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# Scala Core Programming Methods, Classes, Traits

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# About Me...

## Daniel Hinojosa

Programmer, Developer, Consultant,  
Instructor, and Speaker



### Notable Content:

Testing in Scala (Book)  
Beginning Scala Programming (Video)  
Java & TDD (Video Training)  
Scala Beyond The Basics  
Scala Core Programming Series

### Speaker:

OSCON  
No Fluff Just Stuff Tour  
DevNexus

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# Other Scala Classes

- Learn the Basics of Scala in 3 hours
- Setting Up Scala Projects
- Scala Beyond the Basics
  - Implicits
  - Pattern matching
- **Scala Core Programming**
  - **Classes, Methods, Traits**
- Scala Core Programming
  - Sealed, Collections, and Functions

# Structure of the Class

- Project Using Tests
- Performed in IntelliJ and Eclipse
- Labs Included in Project
- Definitely Ask Questions

# Checklist before we proceed...

- We provided pre-setup configuration already.
- Be sure JAVA\_HOME is set and that the following works:
  - javac -version
  - java -version
- Be sure SBT is setup and ensure that the following works
  - sbt about

# Bringing in our Project

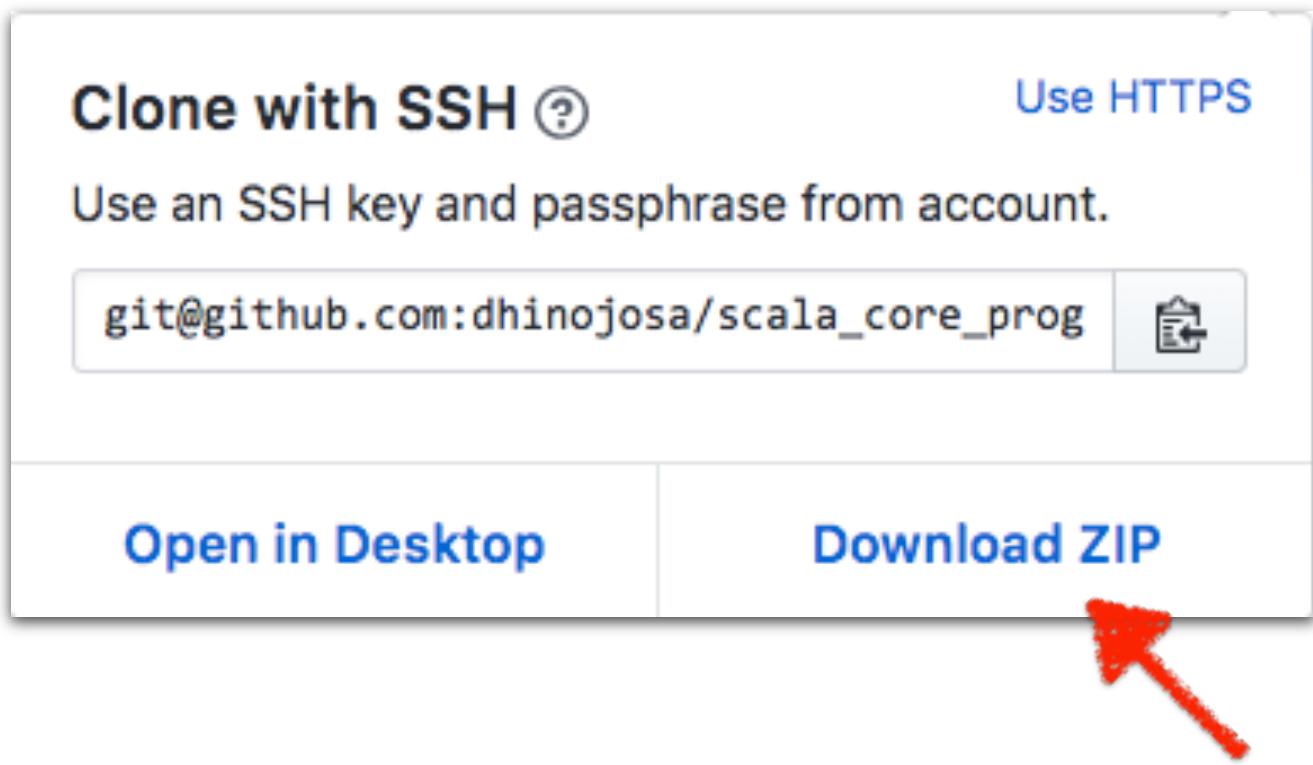
# Repository Location, Clone it!

