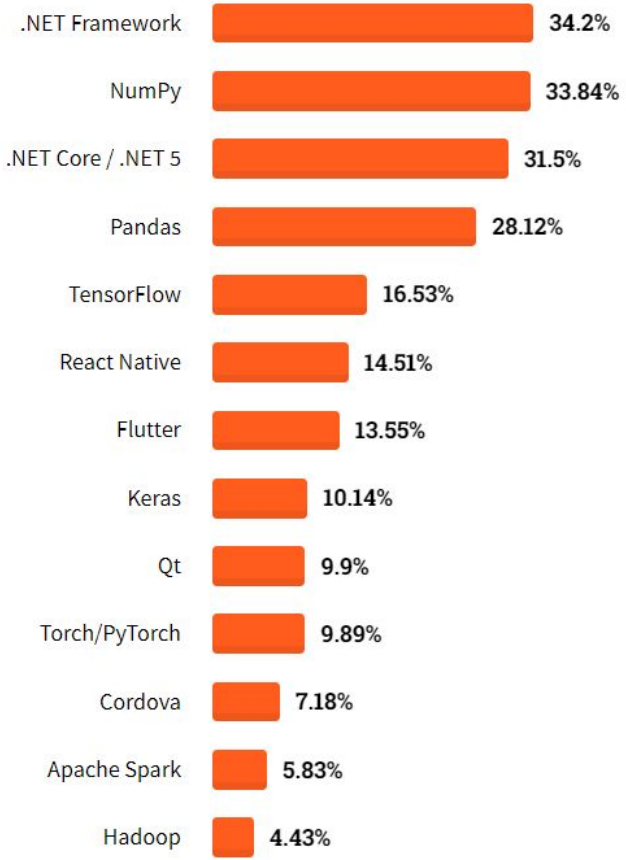
All Respondents | Professional Developers



