Scala 3, Here I Come!

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Agenda

- What is Scala 3?

- New syntax

- Select.scala

- Conversions.scala

- Actor.scala

- Door.scala

- It.scala

- Cupcakes.scala

- Kvs.scala

- Q&A

What is Scala 3?

- Next generation

- Coming out Fall 2020

- Many new features
    - Source code is mostly backward compatible with Scala 2

- VSCode with Dotty Language Server plugin

New syntax

- Optional
- **New Control Syntax**
- **Significant Indentation**
- Compiler switches allow to go back and forth

Select.scala

- The ability to select something

- **Anonymous Given Instances**

- **Extension Methods**

- **Main Functions**

- **Given Imports**

Select2.scala

- On top of the ability to select something, abstract how the selection is done.
- **Opaque Type Aliases**
- **Given Parameters**

Conversions.scala

- The new and safer way to define implicit conversion
- **Implicit Conversions**

Actor.scala

- A minimum actor implementation taken shamelessly from @li_haoyi
- **Union Types**

Door.scala

- Translate from an Idris example
- **Enumerations**
- **Dependent Function Types**
- **Toplevel Definitions**

It.scala

- Mimics Kotlin's "it"
- **Implicit Function Types**
  - As parameter

Cupcakes.scala

- A minimum DI framework
- New take on the infamous Cake Pattern in Scala 2 ;)
- **Implicit Function Types**
  - As return value
- **summon** aka. "the"
- **Intersection Types**
- **Export Clauses**

Kvs1.scala

- A simple key-value store

- Typeclass Oriented Programming (TOP)
  - A better way to organize program

  - A solution to the Expression problem

- **Parameter Untupling**

Kvs2.scala

- Abstract effects
  - Identity effect
  - Network IO effect
- **Alias Givens**

NetIO.scala

- Socket IO effect
- **Creator Applications**

Serde.scala

- Serialization / deserialization

Kvs3.scala

- Typed key-value store
- **Named Type Arguments**

Q&A