[https://github.com/dhinojosa/scala\\_core\\_programming\\_1](https://github.com/dhinojosa/scala_core_programming_1)

or use the abbreviation...

<https://bit.ly/2JCFCRh>

# But, if don't know Git too well...



# Once downloaded...Run SBT

```
~/Development/scala_core_programming_1(master) » sbt
```

danno@Air-Dan

# You should see something like this...

```
-----  
[~/Development/scala_core_programming_1(master) » sbt           danno@Air-Dan ]  
[info] Loading settings from plugins.sbt ...  
[info] Loading global plugins from /Users/danno/.sbt/1.0/plugins  
[info] Loading settings from plugins.sbt ...  
[info] Loading project definition from /Users/danno/Development/scala_core_p  
rogramming_1/project  
[info] Loading settings from build.sbt ...  
[info] Set current project to scala_core_programming_1 (in build file:/Users  
/danno/Development/scala_core_programming_1/)  
[info] sbt server started at local:///Users/danno/.sbt/1.0/server/db6cc13223  
51bb49e66d/sock  
sbt:scala_core_programming_1> █
```

# You'll need to update your project...

```
[sbt:scala_core_programming_1> ;reload;update
[info] Loading settings from plugins.sbt ...
[info] Loading global plugins from /Users/danno/.sbt/1.0/plugins
[info] Loading settings from plugins.sbt ...
[info] Loading project definition from /Users/danno/Development/scala_core_p
rogramming_1/project
[info] Loading settings from build.sbt ...
[info] Set current project to scala_core_programming_1 (in build file:/Users
/danno/Development/scala_core_programming_1/)
[info] Updating ...
[info] Done updating.
[success] Total time: 1 s, completed Jun 11, 2018, 3:40:56 PM
sbt:scala_core_programming_1> ]
```

# Updating Your Project

- This will download Scala and all your dependencies into your `~/.ivy2`
- This may take a while depending on your connection speed.
- If you have any problems, there might be issues with network connection, or proxy based issues

# Proxy Issues

- If you have problems because of any proxy server, add the following to your environment variables and change username and password accordingly

```
export JAVA_OPTS="$JAVA_OPTS \
-Dhttp.proxyHost=yourserver \
-Dhttp.proxyPort=8080 \
-Dhttp.proxyUser=username \
-Dhttp.proxyPassword=password"
```

