Unit Testing in Scala

SETTING UP THE PROJECT

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Agenda

- Why testing?
- Why ScalaTest?
- Course prerequisites
- How course is structured?
- Setup course project locally
- Overview of course project

Why Testing?

Benefits of Writing Tests

Attest correctness

Safety net during refactor

Code documentation

Communication with stakeholders

Why ScalaTest?

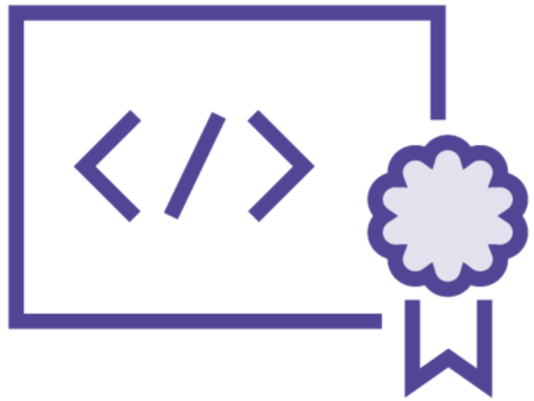
Popular Scala Testing Libraries

uTest

specs2

ScalaTest

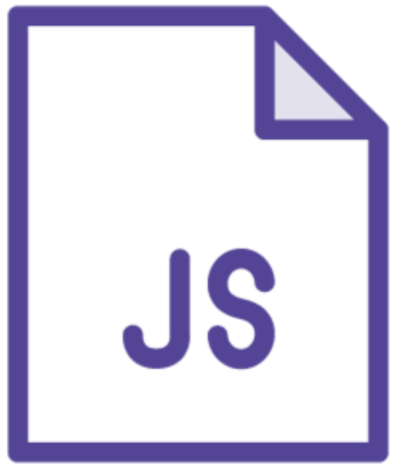
Why ScalaTest - License



Apache License 2.0

Why ScalaTest - What You Can Test

Scala



ScalaJS

Java

Why ScalaTest - Libraries You Can Integrate

Junit

TestNg

ScalaCheck

Why ScalaTest - Build Tools

Ant

Maven

sbt

Why ScalaTest - Mocking Libraries

JMock

EasyMock

Mockito

ScalaMock

Why ScalaTest - Developer Tools

Eclipse

NetBeans

Intellij IDEA

Why ScalaTest - Testing Styles

08

Testing Styles

xUnit

BDD

RSpec

PropSpec

Why ScalaTest - Most Used

