SERLi

Scala

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- Développeur @SERLI
- Scala, Java, web & OSS
  - ReactiveCouchbase, Weld-OSGi, Weld, etc ...
  - Poitou-Charentes JUG
- Membre de l'expert group CDI 1.1 (JSR-346)
- Membre de l'expert group OSGi Enterprise
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SERLI

- Société de conseil et d’ingénierie du SI
- 75 personnes
- 80% de business Java
- Contribution à des projets OSS
- 10% de la force de travail sur l’OSS
- Membre de l’EG JSR-346
- Membre de l’OSGi Alliance
- www.serli.com @SerliFr

```
var param1:String = "param1"
val param2 = "param2"

def doSomething(param: String = "default") {
  println(s"value = $param")
}

def process(s: String): String = s.toLowerCase

list.forEach { item =>
  item.toUpperCase
}

list.forEach(_.toLowerCase)
list.forEach(process)
```

String interpolation

```
val name = "World"

println(s"hello $name!")

println(s"hello ${name.toUpperCase}!")
```

Traits

```
trait AuthService {

  def isConnected(username: String): Boolean

  def hash(username: String) = MD5.sign(username)
}

class MyService extends AuthService {
  override def isConnected(username: String): Boolean = true
}
```

Classes

```
class Post(id: String, title: String) {

   val innerContext = "Nouveau post »

   def display() = s"$title \n $innerContext"
}
```

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Case class

```scala
case class User(id: String, name: String, email: String, age: Int)

object User {
  def findByEmail(email: String) = ???
  def birthday(u: User) = u.copy(age = u.age + 1)
}

object UserController {
  def getUrl(email: String) = User.findByEmail(email)
}
```

Fonctions

```scala
def doSomething(param: String) {
  println(s"value = $param")
}

def process(s: String): String = s.toLowerCase

list.forEach { item =>
  item.toUpperCase
}

list.forEach(_.toLowerCase)
list.forEach(process)

def doSomethingElse(param: String): String = {
  s"value = $param"
}
def doSomethingElse(param: String): String = s"value = $param"
```

Fonctions

```
object Hello {
  def apply(name: String) = println(s"Hello $name!")

  def doSomething(f: String => String) = f("Hello")

  def /?\(name: String) = apply(name)
}

Hello("World")
Hello.doSomething(p => p.toUpperCase)
Hello.doSomething { p =>
  p.toLowerCase
}

Hello./?\("World")
Hello /?\ "World"
```

Curryfication

```
def add(v1: Int)(v2: Int) = v1 + v2

val value1 = add(2)(2) // 4

val add4 = add(4)_

val val2 = add4(2) // 6
```

Pattern matching

```
val param = ???

param match {
  case "Hello"                                          => println("Yeah !")
  case 1                                                => println("Yeah !")
  case t: Task                                          => println(t)
  case t: Task if t.id == 1                             => println(t)
  case "a" :: "b" :: tail                               => println(tail)
  case head :: "b" :: "c" :: tail                       => println(head)
  case User(id, name, email, age)              => println(s"$id : $name : $email : $age")
  case User(_, _, _, age) if age > 18                   => println(age)
  case user @ User(_, _, _, age) if age > 18            => println(user)
  case p @ Post(_, _, User(_, _, _, age)) if age < 100  => println(p)
}

Hello.doSomething {
  case "Hello" => println("Hello World")
  case _ => println("Yeah !")
}
```

implicits

```
def adder(a: Int)(implicit b: Int) = a + b

adder(2)(2) // 4

implicit val implicitParam = 6

adder(2) // 8
```

Structures du SDK

Collections

```
val coll: Seq[String] =
      Seq("a", "b", "c", "d", "e", "f", "g")

val str: String = coll
     .filter(_.length == 1)
     .map(_.toUpperCase)
     .reduce(_ + _)        // ABCDEFG
```