# Lab: Let's get setup!

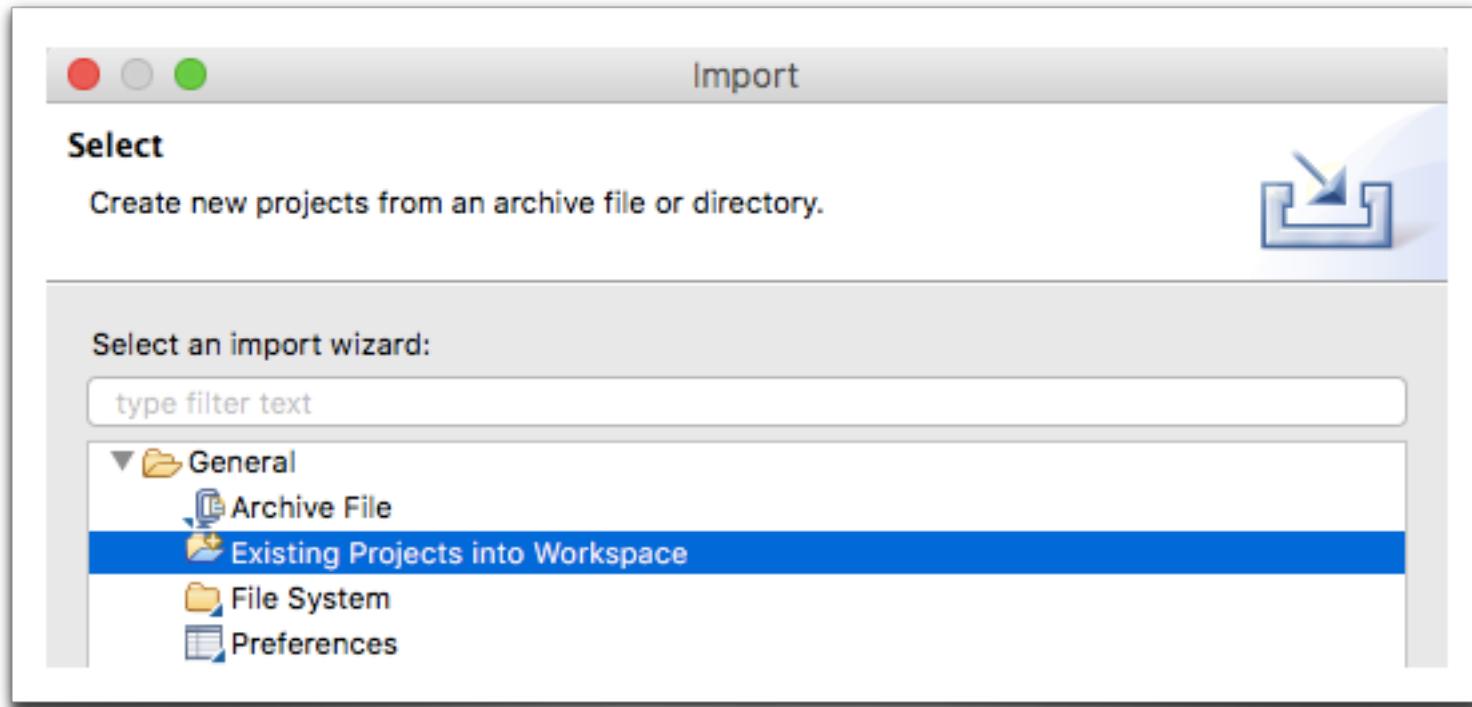
- Clone or download  
`scala_core_programming_1`
- Run sbt at the command line
- Once in the sbt console,  
`run ;reload;update`
- Wait for the download to complete

# Setup for Eclipse

# Run the Eclipse Plugin in SBT

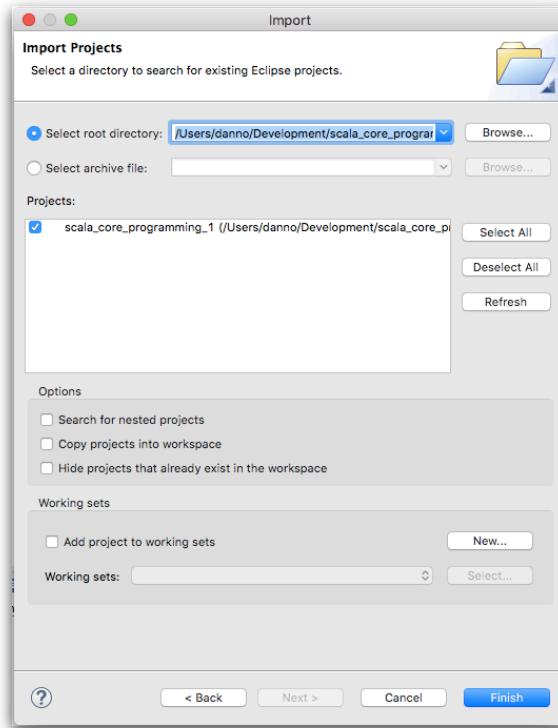
```
[sbt:scala_core_programming_1> eclipse]
```

