

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>
  ...
</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.



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Dec 3, 2019 · 11 min read

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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

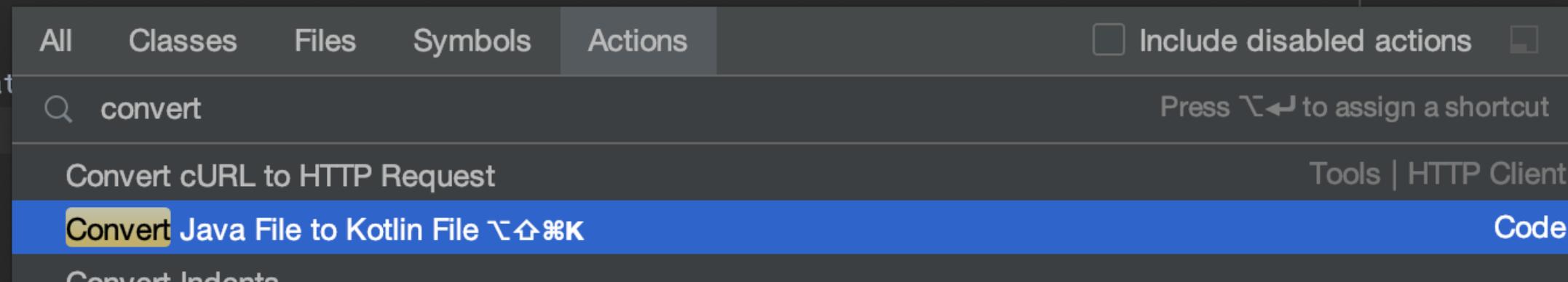
```
package nl.ing.api.batchordersapi.endpoints.json;

import ...

@getter
public class BatchResult {

    private Batch batch;

    public BatchResult(final Batch bat
}
```





