

Scala Introduction

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Environment and Tooling

Scala runs on the JVM, but not only there!

- Scala.js for Javascript endpoints
- Scala Native for LLVM endpoints

Build Tools

- multiple build tools are available
 - SBT
 - Mill
 - CBT
 - Fury
- SBT has the biggest ecosystem and is widely used
- stick to SBT but maybe checkout Mill ;-)

SBT Setup

SBT is usually setup on a per project basis via the `build.sbt` file. However here are some nice settings for the global configuration, put it into `~/.sbt/1.0/global.sbt`

```
// Prevent Strg+C from killing sbt.
cancelable in Global := true
// Coloured console.
initialize ~ = ( _ =>
  if (ConsoleLogger.formatEnabled)
    sys.props("scala.color") = "true"
)
```

Some useful global plugins can be enabled by adding them to the file
`~/.sbt/1.0/plugins/plugins.sbt`

```
addSbtPlugin("net.virtual-void" % "sbt-dependency-graph" % "0.9.2")  
addSbtPlugin("com.timushev.sbt" % "sbt-updates" % "0.4.0")
```

There are several options available but beginners should maybe stick to a full blown IDE which in the case of Scala means IntelliJ IDEA with the Scala plugin.

For the confident:

- VS-Code with scala-metals
- Vim or Neovim with vim-scala plugin and optionally scala-metals
- Emacs
- Atom
- possibly others. . .

Basics

Table 1: Values types in Scala

Type	Notes
Immutable	Data structures which cannot be changed.
Mutable	Data structures which can be changed.
Val	A variable that cannot be re-assigned.
Var	A variable that can be re-assigned (changed).

Table 2: When to use which type?

Definition	Notes
Immutable Val	The recommended way to go.
Immutable Var	Okay if used in a local scope.
Mutable Val	A Try not to use this but there may be applications. ¹
Mutable Var	Never ever do this!

¹However **if** you do this then **never** pass the value around!