



# Kotlin

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## WHAT IS KOTLIN?

- Statically typed programming language for the JVM.
- Inspired by Java, Scala, C#, Groovy, Python, ...
- Developed by JetBrains (IntelliJ, Android Studio, ...)
- Developed since 2010. Version 1.0 release in Feb 2016.
- Open sourced with Apache 2.0 license. All code on Github.
- Kotlin support is included in the community edition of IntelliJ.
- Eclipse and Netbeans plugins available.

## WHY KOTLIN

- "Yes! A new JVM language to learn!" said no one ever.
- Kotlin can be thought of as Java 8 with a lot of warts and baggage removed.
- JetBrains created Kotlin because they needed a better JVM language for their own development.
- Kotlin is designed to be used together with Java code and Java libraries: interoperability is excellent.

## KOTLIN COMPARED TO JAVA

- Fully object oriented - no more primitives.
- Properties replace fields and accessors in classes.
- Lambdas are first-class language features.
- No checked exceptions.
- Type inference: static types but less verbose.
- Null-safety built into language.
- (Limited) Operator overloading.
- Separate interfaces for read-only and mutable collections.



## KOTLIN COMPARED TO SCALA

- Kotlin lacks several features that Scala has (and is proud of this fact).
- Fast compiler...
- Simpler language, less esoteric constructs.
- Kotlin is still a "mostly functional" language. Scala can be written in a purely functional idiom.
- Kotlin has easier interaction with a Java code base.
- Cultural difference: industry background vs. academic background.

## **KOTLIN STRENGTHS**

- A large amount of convenient language features
- Null-safe type hierarchy
- Excellent tool support
- Great Java interoperability
- Flexible language constructs

**DEMO**

## WILL KOTLIN HIT IT BIG TIME?

- The Java world is quite resistant to alternative languages. Why would Kotlin succeed?
- After 20 years, Java as a language is rather dated.
- Type-safe languages are in vogue, but Scala is often considered too complex.
- Groovy development has stalled.
- Tools support matters: IntelliJ has excellent support for the language.
- Kotlin is designed for gradual adaptation within existing Java projects: IntelliJ is the proof that this works.



## THE KOTLIN COMMUNITY

- The Kotlin community is enthusiastic and growing: forums, Slack, Github, ...
- Kotlin is open source, core committers are from JetBrains. The community *around* the core language is very diverse.
- Many Android projects are using Kotlin: the Kotlin language and standard library is comparatively small, and Android Java is still at version 6.
- In May 2016, Gradle announced that gradle builds will be possible to write in Kotlin. This feature is now close to release.

## CONCLUSION

- Kotlin is stable and production ready.
- Adapting Kotlin is rather risk free: first-class interoperability with Java, static typing, and support for functional idioms.
- If you value programmer satisfaction and productivity, Kotlin is certainly worth a look.

# KOTLIN

```
package se.callistaenterprise.demo
```

```
fun stringInterpolation(input: String): String {  
    // String interpolation is checked by compiler  
    return "String $input has length ${input.length}"  
}
```

```
// Triple-quoted strings can be multi-line
```

```
val threeLineString = """One  
    Two  
    Three"""
```