# Import Existing Project



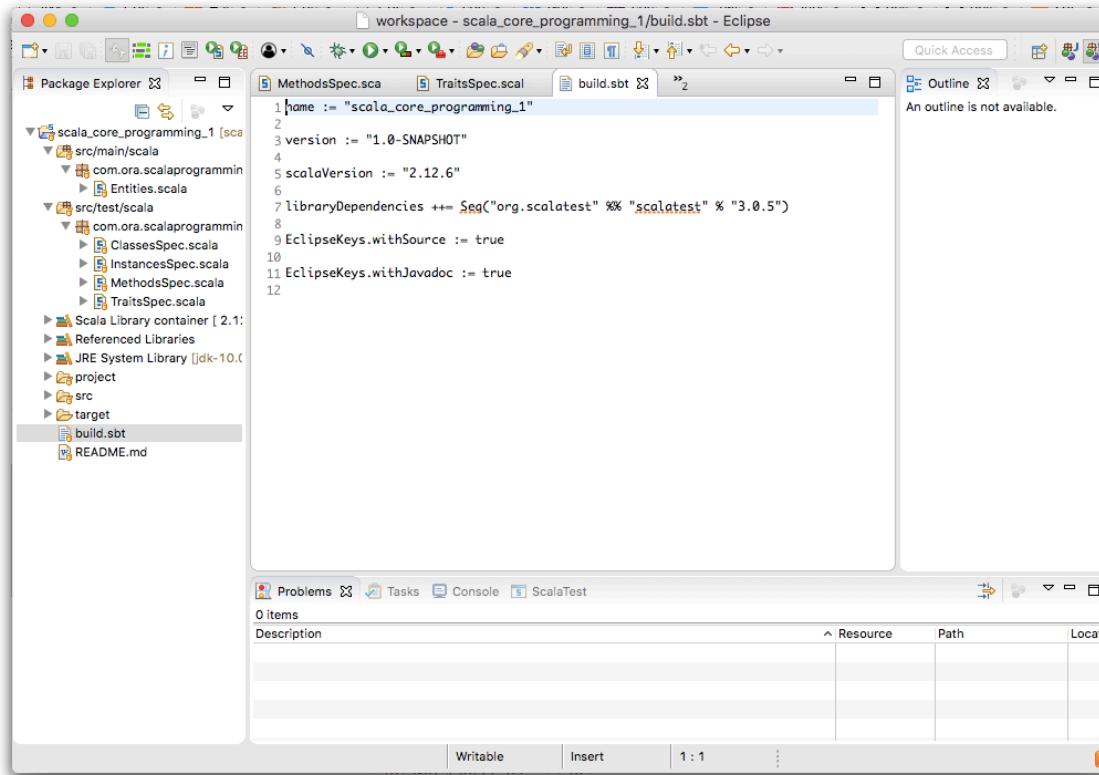
File > Import Project >  
Select Existing Projects Into Workspace > Next

# Select Root Directory



Select the Root Directory of the Project using Browse,  
Ensure that the Project is Found, hit Finish