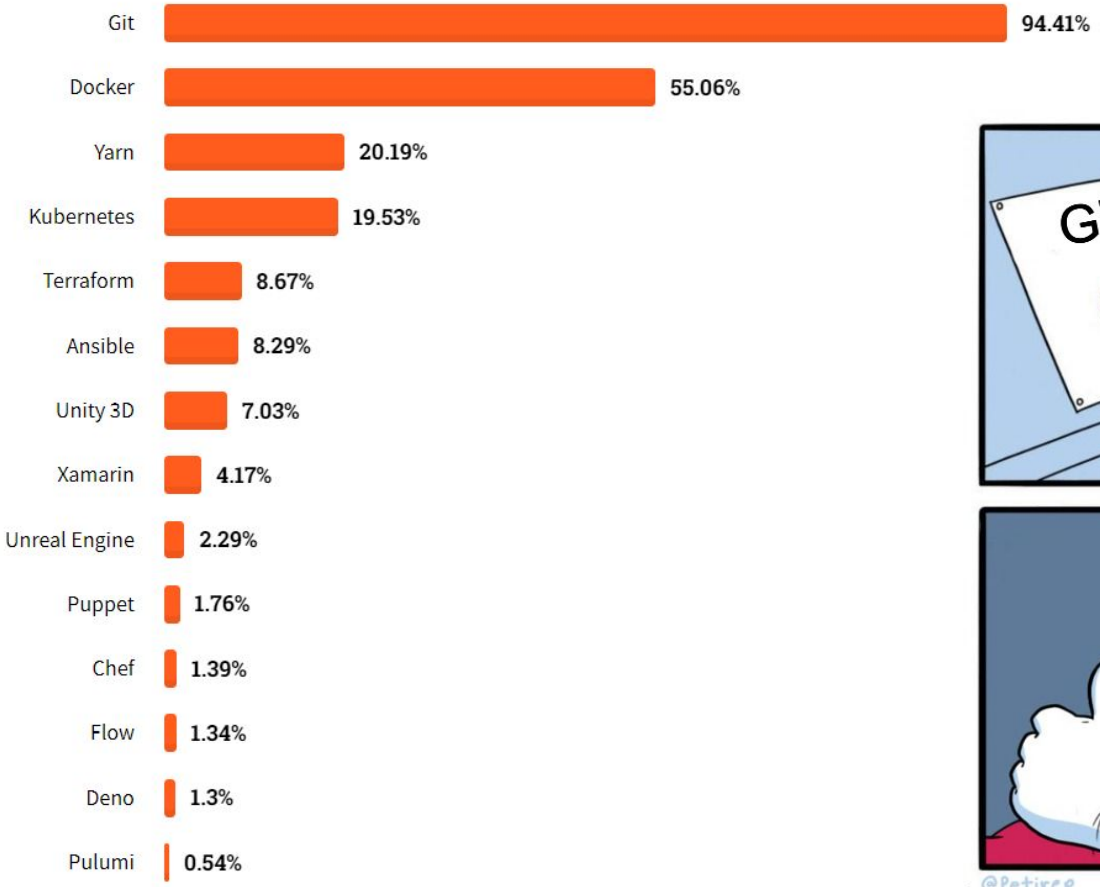
Web Frameworks

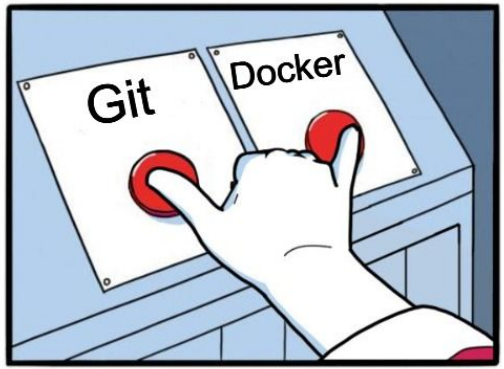


Other Popular Framework and Libraries

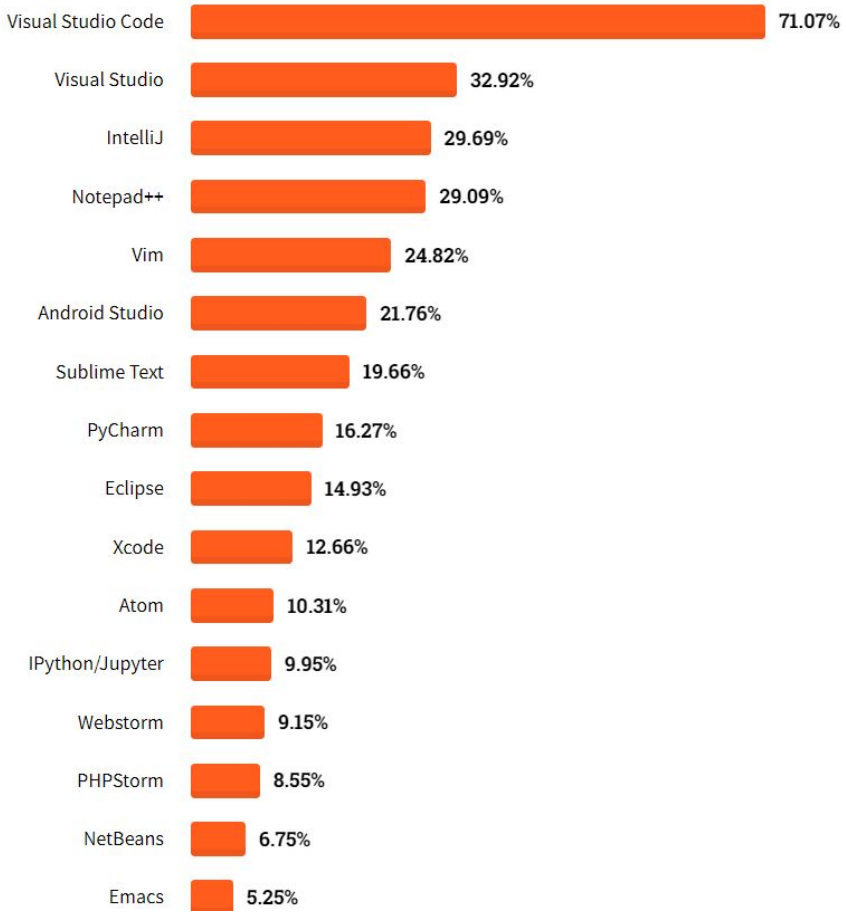


Other Popular Tools

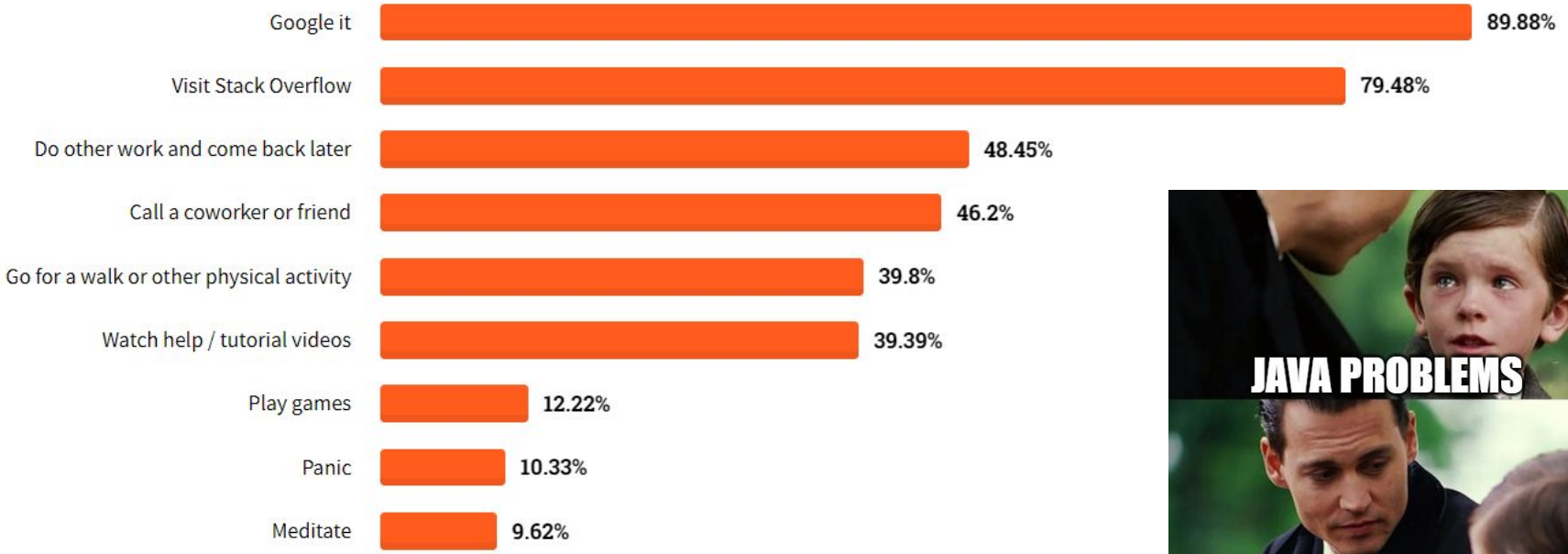


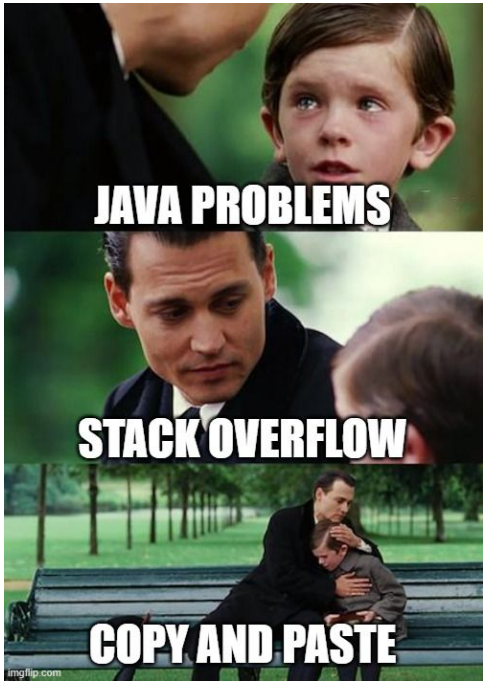


Popular IDEs



What do you do when you get stuck?





