

# A Beginner's Guide To Scala

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# Who am I

Adam Pridmore

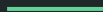
A developer

C++, C#, Java and Scala

# My FP Story

Concurrency is hard

Scalability is therefore hard



**Functional programming does not allow the assignment of values to variables**

**This prevents race conditions**

# Put off by

You can't assign values to variables

Lack of program flow control

# What is Imperative?

Uses flow control statements to  
alter a programs state

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# What is FP

Treats computation as the  
evaluation of mathematical  
functions

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# Java vs Scala WordCount



```
public class WordCountJava {  
    public static void main(String[] args) {  
        StringTokenizer st  
            = new StringTokenizer(args[0]);  
        Map<String, Integer> map =  
            new HashMap<String, Integer>();  
        while (st.hasMoreTokens()) {  
            String word = st.nextToken();  
            Integer count = map.get(word);  
            if (count == null)  
                map.put(word, 1);  
            else  
                map.put(word, count + 1);  
        }  
        System.out.println(map);  
    }  
}
```

```
> runMain WordCountJava "a b a c a b"  
[info] Running WordCountJava a b a c a b  
{a=3, b=2, c=1}
```

```
object WordCountScala extends App {  
    println(  
        args(0)  
        .split(" ")  
        .groupBy(x => x)  
        .map(t => t._1 -> t._2.length))  
}
```

```
> runMain WordCountScala "a b a c a b"  
[info] Running WordCountScala a b a c a b  
Map(b -> 2, a -> 3, c -> 1)
```



What is



# Scala

A language that runs on the JVM

Interoperable with Java Libraries

A multi-paradigm programming language (OO and FP)

Statically typed

# History

Version 1.0 Mar-2004

Version 2.0 Mar-2006

Latest 2.13 Jun-2019



# Why?

- FP is popular with data analytics / big data (Spark, Hadoop)
- Machine Learning / AI
- Mathematics
- Boring old business apps
- Can also be used anywhere you would use Java\*

\*I think

# Shut up and show me some code

```
sbt new scala/scalatest-example.g8
```

<https://github.com/adampridmore/scala-talk>