



Mobile Application Development

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Introducing Kotlin

Overview – Part 1



Agenda

- ❑ What is Kotlin?
- ❑ Context - Java Vs JVM
- ❑ Kotlin History
- ❑ Milestones
- ❑ General Overview & Features
- ❑ Kotlin & IntelliJ IDEA
- ❑ Conclusion

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What is Kotlin?

- ❑ A (relatively) new statically-typed language from JetBrains (creators of IntelliJ IDEA which it works seamlessly with)
- ❑ Tries to fix many of **Java's shortcomings**
- ❑ Compiles to **JVM** bytecode, JavaScript and Kotlin native
- ❑ Created with focus on **Java** interoperability – **Kotlin and Java classes can be used together** in a project
- ❑ Gained a lot more traction and is being increasingly adopted (see later slides)
- ❑ Has very good support from JetBrains, an established company, who use Kotlin to develop their own products

Context - JAVA Vs JVM



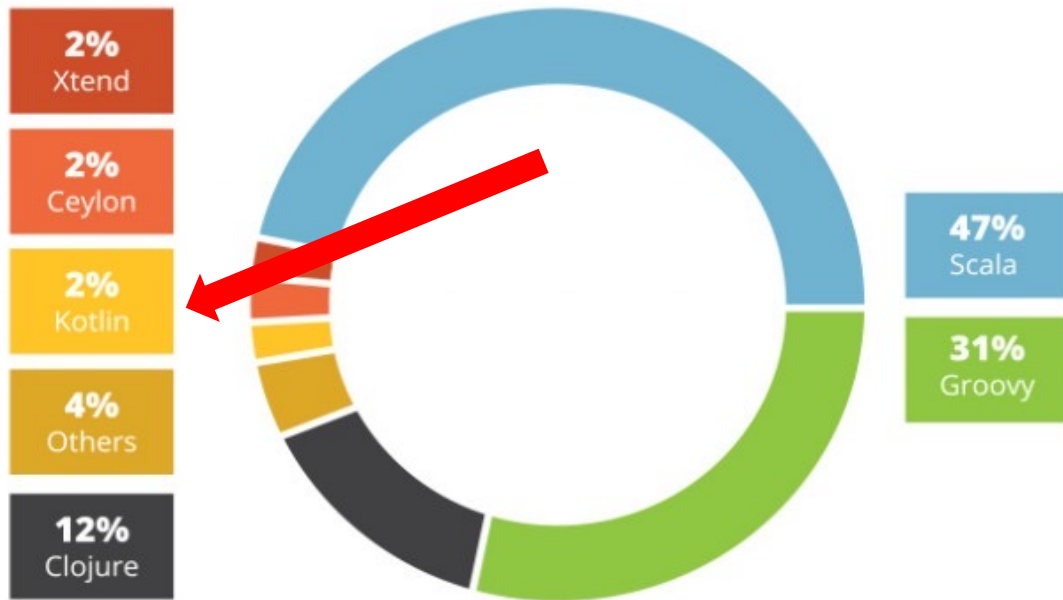
" Most people talk about Java the language, and this may sound odd coming from me, but I could hardly care less. At the core of the Java ecosystem is the JVM. "

James Gosling,

Creator of the Java Programming Language(2011, TheServerSide)