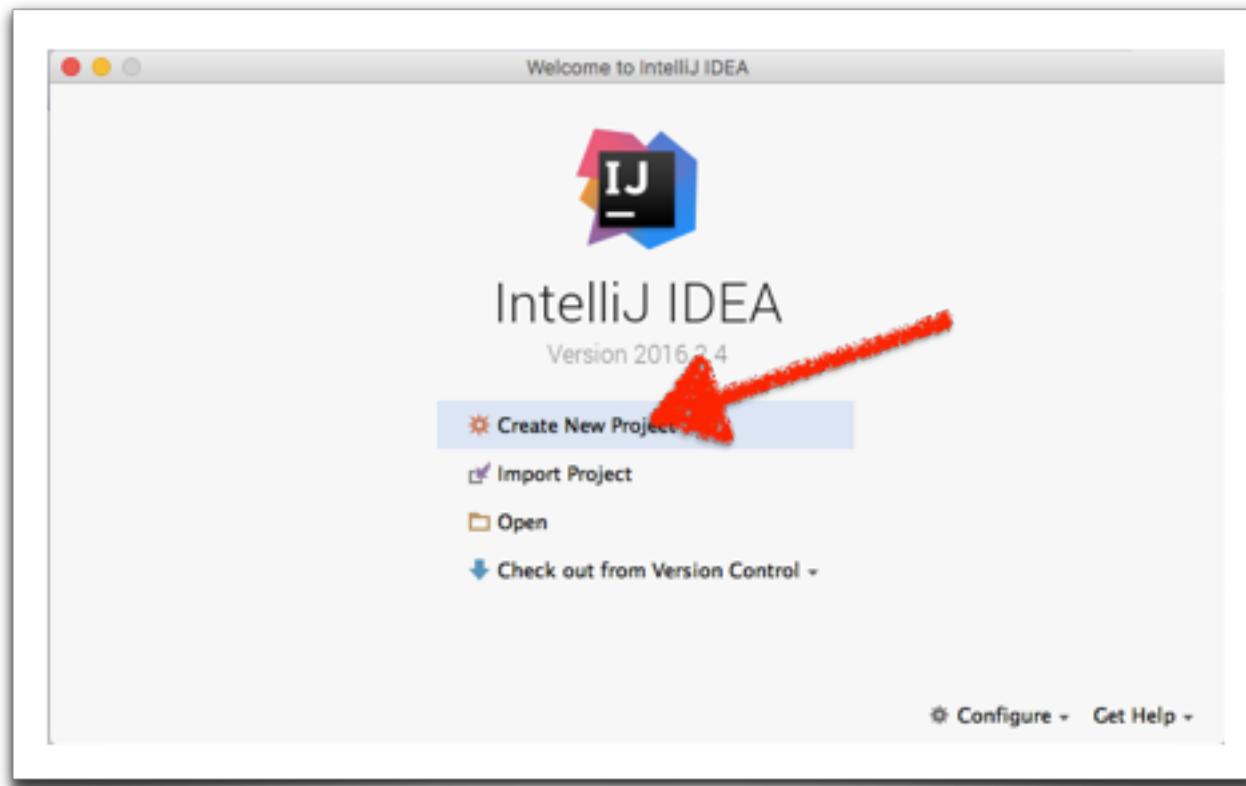
# Project is now ready



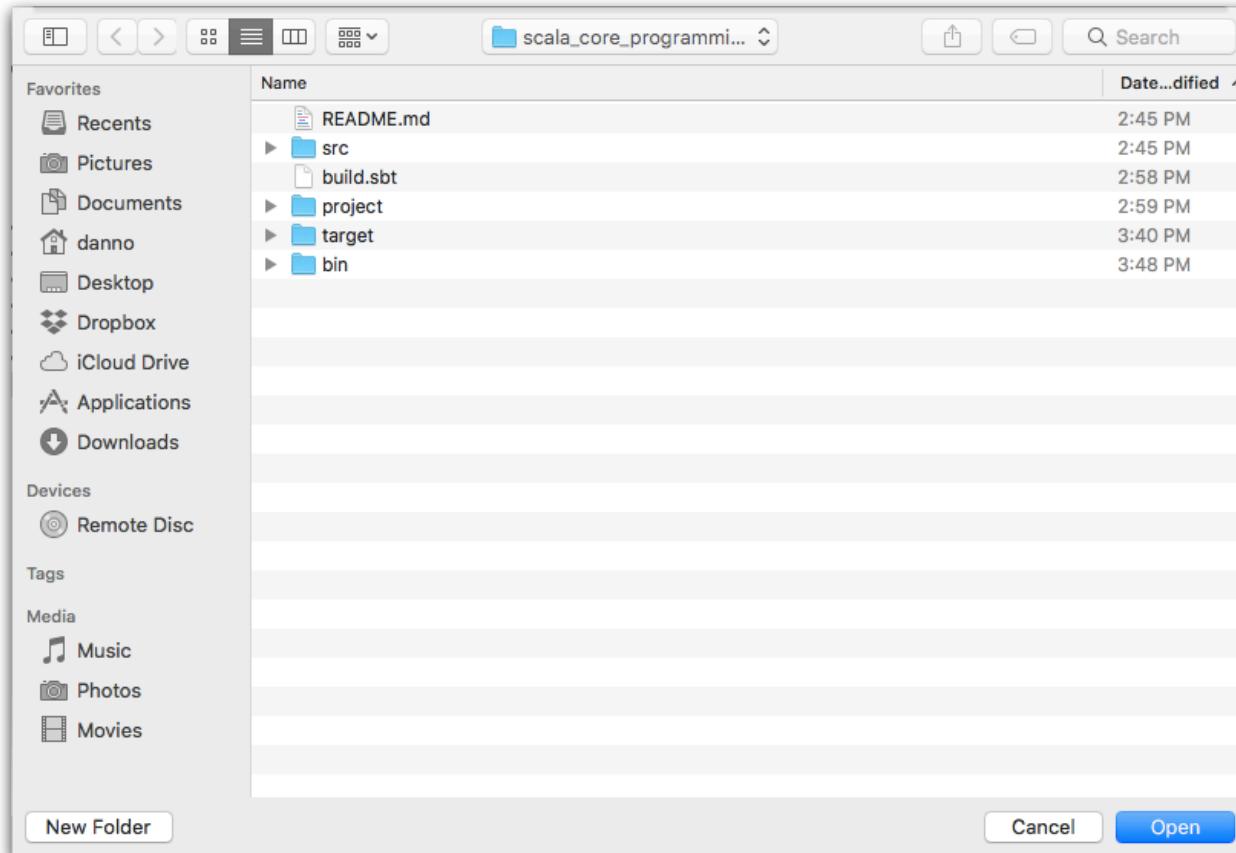
Select the Root Directory of the Project using Browse,  
Ensure that the Project is Found, hit Finish

