

Introducing Kotlin in your organization

The easy way

s/Kotlin/*/g



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- #Meetups #Kotlin #Gardening

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This talk

- A look at Kotlin today
- Tips on how to convince colleagues and **management**

How it started

- Team Lead at ING
- No greenfield, existing applications
- Still 'stuck' on Java 8 due to local tooling
- Need to keep learning, experiment, and grow as a team

```
<build>
  <plugins>
    ...
    <plugin>
      <groupId>org.jetbrains.kotlin</groupId>
      <artifactId>kotlin-maven-plugin</artifactId>
      <version>${kotlin.version}</version>
      <executions>
        <execution>
          <id>compile</id>
          <phase>compile</phase>
          <goals>
            <goal>compile</goal>
          </goals>
        </execution>
        <execution>
          <id>test-compile</id>
          <phase>test-compile</phase>
          <goals>
            <goal>test-compile</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
    ...
  </plugins>
</build>
...

```

Introducing Kotlin at ING, a long but rewarding story

Kotlin at BigCorp, from Zero to Hero! Our journey introducing Kotlin at ING, from a technical and organizational perspective.



julien lengrand-lambert

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Convincing at many levels

- Security
- Compliancy
- Management
- Colleagues...
- First team (on the backend)

A step back : Kotlin today

How old is Kotlin?

- Kotlin : 10 years old (July 2011)
- Java : 26 years
- Go : 12 years old
- Rust : 11 years

Some numbers

- **> 4.8 Million** users last year
- 4th most loved programming language
- **2nd most popular language on the JVM**
- Taught in 45 of the top 200 universities

Kotlin is here to stay

- 2019 : Google chooses Kotlin first for Android
- 2020 : Creation of the Kotlin Foundation
- 2021 : AWS announces idiomatic Kotlin SDK
- 2021 : Kotlin multiplatform comes out of Beta

A few compelling use cases

Ceremony



```
final class User {  
    private String name;  
    private String lastName;  
  
    public User(String name) {  
        this(name, "");  
    }  
  
    public User(String name, String lastName) {  
        this.name = name;  
        this.lastName = lastName;  
    }  
  
    // And Getters & Setters  
}
```



```
class User(var name: String, var lastName: String = "")
```

Concurrency

```
public static void asyncBatch() throws ExecutionException, InterruptedException {
    CompletableFuture.allOf(
        CompletableFuture.runAsync(
            () -> System.out.println("Maybe this");
        ),
        CompletableFuture.runAsync(
            () -> System.out.println("Or this");
        )
    ).get();
    System.out.println("Printed last");
}
```

```
runBlocking(Dispatchers.Default) {
    launch {
        println("Maybe this")
    }
    launch {
        println("Or this")
    }
}
println("Printed last")
```

Functional programming



```
public List<String> processStrings(List<String> strings){  
    return strings.stream()  
        .filter(s-> s.equals("Hello") || s.equals("World") )  
        .map(s -> s + " processed")  
        .collect(Collectors.toList());  
}
```



```
fun processStrings(strings: List<String>): List<String> {  
    return strings  
        .filter { it == "Hello" || it == "World" }  
        .map { "$it processed" }  
}
```

When expressions



```
import kotlin.math.sqrt

sealed class Shape
data class Circle(val radius : Double) : Shape()
data class Square(val length: Double) : Shape()
data class Rectangle(val length: Double, val breadth: Double) : Shape()

fun Shape.area(): Double {
    return when (this){
        is Circle -> Math.PI * sqrt(this.radius)
        is Square -> sqrt(this.length)
        is Rectangle -> sqrt(this.length * this.breadth)
    }
}
```

Let's do it!

Technically, it's simple

```
package nl.ing.api.batchordersapi.endpoints.json;
```

```
+ import ...
```

```
@Getter
```

```
public class BatchResult {
```

```
    private Batch batch;
```

```
+ public BatchResult(final Batch bat
```

```
}  
+ }
```

All Classes Files Symbols **Actions** Include disabled actions

Q convert Press `⌘↵` to assign a shortcut

Convert cURL to HTTP Request Tools | HTTP Client

Convert Java File to Kotlin File `⌘⇧⌘K` Code

Convert Indents

Configure Kotlin with Java with Maven

All modules

All modules containing Kotlin files: batchorders-api (1) (nl.ing.api)

Single module:

batchorders-api (2) (nl.ing.nolio.apps) ▼

Kotlin compiler and runtime version:

1.0.0 ▼



Cancel

OK

 **Kotlin**

A new version 1.3.60-release-IJ2019.2-1 of the Kotlin plugin is available. [Install](#)

STAND BACK

WE'RE TRYING THIS IN PRODUCTION

**Now the real work
begins**

Convincing colleagues

Invest in your own knowledge

- Be the Subject expert in the company (as a team)
- Help solve other people's questions
- Don't minimize potential issues (I don't know)

Browse > Computer Science > Software Development

Kotlin for Java Developers

★★★★★ 4.7 1,680 ratings



Svetlana Isakova [+1 more instructor](#)

Enroll for Free

Starts Jan 16

Financial aid available

81,582 already enrolled

Get others onboard!