The next JVM language to learn

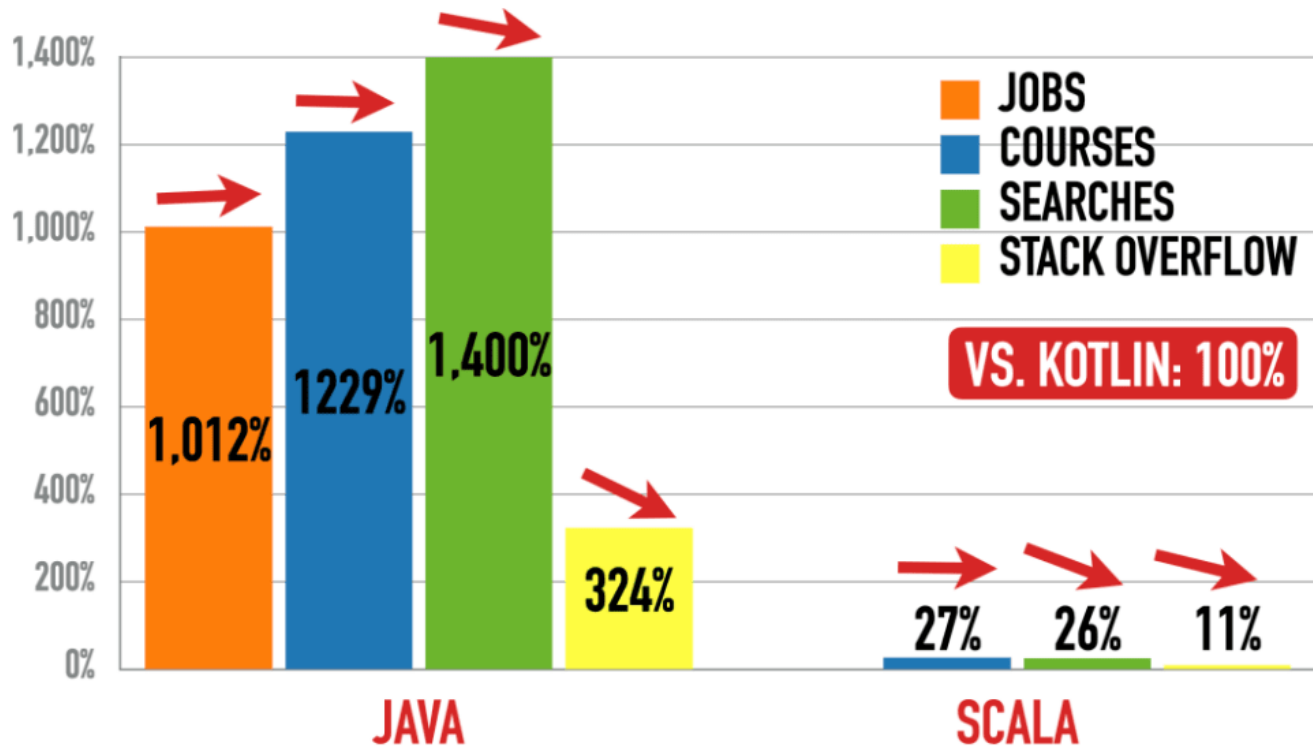


December 23, 2014

<https://zeroturnaround.com/rebellabs/a-month-of-jvm-languages-groovy-ceylon-kotlin-and-scala/>

JVM Languages

Here is the scorecard of **Java** (left) and **Scala** (right) vs. **Kotlin (100%)**, not on the card. The arrows show the **trend vs. Kotlin**.



Q1/2024

<https://betterprojectsfaster.com/guide/java-tech-popularity-index-2024-q1/main/#jvm-languages>

History of Kotlin



- ❑ In July 2011 JetBrains started Project Kotlin, a new language for the JVM, which had been under development for a year.
- ❑ JetBrains hoped that the new language would drive IntelliJ IDEA sales.
- ❑ Kotlin v1.0 released on February 15, 2016.
- ❑ In May 2017 Google make an announcement that changes the Kotlin roadmap completely



April 21st 2017

Dzone Article (Why You Should Consider Kotlin For Android Development)

*“**Java** is the primary and official language for Android development, but that doesn’t mean it is the best or the only choice.”*

“To give Java credit, it is a robust language that has been around for a while, but it comes with a specific set of challenges that can be a deterrent for developers.”

*“A new breed of **modern JVM languages** is slowly gaining traction within the Android community, and **Kotlin** is leading the pack.”*

Source: [Dzone](#), April 21st 2017



May 17th 2017

Google I/O 2017 - Google announces that Kotlin would receive **first-class support** for Android development



JetBrains Posted (same day)

*“For Android developers, Kotlin support is a chance to use a modern and powerful language, helping solve common headaches such as runtime exceptions and **source code verbosity**.*

*Kotlin is easy to get started with and **can be gradually introduced into existing projects**, which means that your existing skills and technology investments are preserved.”*

*“Starting now, Android Studio 3.0 ships with **Kotlin out of the box**, meaning Android developers no longer need to install any extras or worry about compatibility. It also means that moving forward, you can rest assured that both JetBrains and Google will be supporting Android development in Kotlin.”*