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

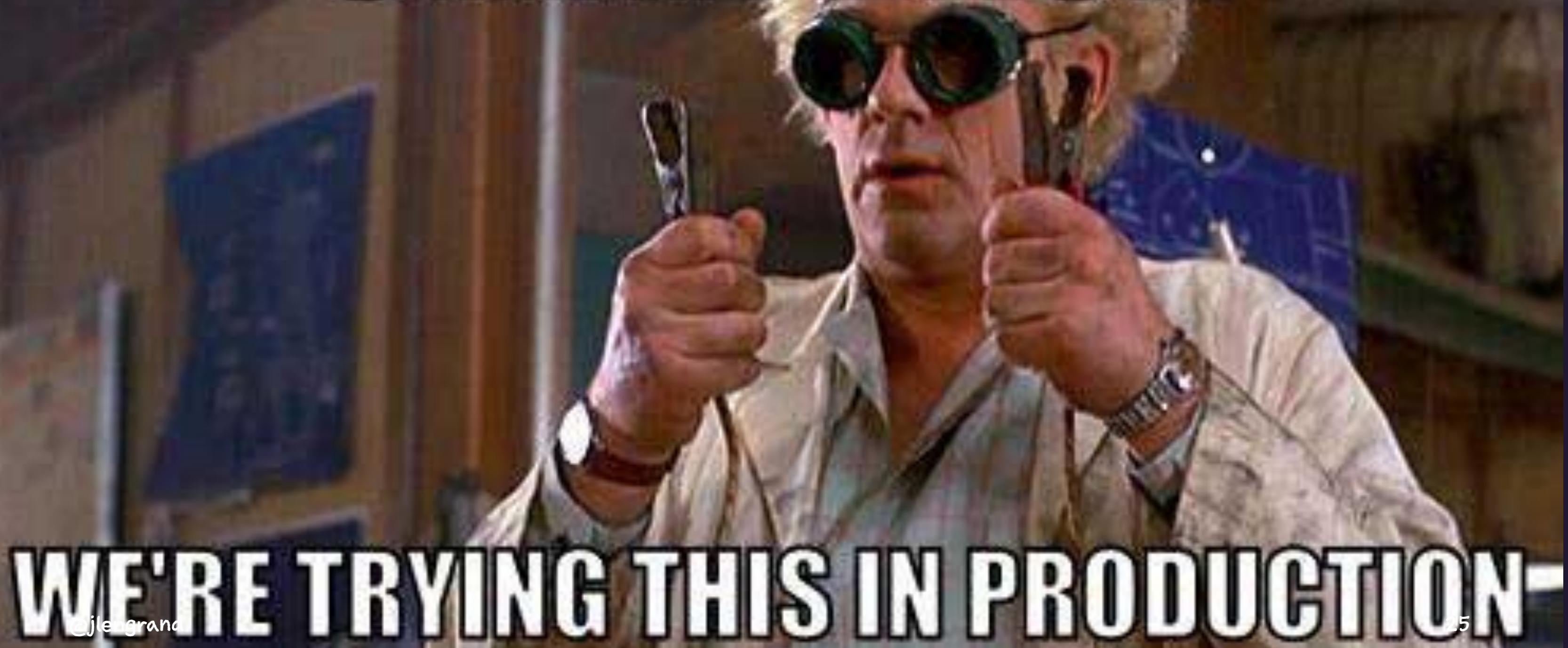
OK



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

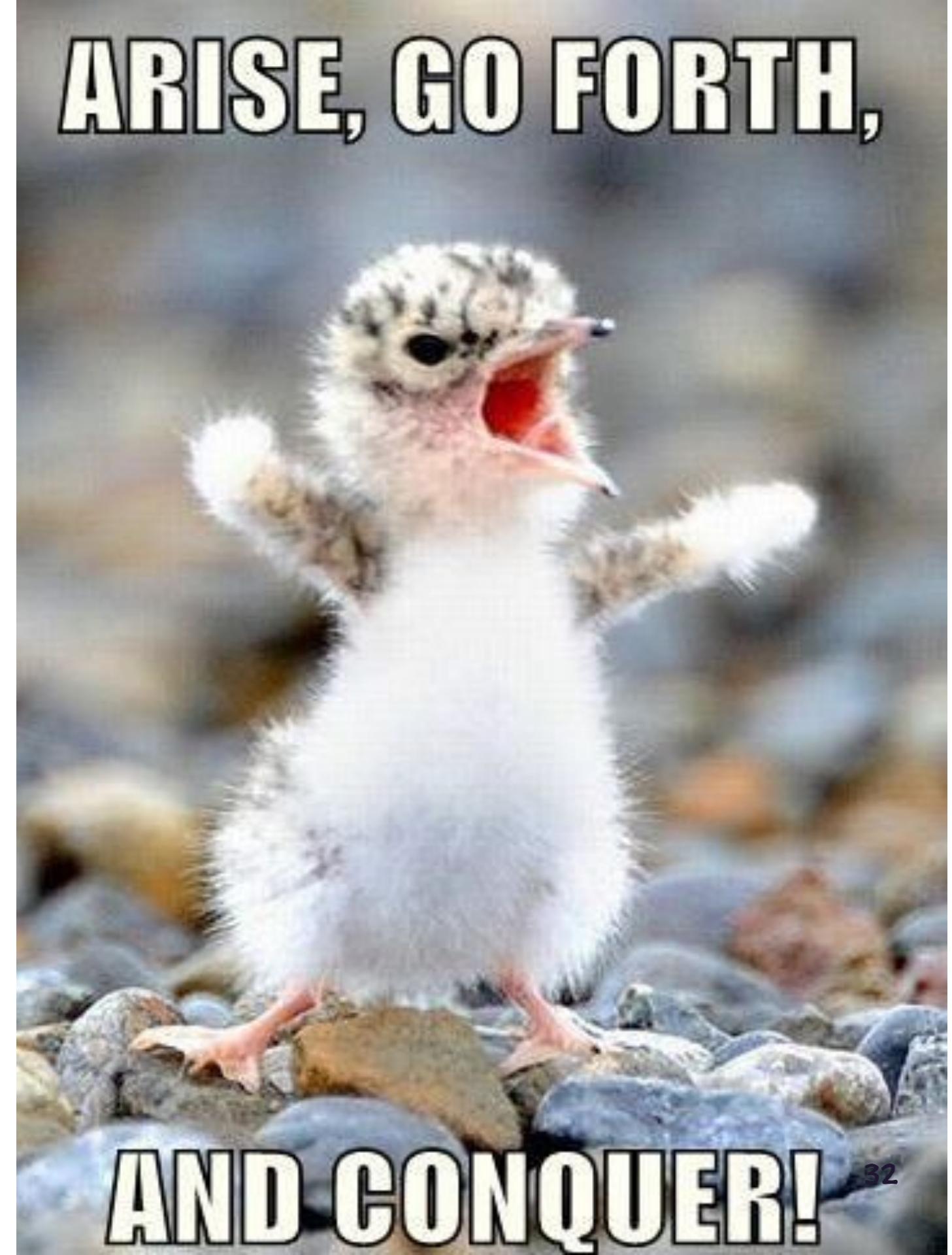
The small experiment