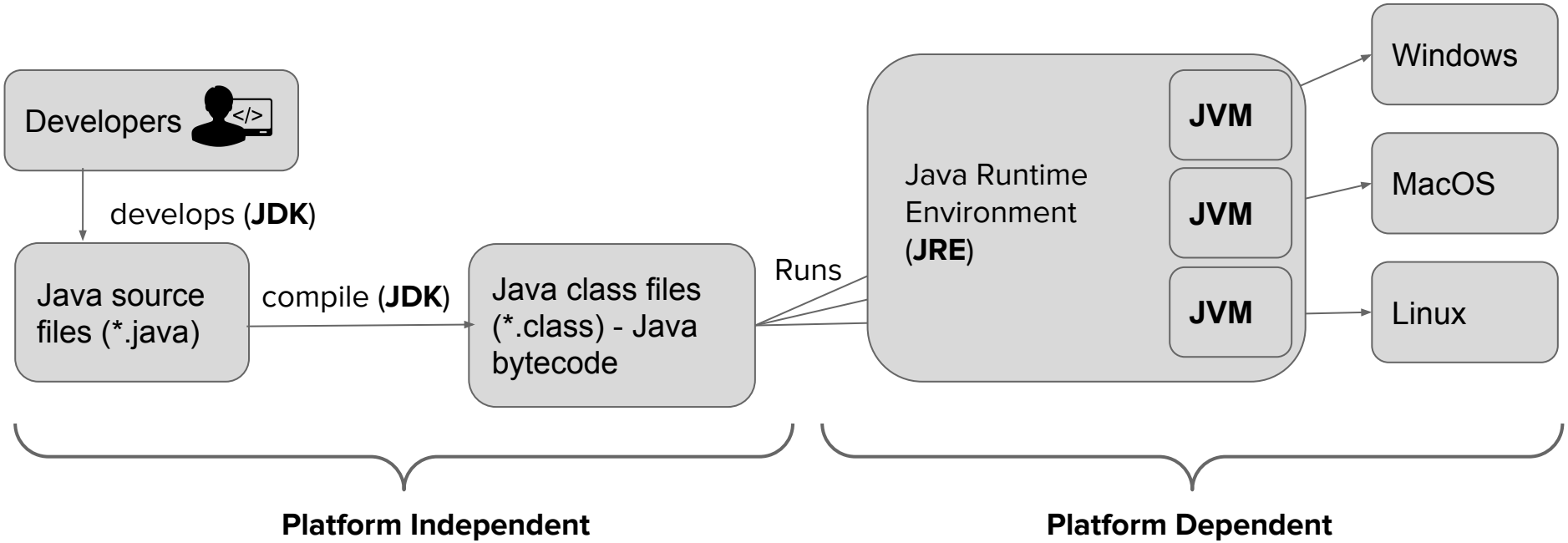
Why should we learn Java in this course?

Java

- Java is one of the **most popular** languages in the world
  - Run on **15 billion** devices
  - Used by **12 million** developers
- Beginner Friendly
  - Large Community.
  - Excellent Document Support
- Cross-platform “write once, run anywhere”
- Many big tech companies used Java as their back-end systems

https://www.oracle.com/java/moved-by-java/timeline/

How Java works



=> Java is **cross platform** - “Write once, run everywhere!”

Java is still the king of job market in Vietnam

Attractive Salaries in Vietnam

Senior Java Developers
2,000 - 2,300 USD

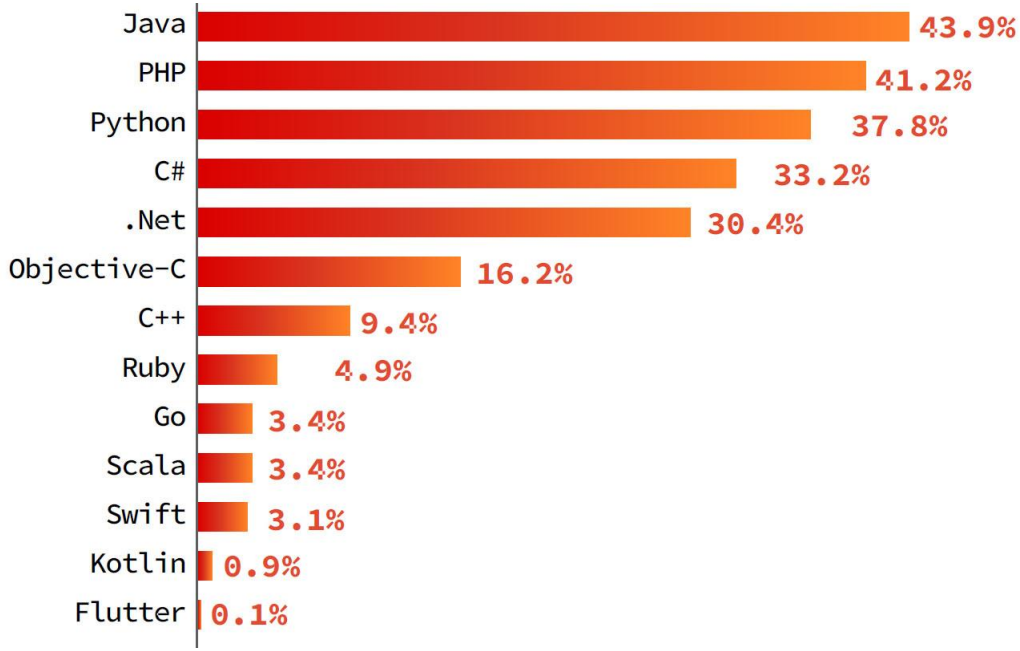
Mid-Senior Java Dev (Spring, SQL, HTML)
1,500 - 2,500 USD