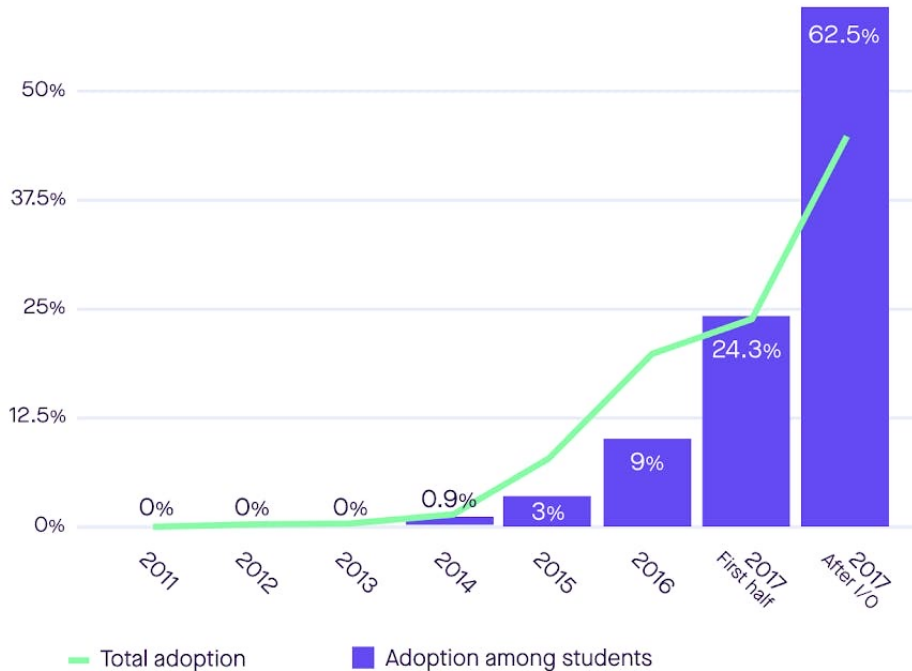
<https://blog.jetbrains.com/kotlin/2017/05/kotlin-on-android-now-official/>

Adoption among students

Students and young devs trust Google's flair.

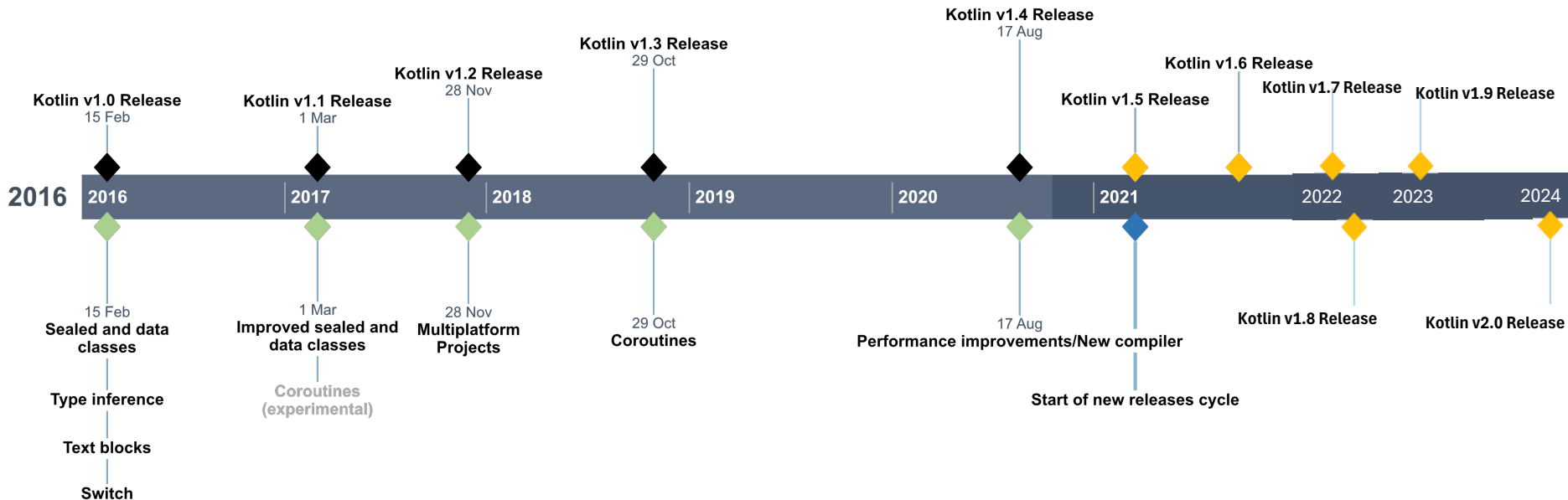
In its early days Kotlin was being picked up mostly by experienced and professional developers, but since the announcement its usage has exploded with newer developers, especially students.

Many companies like Netflix, Uber, Trello, Pinterest etc. are using Kotlin (along with other programming languages) to create applications.



<https://hackernoon.com/rise-of-kotlin-the-programming-language-for-the-next-generation-27beeb529204>

Kotlin Release cycle



Current State of Kotlin

Google estimates that **70%** of the top **1,000** apps on the Play Store are written in **Kotlin**, including 60 of Google's own apps, such as Maps and Drive. **JetBrains**, the developer of Kotlin, reckons that **95%** of the top **1,000** Android apps include some Kotlin code.

<https://www.dice.com/career-advice/state-of-kotlin-in-2024#:~:text=Google%20estimates%20that%2070%20percent,apps%20include%20some%20Kotlin%20code.>

Agenda Recap

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