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

Our team, one application, No overhead

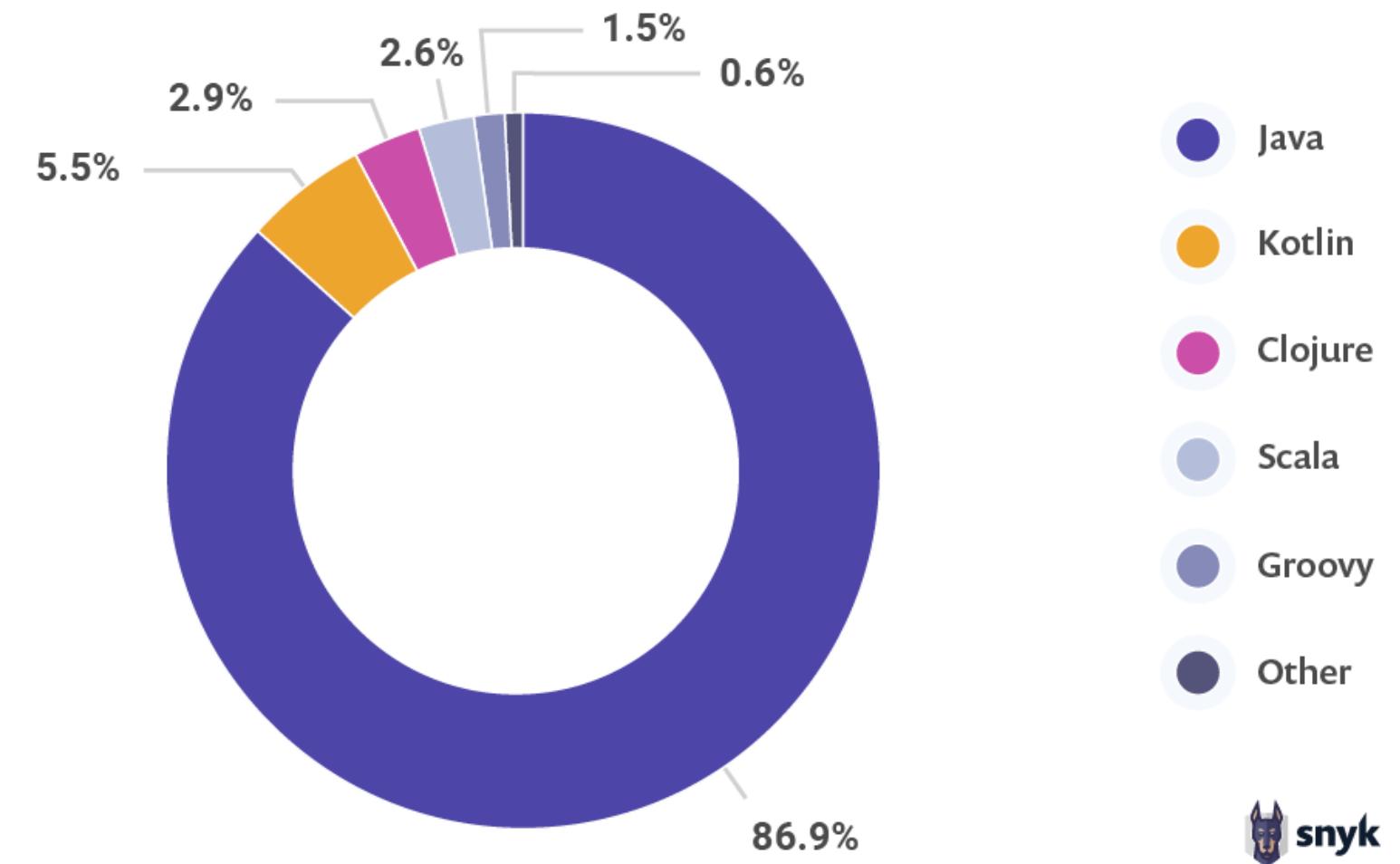
Report!

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



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>