# Setup for IntelliJ

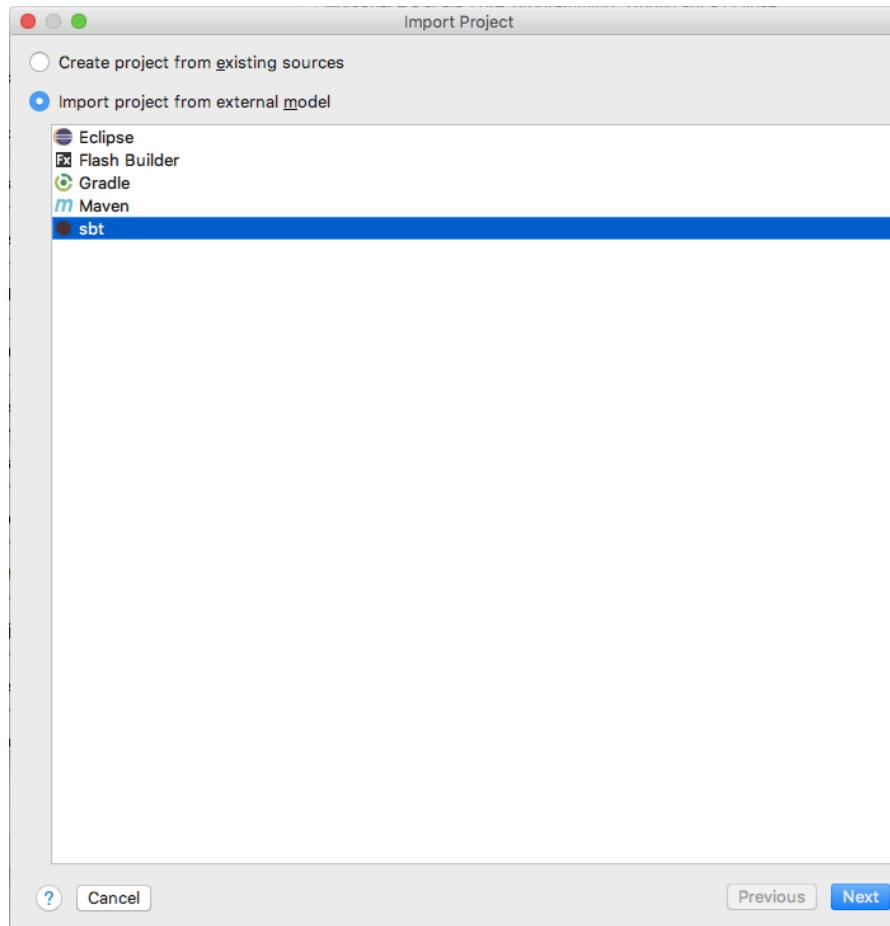
# From IntelliJ Intro Screen, or from the splash screen, select Import Project