Backend Developer (Java/Spring)
1,200 - 3,500 USD

Java Developer (Spring, MySQL)
1,000 - 2,500 USD

The most popular language at work in Vietnam

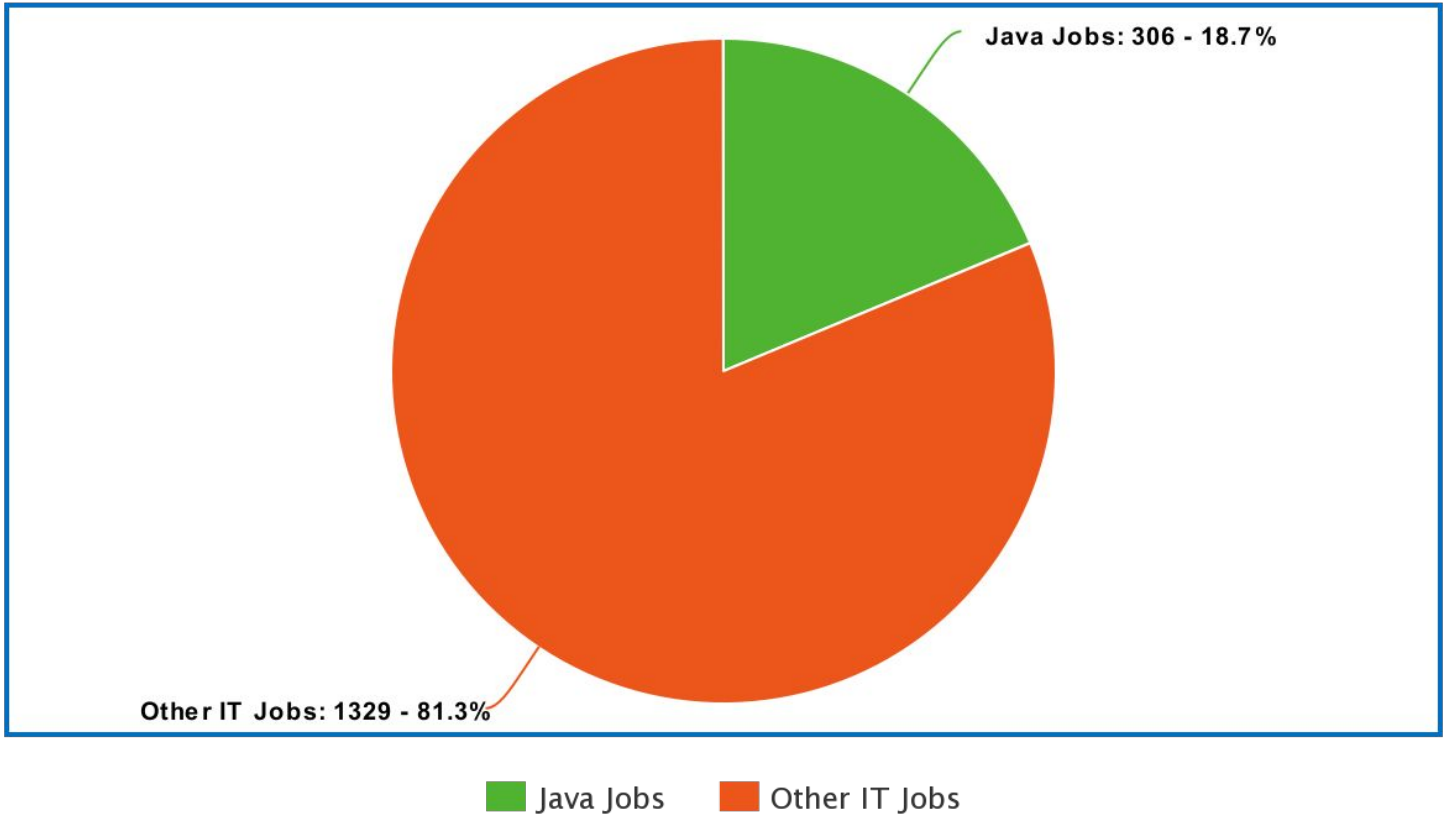
(Vietnam Developer Report 2019)



