CIKLUM | SPEAKER'S CORNER

October, 10

17:00 (CET)

English

Java and Scala:

Exploring Syntax and Semantics Through Practical Examples

Tomáš Takáč

Senior Scala Developer at Ciklum

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Meet the speaker

- Technologies: Scala, Akka, Apache Spark, PostgreSQL, MongoDB
- Projects: carnival cruising ships, Cloudfarms, Peek and Cloppenburg loyalty system
- Areas of interest: clarity of code, microservices, functional programming

Tomáš Takáč
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October 2024

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Java consultation: Eva Kubranská

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Agenda

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High level comparison

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High level comparison

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Java and Scala: common grounds

- JVM
  - Compiled into bytecode
  - Interpreted languages
- OOP
- Static typing
  - Types of values are known during compilation

Differences

	Java	Scala version 2.12
History	• June 1991 • Sun Microsystems • Language for electronics ◦ smart TV, set-top boxes • 1995 officially	• 2001 • École Polytechnique Fédérale de Lausanne • Martin Odersky • 20.1.2004 officially
Paradigm	• OOP	• OOP + Functional paradigm

Scala syntax 101

- class
  - in Java: class
- object
  - singleton
  - when named as class, place for “static” methods
- trait
  - in Java: interface
- case class
  - in Java: records
    - toString
    - apply -constructor
    - getters

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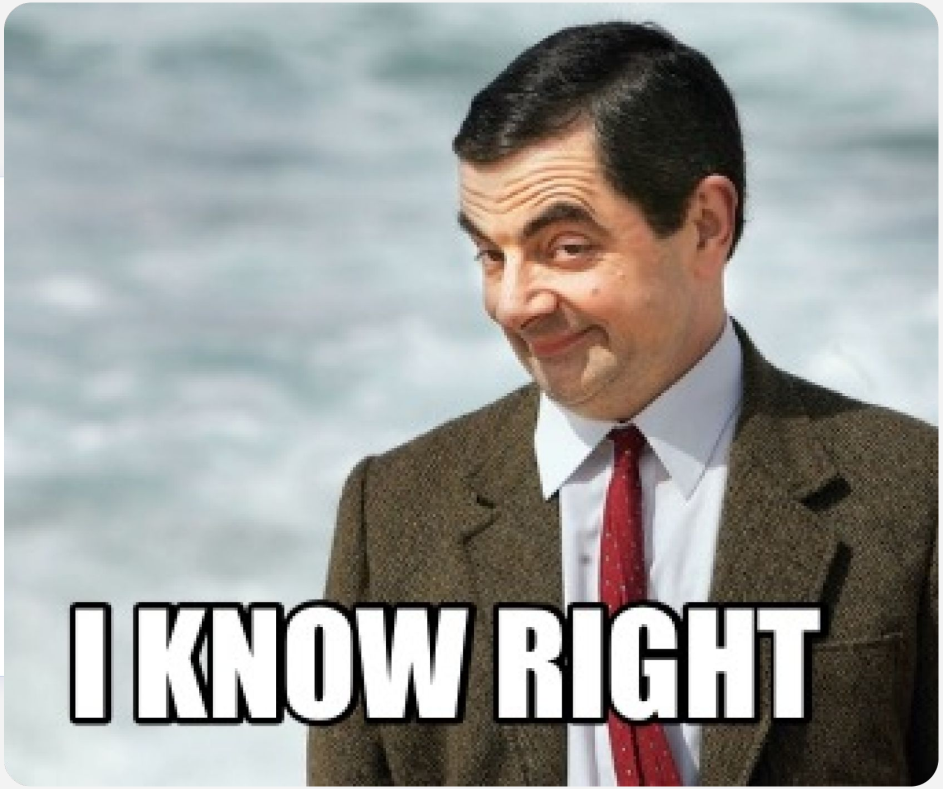
Scala syntax 101

WE DON'T NEED:

- “;”
- “Return”
- null



Scala syntax 101

No types before names of expressions (often optionally behind the expression name)

- var
  - variable - mutable value
  - var foo = “my_mutable_foo”
  - foo = “my_new_foo” - compilable
- val
  - value - immutable value
  - val bar = “my_immutable_bar”
  - bar = “my_new_bar” - compilation error
- def
  - definition - method
  - def myDef(a: Int) = a + 1

Scala syntax 101

Pattern matching

- Switch statement on steroids
- myVariable match {

```
            case value1 if someFilter(value1) => some filtered result
            case value2 if someOtherFilter(value1) => some other filtered result
            case value3 => some ordinary result
            case _ => some default result
            }

 myInstance match {
            case MyClass(arg1, arg2, _) => function1(arg1, arg2)
            case MyOtherClass(arg1, _, _, _) => function2(arg1)
            case myFirstElement :: restOfSequence => function3(myFirstElement)
            }
```

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Tick-tock
Code o’clock

https://github.com/tomas-takac/JavaLibraryDemo
https://github.com/tomas-takac/ScalaLibraryDemo

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Thank you!

Any questions?

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Share your feedback!

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