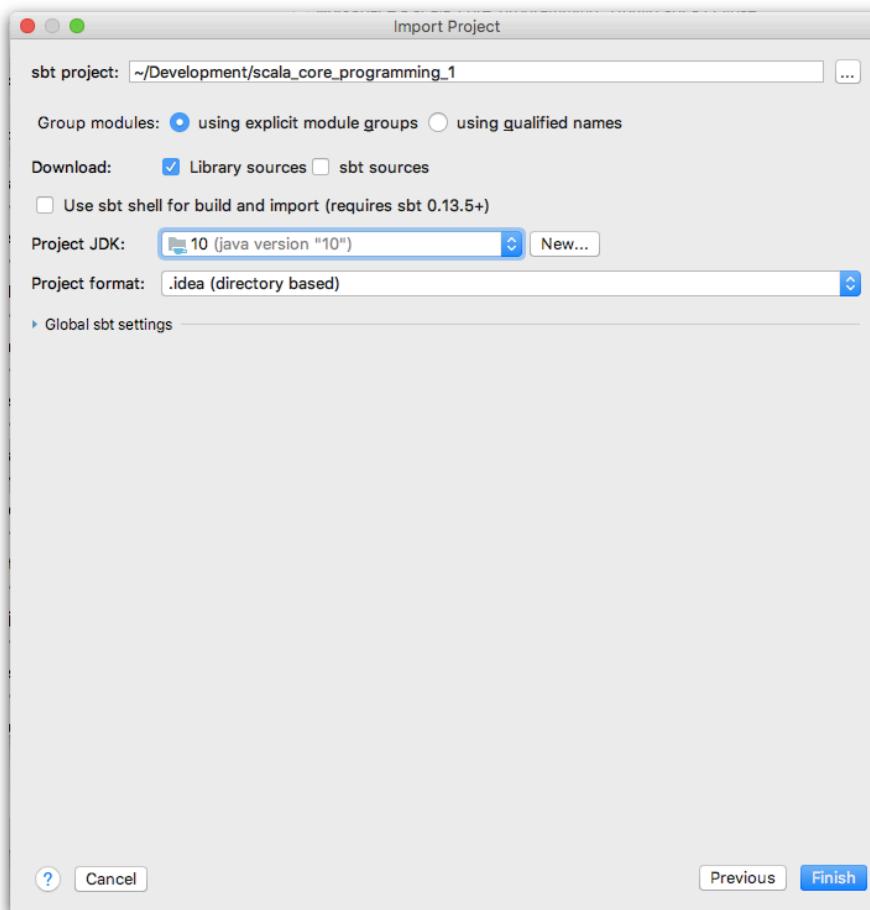
# Locate the `scala_core_programming_1` project and click “Open”