Nearly 1 out of every 5 IT jobs is Java

Java Job Market

ITViec.com

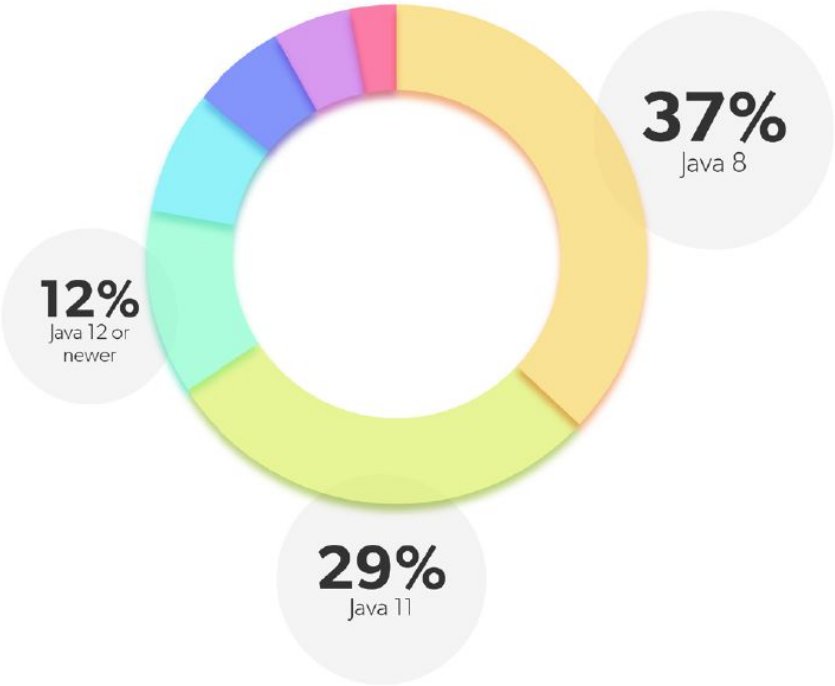


Java Developer Productivity Survey 2022

To get you started with labs this week

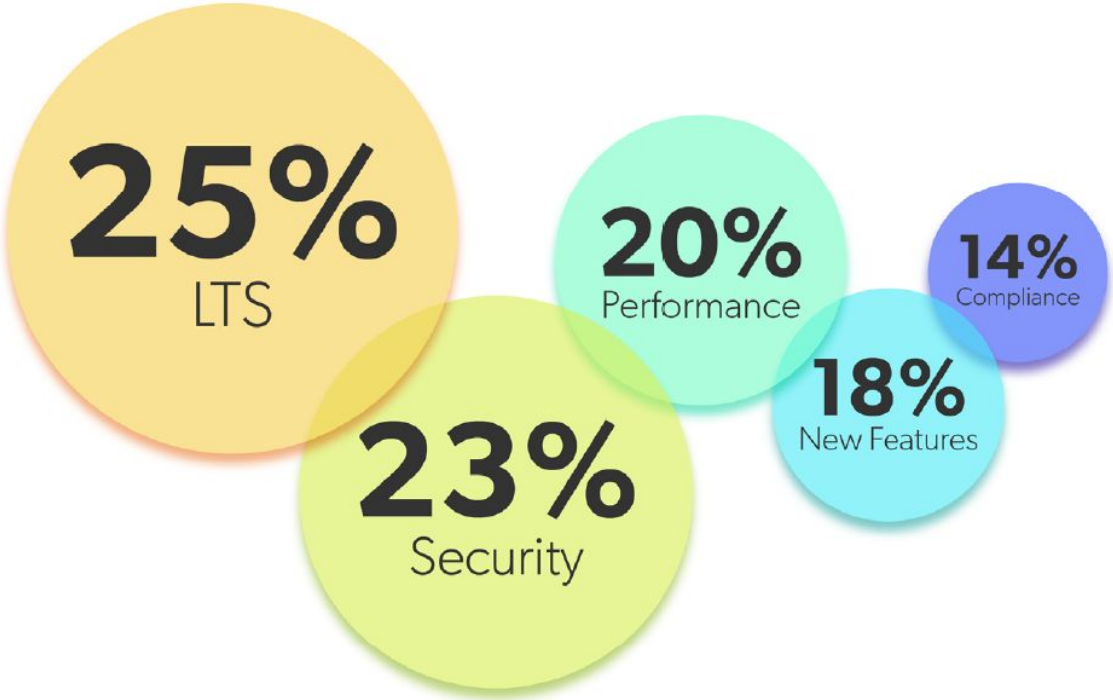
https://www.jrebel.com/resources/java-developer-productivity-report-2022

Which JDK Programming Languages are You Using in Your Main Application?



- Java 8 **37%**
- Java 11 **29%**
- Java 12 or newer **12%**
- Kotlin **8%**
- Groovy **6%**
- Java 7 or older **5%**
- Scala **3%**

Which Factors Influence Your Decision to Upgrade JDK Versions?



LTS **25%**

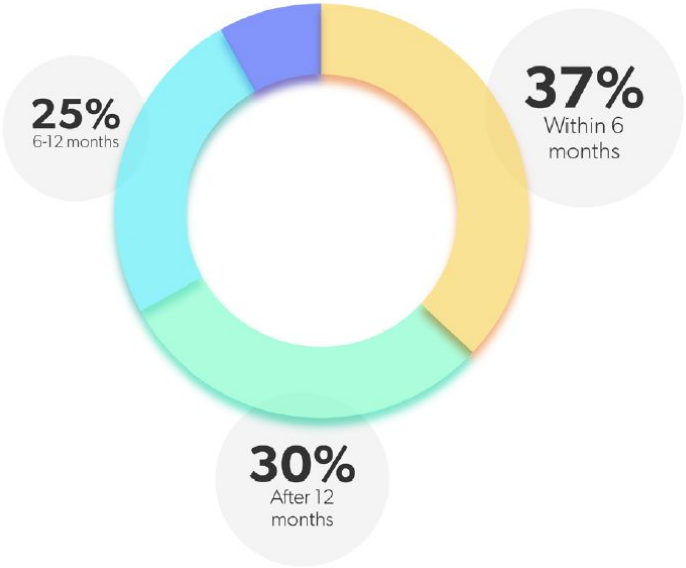
Security **23%**

Performance **20%**

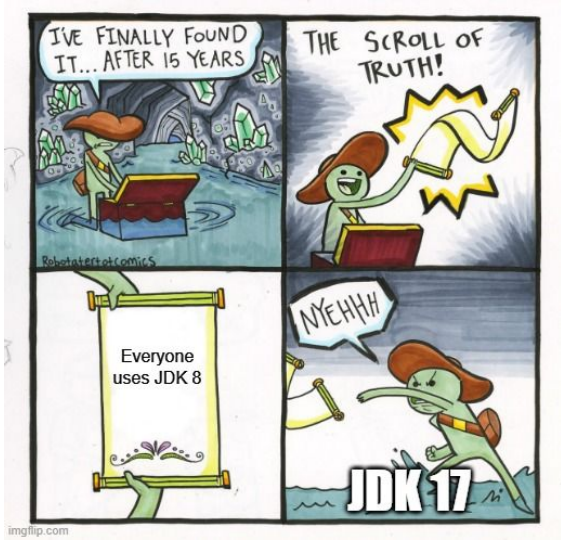
New Features **18%**

Compliance **14%**

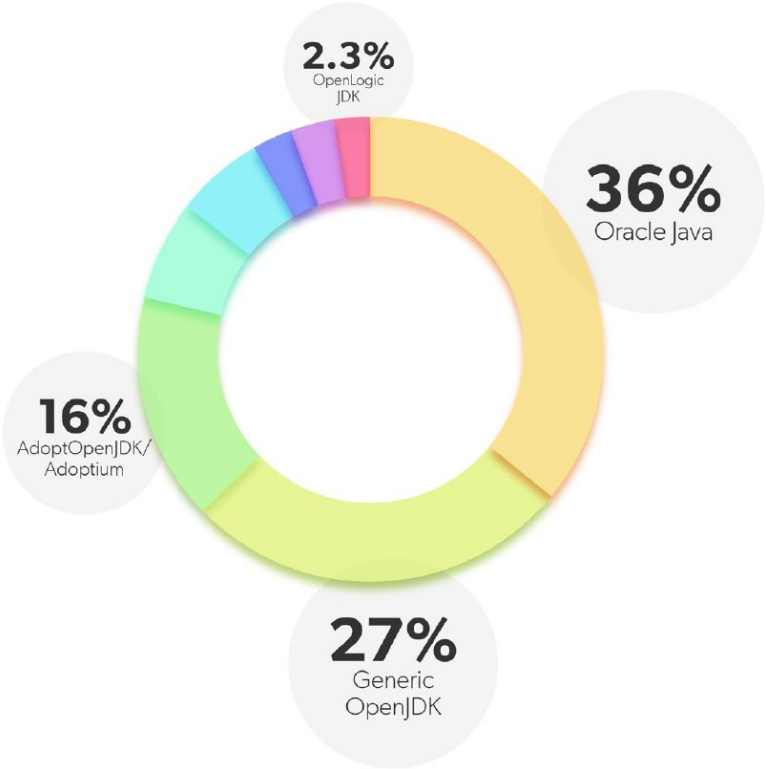
When Will You Upgrade to JDK 17?



