Sbt in Action: The Simple Scala Build Tool

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Sbt is a simple build tool for Scala. It is designed to be easy to use and powerful enough to handle even the most complex projects. Sbt uses a simple DSL to define your project's build settings. This DSL is expressive and powerful, allowing you to define your build process in a clear and concise way.

sbt in Action: The simple Scala build tool by Matthew Farwell

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Sbt is also extensible. You can create your own plugins to add new functionality to Sbt. This makes Sbt a very versatile build tool that can be adapted to meet the needs of any project.

Getting Started

To get started with Sbt, you will need to install it on your system. You can download Sbt from the official website.

Once you have installed Sbt, you can create a new project by running the following command:

```
sbt new
```

This will create a new directory for your project. The directory will contain a file called `build.sbt`. This file contains the build settings for your project.

You can open the `build.sbt` file in a text editor to edit the build settings. The following is an example of a simple `build.sbt` file:

```
name :="my-project"

version :="1.0"

scalaVersion :="2.13.6"
```

This file defines the name, version, and Scala version for your project. You can add additional settings to the `build.sbt` file to configure your build process.

Project Configuration

Sbt uses a simple DSL to define your project's build settings. The DSL is based on the Scala language. This makes it easy to define complex build processes in a clear and concise way.

The following are some of the most common build settings:

- name: The name of your project.
- version: The version of your project.
- scalaVersion: The version of Scala that your project uses.
- libraryDependencies: The dependencies of your project.
- mainClass: The main class of your project.

You can add additional settings to the `build.sbt` file to customize your build process. For more information on the Sbt DSL, please refer to the official documentation.

Dependency Management

Sbt makes it easy to manage the dependencies of your project. Sbt uses a dependency management system called Ivy. Ivy is a powerful dependency manager that allows you to declare the dependencies of your project in a simple and concise way.

To add a dependency to your project, you can use the `libraryDependencies` setting. The following is an example of how to add the Scala Test library to your project:

```
libraryDependencies +="org.scalatest" %% "scalatest" % "3.2.11"
```

This line of code adds the Scala Test library to your project. You can add additional dependencies to your project in the same way.

Sbt also supports transitive dependencies. This means that if you add a dependency to your project, Sbt will automatically add any dependencies that the original dependency requires.

Testing

Sbt makes it easy to test your Scala code. Sbt supports a variety of testing frameworks, including ScalaTest, JUnit, and Mockito.

To add a test to your project, you can use the `test` task. The following is an example of how to add a test to your project:

test := { import org.scalatest._ new FlatSpec { "The add method" should "add two numbers" in { assert(1 + 1 === 2) }}}

This code defines a test that asserts that the `add` method adds two numbers. You can add additional tests to your project in the same way.

Sbt also supports code coverage. You can use the `coverage` task to generate a code coverage report for your project. The following is an example of how to generate a code coverage report:

coverage := true

This line of code will generate a code coverage report for your project. The report will be saved to the `target/coverage` directory.

Advanced Topics

Sbt is a powerful build tool that can be used to build complex Scala projects. In this section, we will discuss some of the more advanced features of Sbt.

Cross-Compilation

Sbt supports cross-compilation. This means that you can build your project for multiple platforms, such as JVM, JavaScript, and Native Image. To cross-compile your project, you can use the `crossProject` setting. The following is an example of how to cross-compile your project:

```
crossProject := CrossProject( js = jsSettings, native = nativeSettings )
```

This code defines a cross-compilation project. The `jsSettings` and `nativeSettings` are the settings for the JavaScript and Native Image platforms, respectively.

Plugin Development

Sbt is extensible. You can create your own plugins to add new functionality to Sbt. To create a plugin, you can use the `sbt-plugin` template. The following is an example of how to create a simple plugin:

```
object MyPlugin extends Plugin { def apply(project: Project) =
project.settings( name :="my-plugin" ) }
```

This plugin defines a setting that changes the name of the project. You can add additional settings to your plugin to customize the build process. For more information on plugin development, please refer to the official documentation.

Sbt is a powerful and versatile build tool for Scala. Sbt is easy to use and can be adapted to meet the needs of any project. Whether you are a beginner or an experienced developer, Sbt is a great choice for building Scala projects.

I encourage you to download Sbt and give it a try. I think you will be impressed with how easy it is to use and how powerful it is.

Buy the Book

If you are interested in learning more about Sbt, I encourage you to Free Download my book, Sbt in Action. This book covers everything you need to know to use Sbt effectively, from the basics of creating and managing projects to advanced topics like dependency management and testing.

You can Free Download the book from Our Book Library or from Manning Publications.

Thank you for reading!

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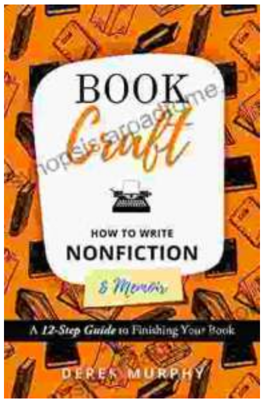

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