- Advent of Code
- Cohorts
- Onboarding sessions



Convincing management

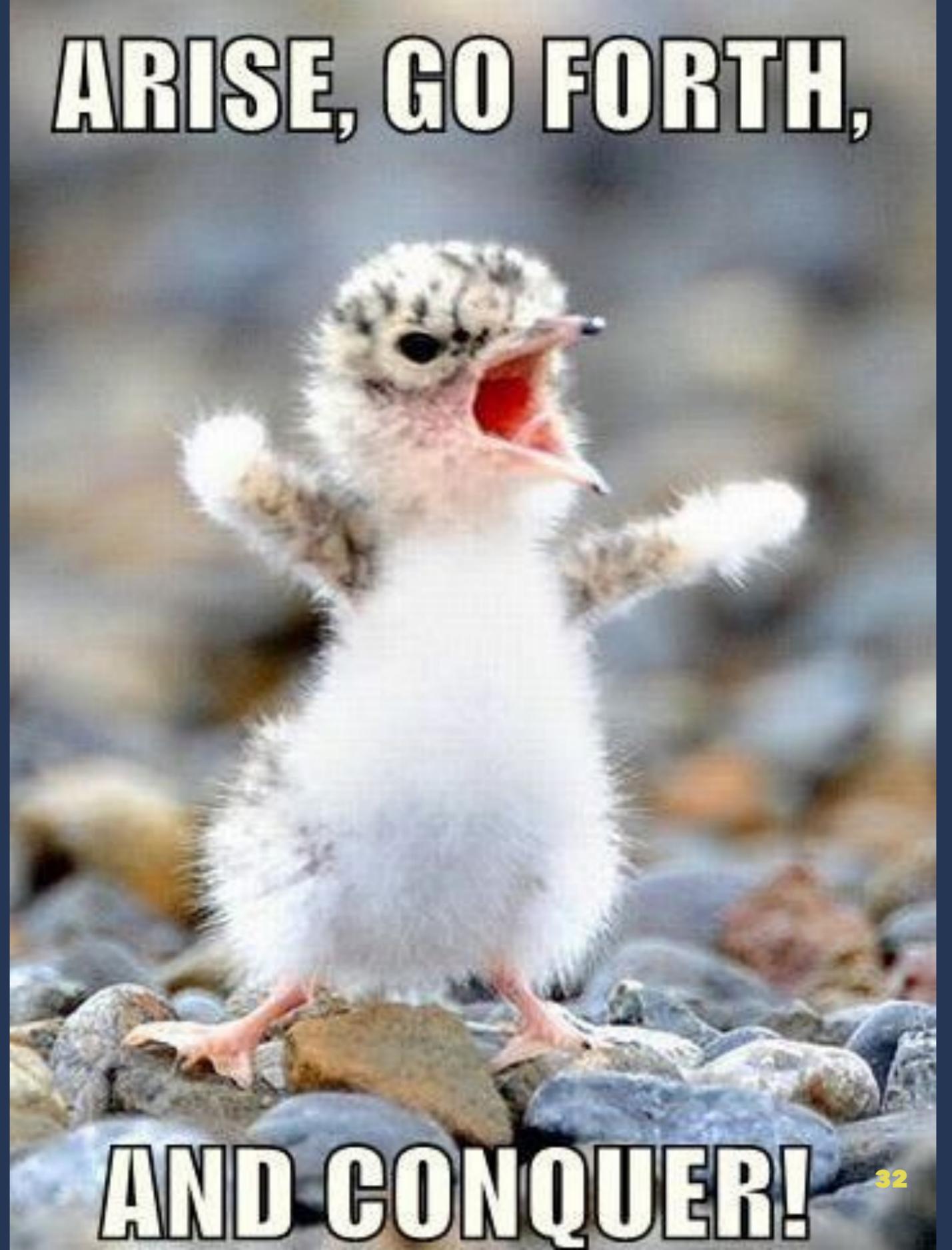
The small experiment

- Make it contained
- Make it risk free
- Make it reversible
- Make it cheap

Our team, one application, No overhead

Report!