- Within the next 6 months **37%**
- Sometime after the next 12 months **30%**
- Between 6-12 months **25%**
- Never **8%**



What JRE/JDK Distribution Do You Use?



- Oracle Java **36%**
- Generic OpenJDK **27%**
- AdoptOpenJDK/Adoptium **16%**
- Amazon Corretto **7%**
- Azul Zulu **6%**
- GraalVM **3%**
- Other **3%**
- OpenLogic JDK **2.3%**

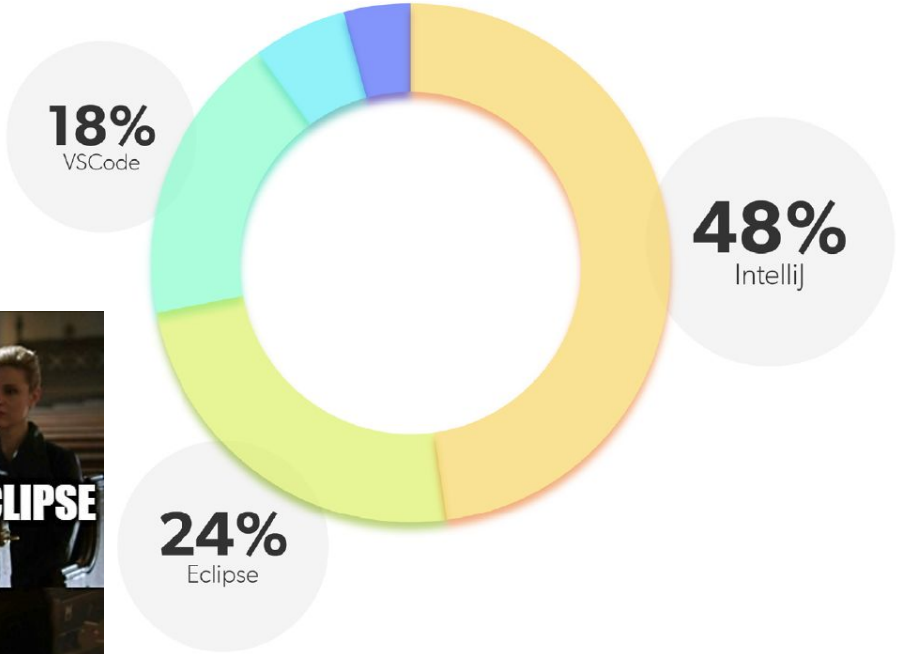
ORACLE

OpenJDK

AdoptOpenJDK

amazon

What Developer IDE Do You Use Professionally?