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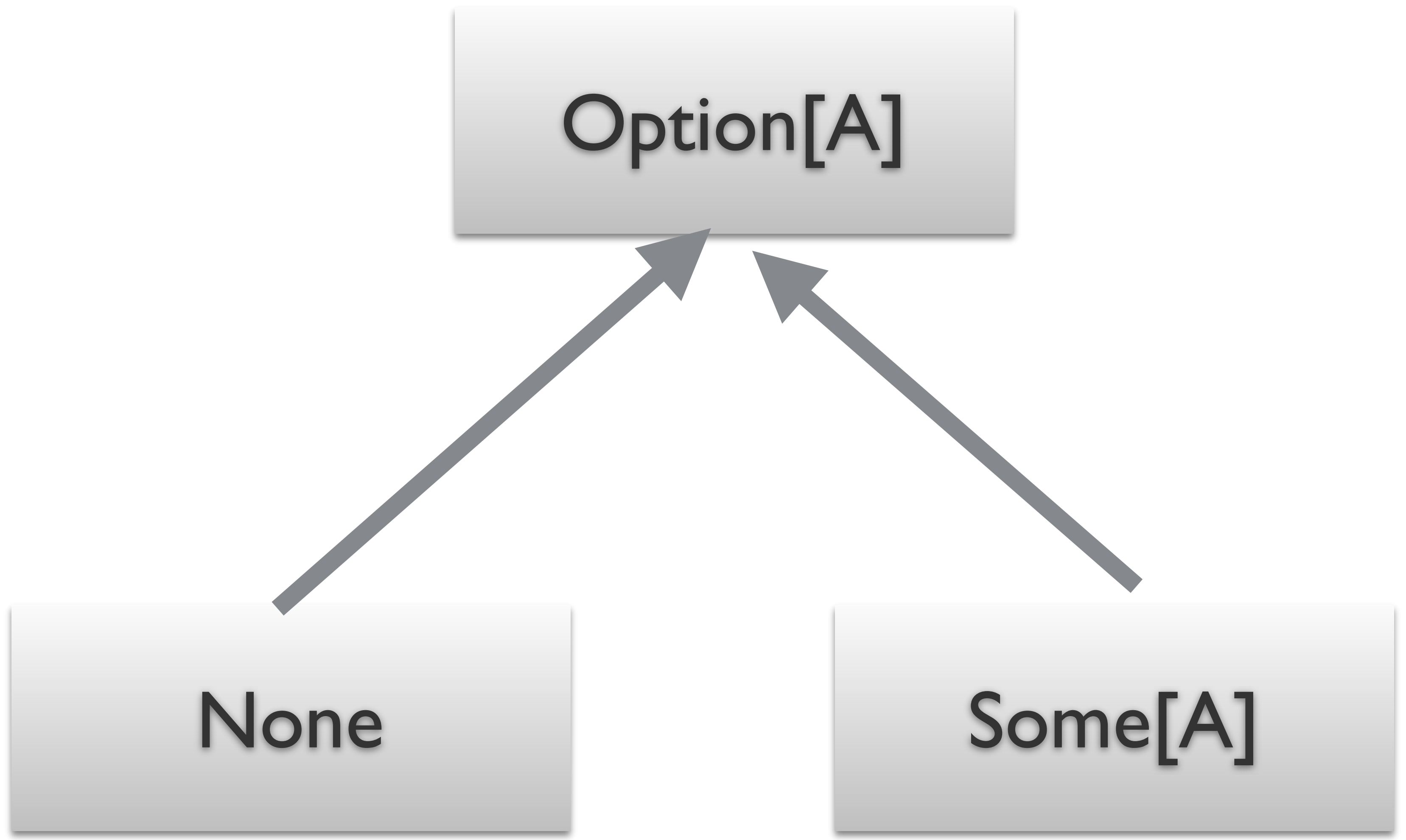
Option



Option

```
Option[A] map = (f: A => B): Option[B]

Option[A] flatMap = (f: A => Option[B]): Option[B]

Option[A] filter = (f: A => Boolean): Option[A]
```

Option

```
process(Option("Hello"))
process(None)

def process(opt: Option[String]) = {
  opt match {
    case Some(str) => println(str)
    case None => println("No value here")
  }
  opt.map(_.toUpperCase)
     .filter(_.length >= 5)
     .map(_ + "World")
     .getOrElse(":(") // "HELLO World"
}
```

Try

```scala
import scala.util._

val proc1 = Try(process(Option("yeah")))
val proc2 = Try {
  throw new RuntimeException("Error !!!!")
}
def handleTry(t: Try[Option[String]]) = {
  t match {
    case Success(Some(str)) => println(str)
    case Success(None) => println("Success but nothing found")
    case Failure(err) => println(err.getMessage)
  }
}

handleTry(proc1)
handleTry(proc2)
```

Future

```
implicit val ec = ExecutionContext.fromExecutor(Executors.newFixedThreadPool(5))

val future1 = Future {
  Thread.sleep(10000)
  "I'm done 1!"
}
val future2 = Future {
  Thread.sleep(20000)
  "I'm done 2!"
}

future1.map { message =>
  println(message)
  message
}.onComplete {
  case Success(message) => println(s"success of : $message")
  case Failure(err) => println(s"error : ${err.getMessage}")
}
```

Future

```
implicit val ec = ExecutionContext.fromExecutor(Executors.newFixedThreadPool(5))

val future1 = Future {
  Thread.sleep(10000)
  "I'm done 1! »
}
val future2 = Future {
  Thread.sleep(20000)
  "I'm done 2!"
}

future1.flatMap { message1 =>
  future2.map { message2 =>
    s"messages : $message1, $message2"
  }
}.onComplete {
  case Success(message) => println(message) // messages: I'm done 1!, I'm done 2!
  case Failure(err) => println(err.getMessage)
}
```

This is the end …

des questions ?