- Communicate about progress
- Verbalize next steps
- Improve in public

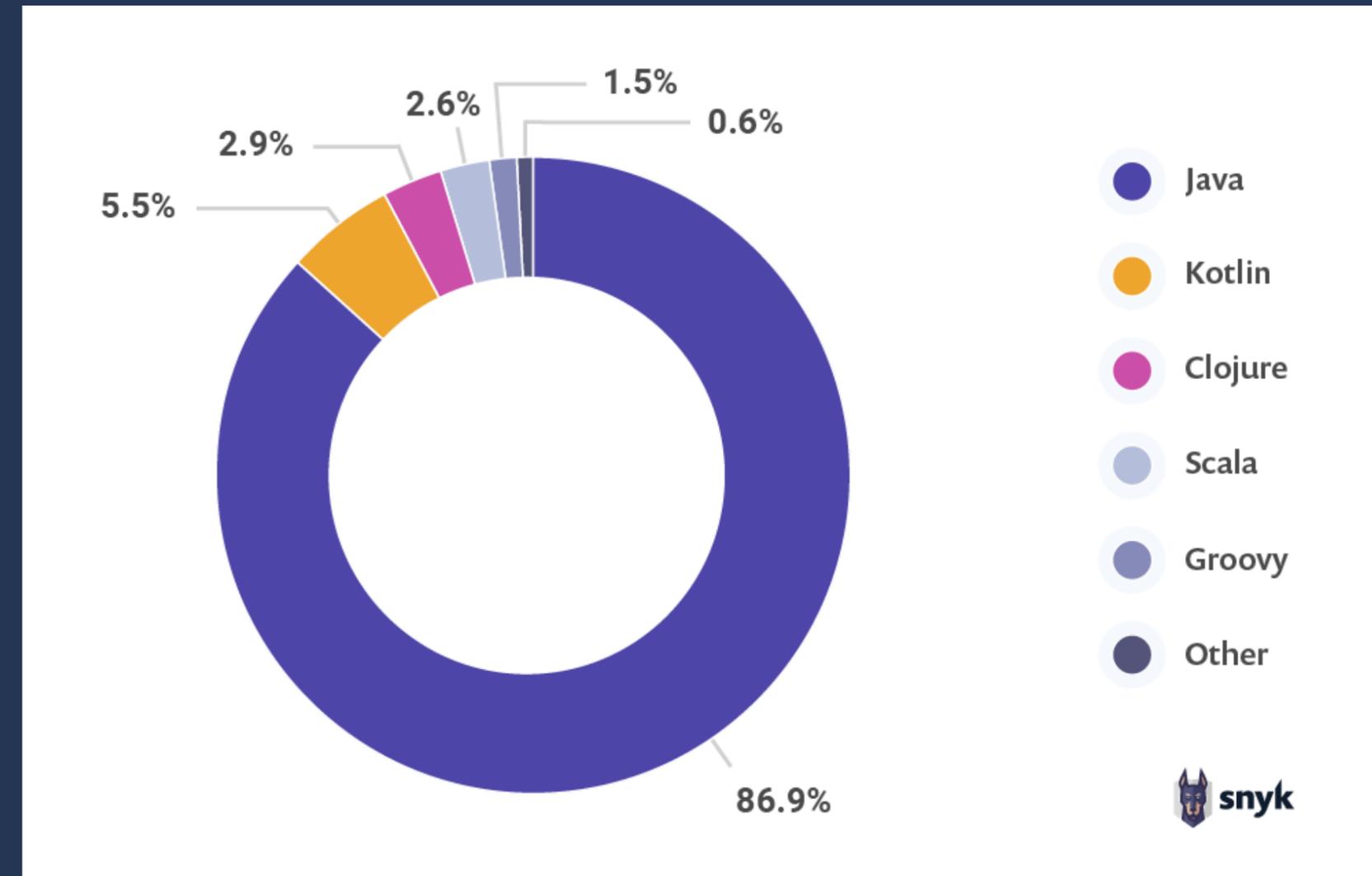


ARISE, GO FORTH,

AND CONQUER!

Use numbers

- Show success
 - But make it real and relevant
 - Internal numbers count!
- > Adapt your language and objectives!**



Find your heroes inside

- Who is a big fan of the language?
- Who can benefit from it?
- Who is excited about trying new things?



Bring heroes from outside

- Make your choice a reality
- Make it visible !



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This month [#lunchspiration @ing](#) : [@trisha_gee](#) rocked with not one, but three talks in two different locations! Full house, and lots of positive energy! I love when people get out of those sessions with more knowledge, and more energy. Thanks [@jetbrains](#) and [@trisha_gee](#) .



For Ximedes, Kotlin is now the default language of choice for new client projects. We feel the language is mature enough, well-supported, and allows developers to deliver better, cleaner code in less time. We will of course provide continuing support for Java now and in the future - Kotlin is just a new shiny tool in the box!

Find authority

- Certification
- Course
- Titles,



Don't be a Zealot <3

Some fun questions

**If we allow Kotlin today, why not
Haskell tomorrow?**

How can we hire people that know Kotlin? Won't it be hard to find them on the market?

**Can't Kotlin die tomorrow, look
what happened to ...?**

**So Kotlin, is it like replacing
AngularJs?**

Why don't you just use Scala? We already have processes in place?

Thank you!

**Big thanks to Hielke de Vries for
the help**

Sources :

- <https://github.com/jlengrand/introducing-kotlin-in-your-org>