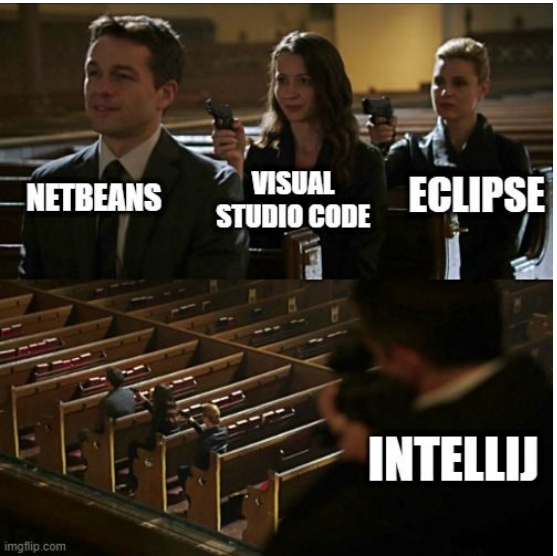
IntelliJ **48%**

Eclipse **24%**

VSCode **18%**

Netbeans **6%**

Other **4%**



The best Java IDEs

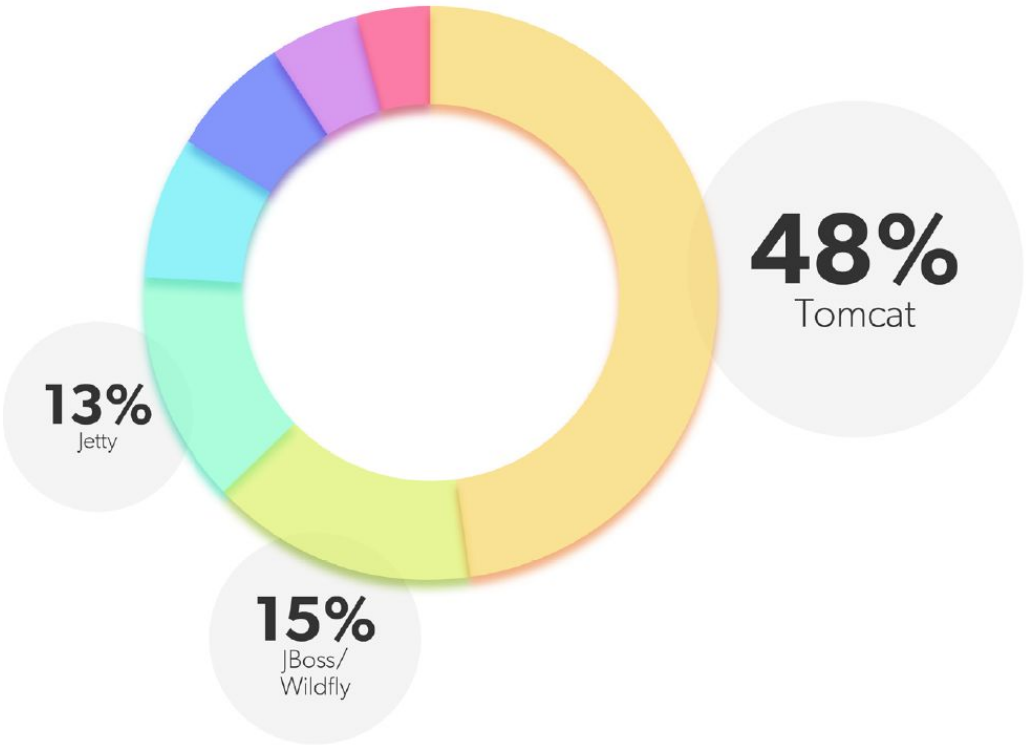
- **IDE is** Integrated Development Environment (editor + compiler + debugger + convenient tools + GUI)
- **IntelliJ IDEA** (Recommended)
  - A commercial IDEs developed by JetBrains.
  - Students need Ultimate version: https://www.jetbrains.com/community/education/#students
  - Link to download: https://www.jetbrains.com/idea/
- **Netbeans**
  - Open-source and free.
  - Link to download: http://www.netbeans.org/index.html.
- **Eclipse**
  - Developed by the eclipse open-source community.
  - Link to download: http://www.eclipse.org.

IntelliJ IDEA

Apache NetBeans

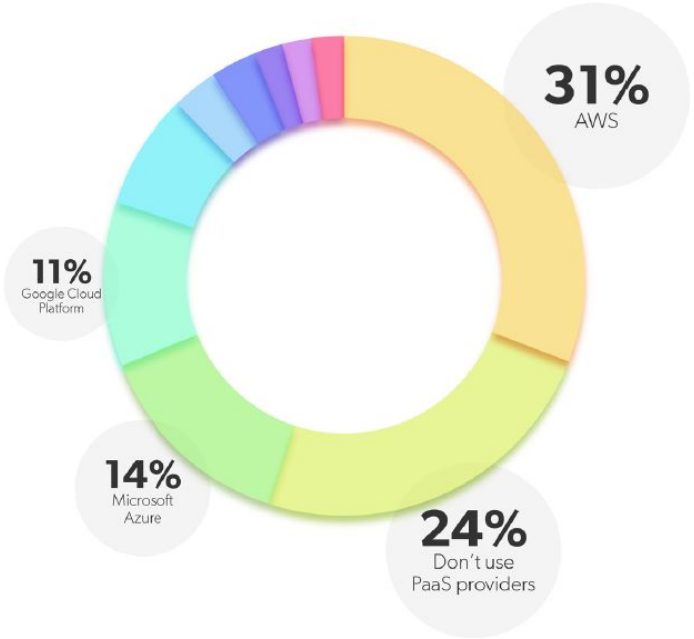
eclipse®

What Application Server Do You Use on Your Main Application?



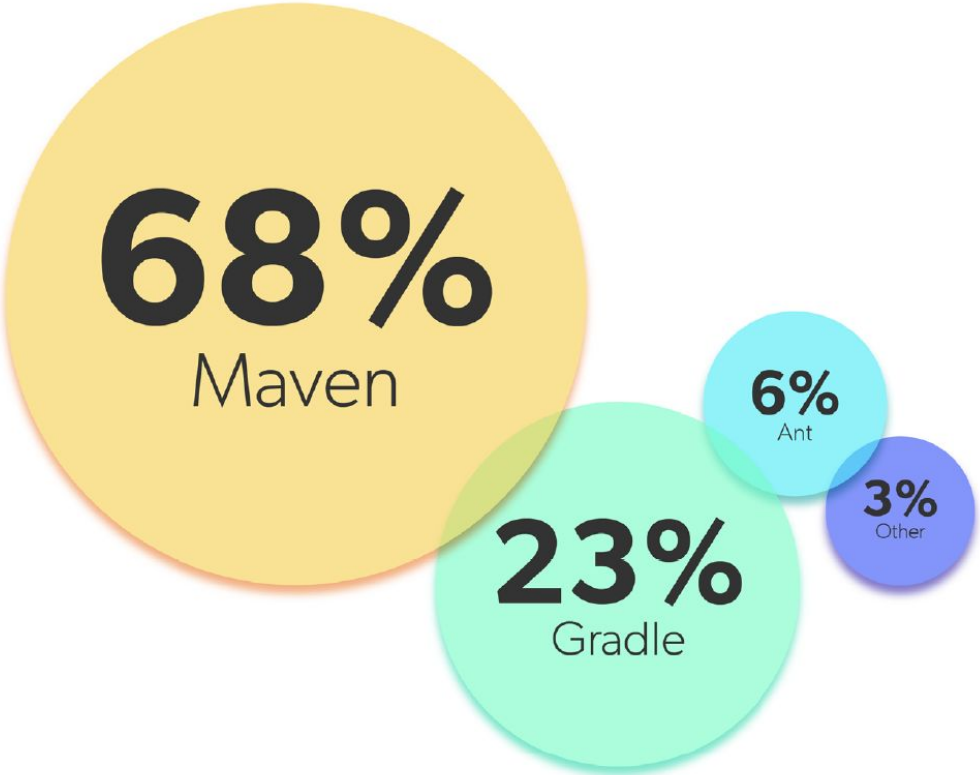
- Tomcat **48%**
- JBoss/Wildfly **15%**
- Jetty **13%**
- Other **8%**
- WebLogic **7%**
- WebSphere **5%**
- GlassFish **4%**

If You Use a Platform, Who is Your PaaS Provider?



- AWS **31%**
- We don't use PaaS providers **24%**
- Microsoft Azure **14%**
- Google Cloud Platform **11%**
- Other **8%**
- Oracle Cloud Platform **3%**
- IBM Cloud **3%**
- SAP Cloud Platform **2%**
- Pivotal Cloud Foundry **2%**
- VMWare Tanzu **2%**

What Build Tool Do You Use in Your Main Application?