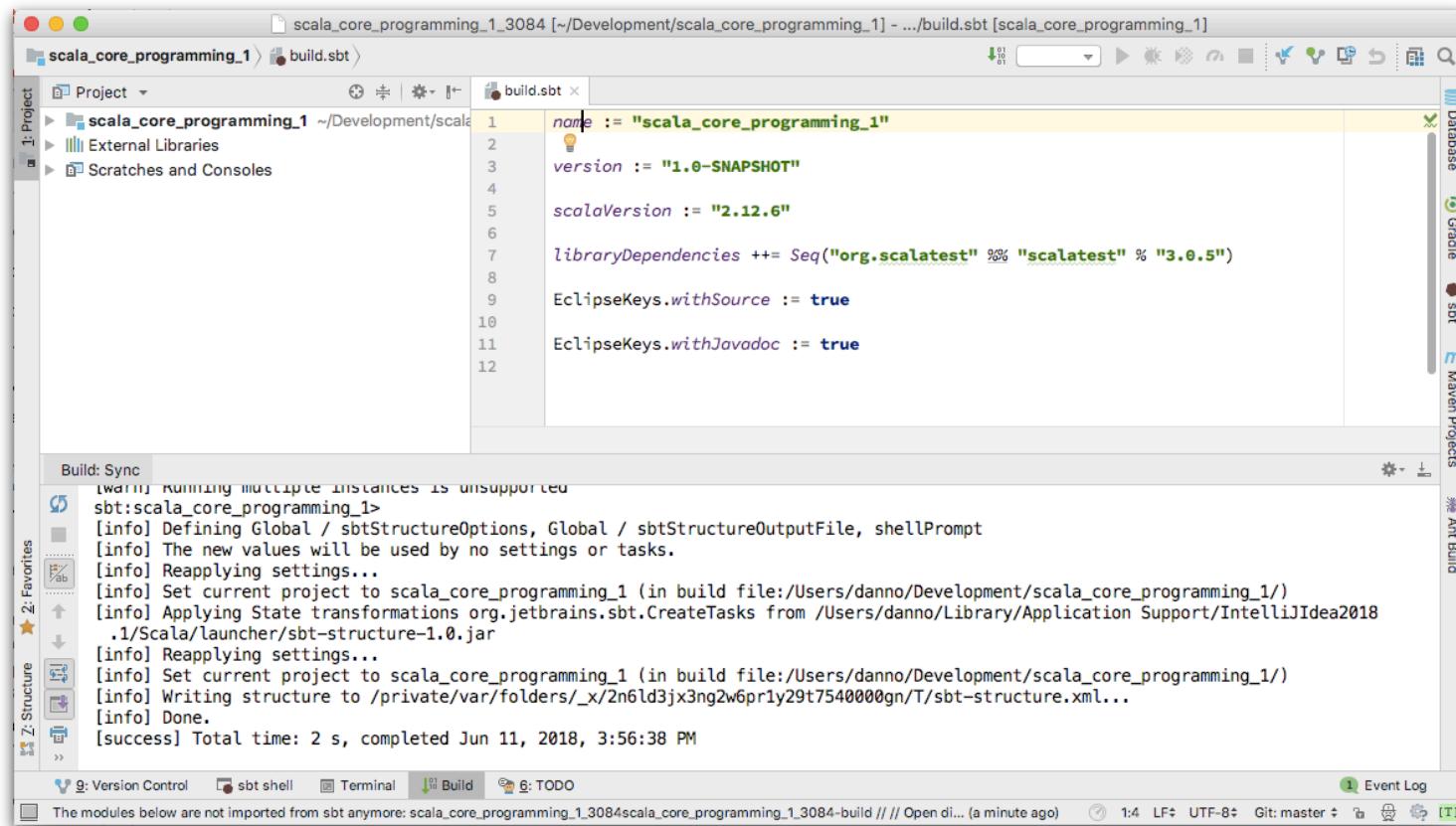
# Select SBT as your external model and hit ‘Next’



Select which JDK you wish to use, keep the rest using a default, click ‘Finish’



# Project is now ready...



The screenshot shows the IntelliJ IDEA interface with a Scala project named "scala\_core\_programming\_1". The left sidebar displays the project structure with "External Libraries" and "Scratches and Consoles". The main editor window shows the "build.sbt" file content:

```
1 name := "scala_core_programming_1"
2
3 version := "1.0-SNAPSHOT"
4
5 scalaVersion := "2.12.6"
6
7 libraryDependencies ++= Seq("org.scalatest" %% "scalatest" % "3.0.5")
8
9 EclipseKeys.withSource := true
10
11 EclipseKeys.withJavadoc := true
```

The bottom pane shows the "Build: Sync" log output:

```
lwd[1] Running multiple instances is unsupported
sbt:scala_core_programming_1>
[info] Defining Global / sbtStructureOptions, Global / sbtStructureOutputFile, shellPrompt
[info] The new values will be used by no settings or tasks.
[info] Reapplying settings...
[info] Set current project to scala_core_programming_1 (in build file:/Users/danno/Development/scala_core_programming_1/)
[info] Applying State transformations org.jetbrains.sbt.CreateTasks from /Users/danno/Library/Application Support/IntelliJIdea2018
.1/Scala/launcher/sbt-structure-1.0.jar
[info] Reapplying settings...
[info] Set current project to scala_core_programming_1 (in build file:/Users/danno/Development/scala_core_programming_1/)
[info] Writing structure to /private/var/folders/_x/2n6ld3jx3ng2w6pr1y29t754000gn/T/sbt-structure.xml...
[info] Done.
[success] Total time: 2 s, completed Jun 11, 2018, 3:56:38 PM
```

The status bar at the bottom indicates: "The modules below are not imported from sbt anymore: scala\_core\_programming\_1\_3084scala\_core\_programming\_1\_3084-build // Open di... (a minute ago)".

# Methods, Classes, Instances, Traits

# Thank You