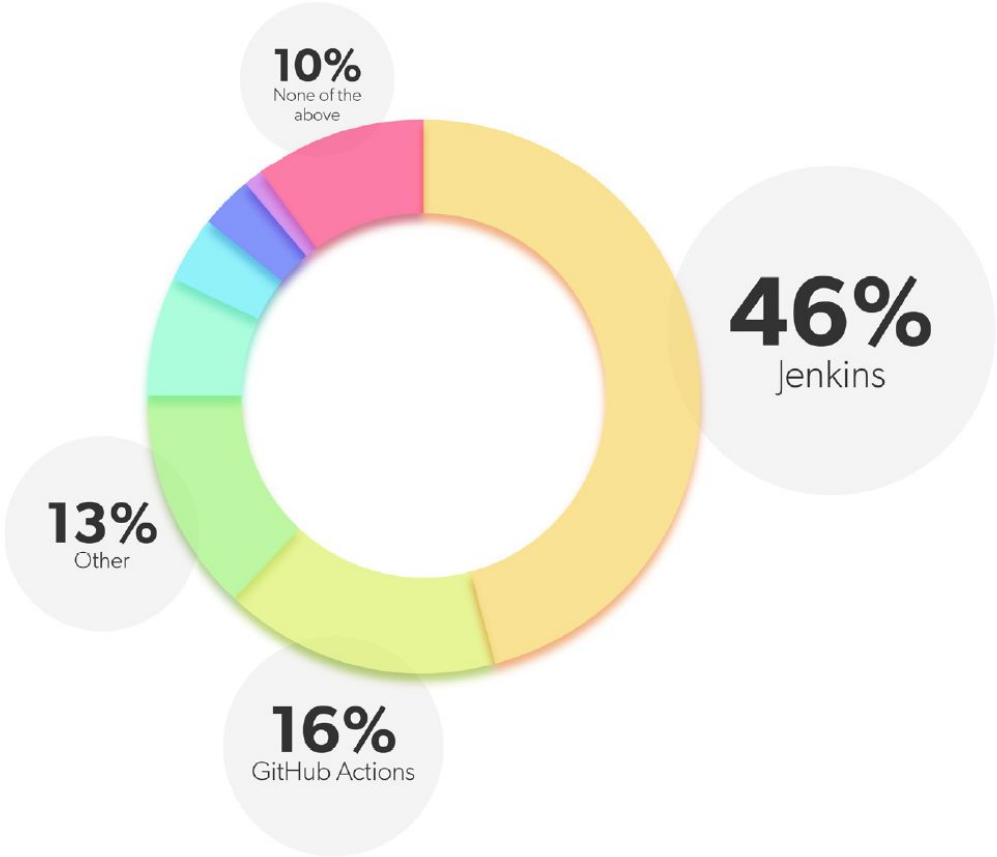
Maven **68%**

Gradle **23%**

Ant **6%**

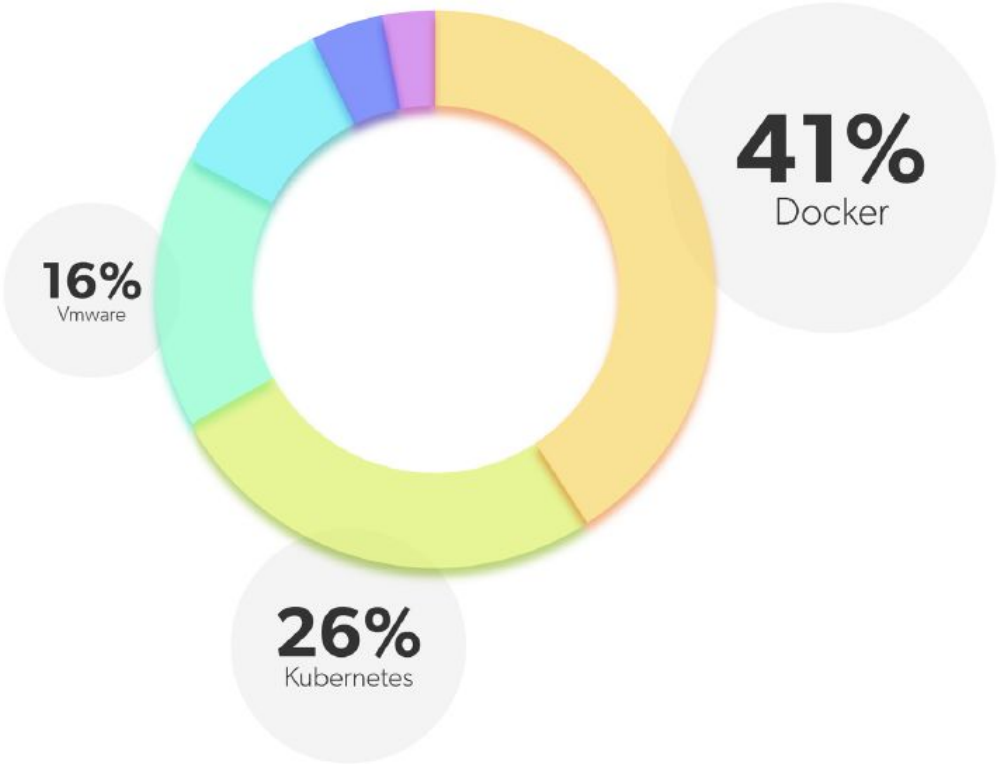
Other **3%**

Which CI/CD Technologies Are You Using?



- Jenkins **46%**
- GitHub Actions **16%**
- Other **13%**
- Bamboo **7%**
- TeamCity **4%**
- Circle CI **3%**
- Travis CI **1%**
- None of the above **10%**

Which Virtual Machine Platform Do You Use?



- Docker **41%**
- Kubernetes **26%**
- Vmware **16%**
- N/A **10%**
- Other **4%**
- Vagrant **3%**

Thank you for your listening!

“One who never asks
Either knows everything or nothing”

Malcolm S. Forbes