Akka

sbt

What You Will Learn from This Course

What You Will Learn

ScalaTest fundamentals - *Test vs Suite*

Adding ScalaTest to project

Using *FlatSpec* **style for testing**

Using *Assertions* **for testing**

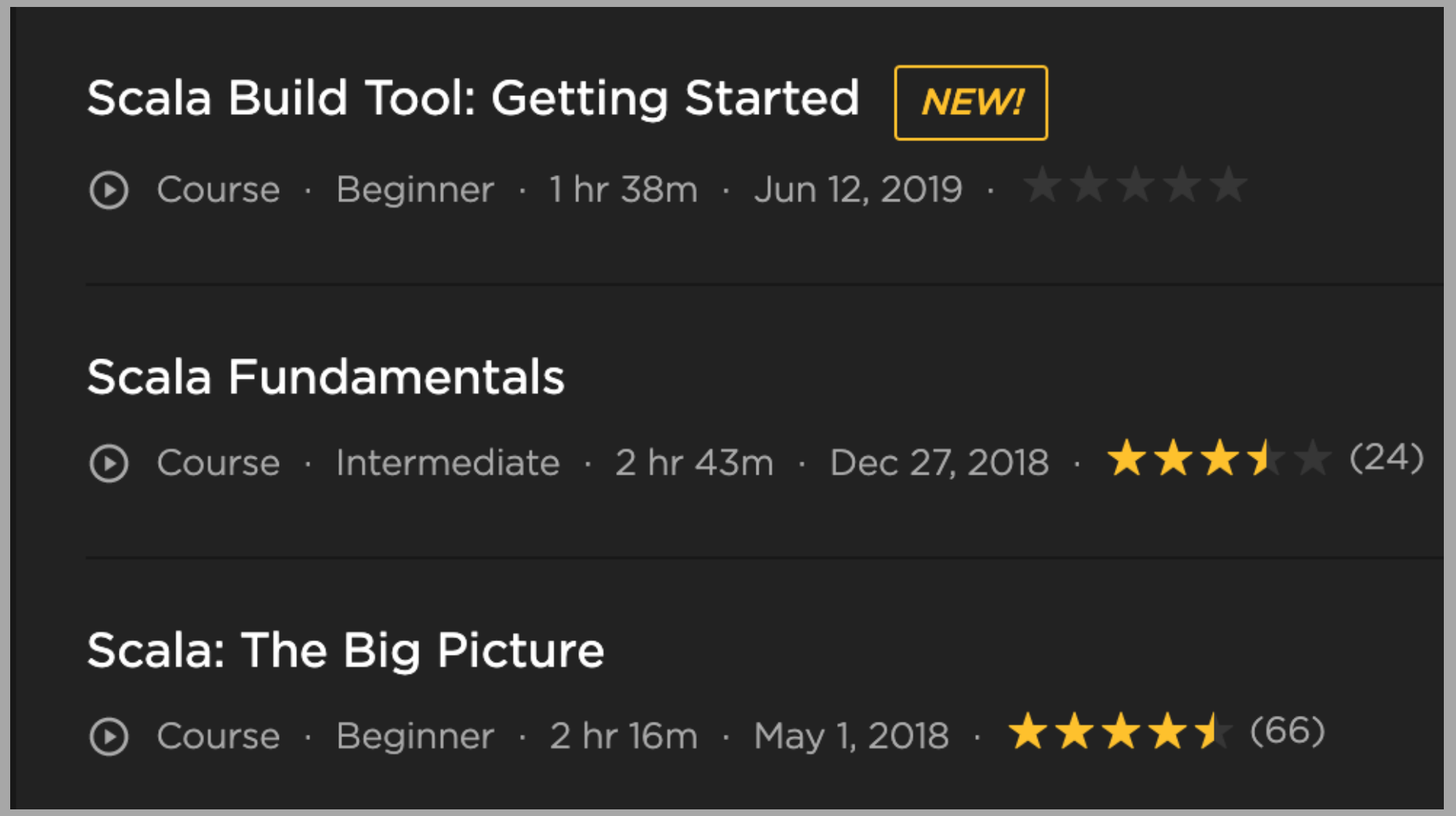
Using *Matcher DSL* **for testing**

Tagging **tests**

Mocking **tests using ScalaMock**

Course Prerequisites

Learning Prerequisites



Logistical Prerequisites

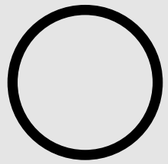
git

Java

Scala

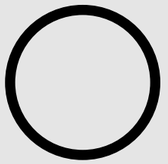
sbt

How Course Is Structured



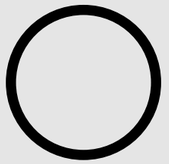
Fundamentals

Module 03



Assertions

Module 04

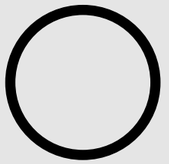


Matchers

Module 05

Fixtures/
Asynchronous

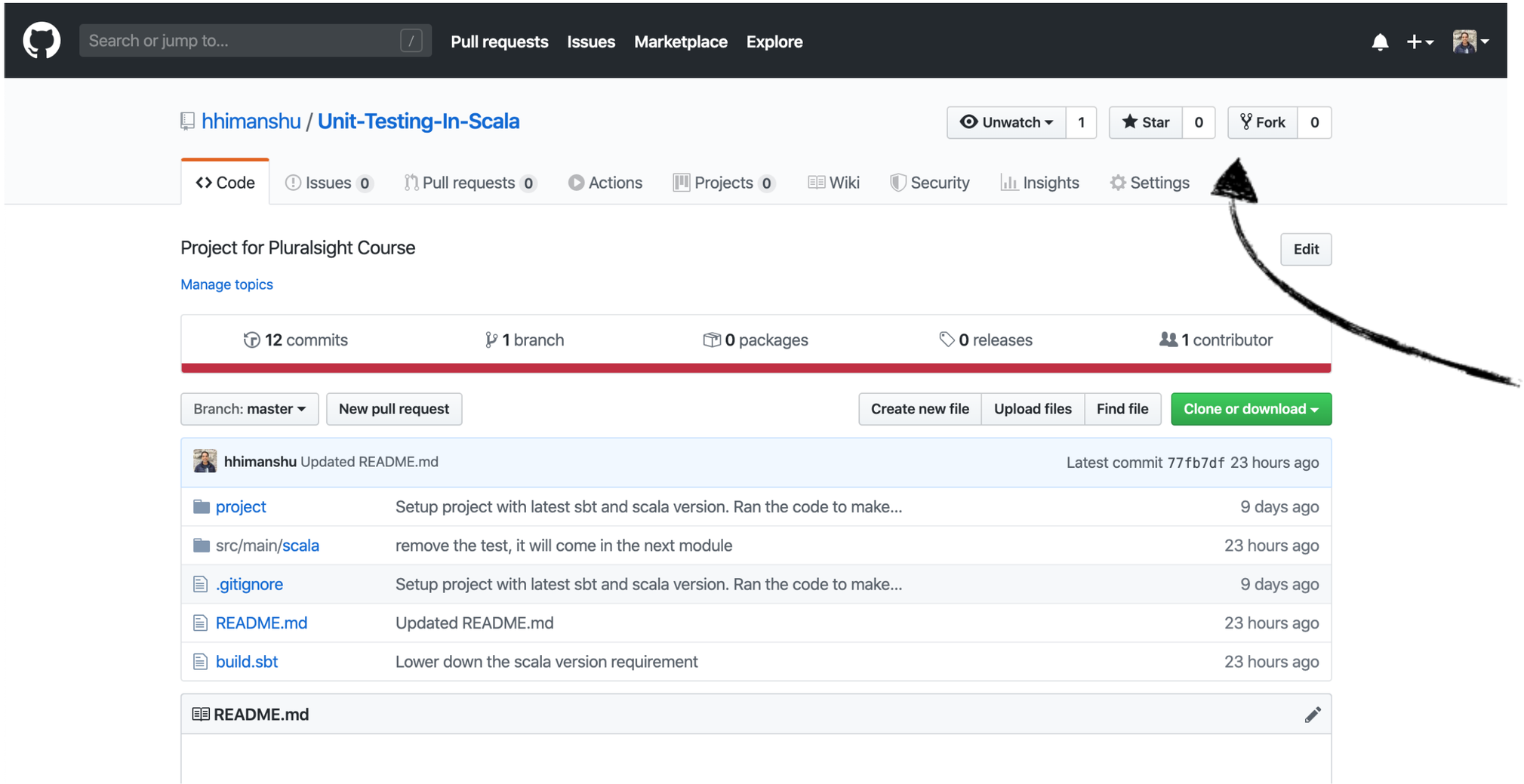
Module 06



Mocking/
Tagging

Module 07

How to Access Project Source Code



fork the repo

https://github.com/hhimanshu/Unit-Testing-In-Scala

Clone the Repository

```
git clone git@github.com:<username>/Unit-Testing-In-Scala.git
```

Verify

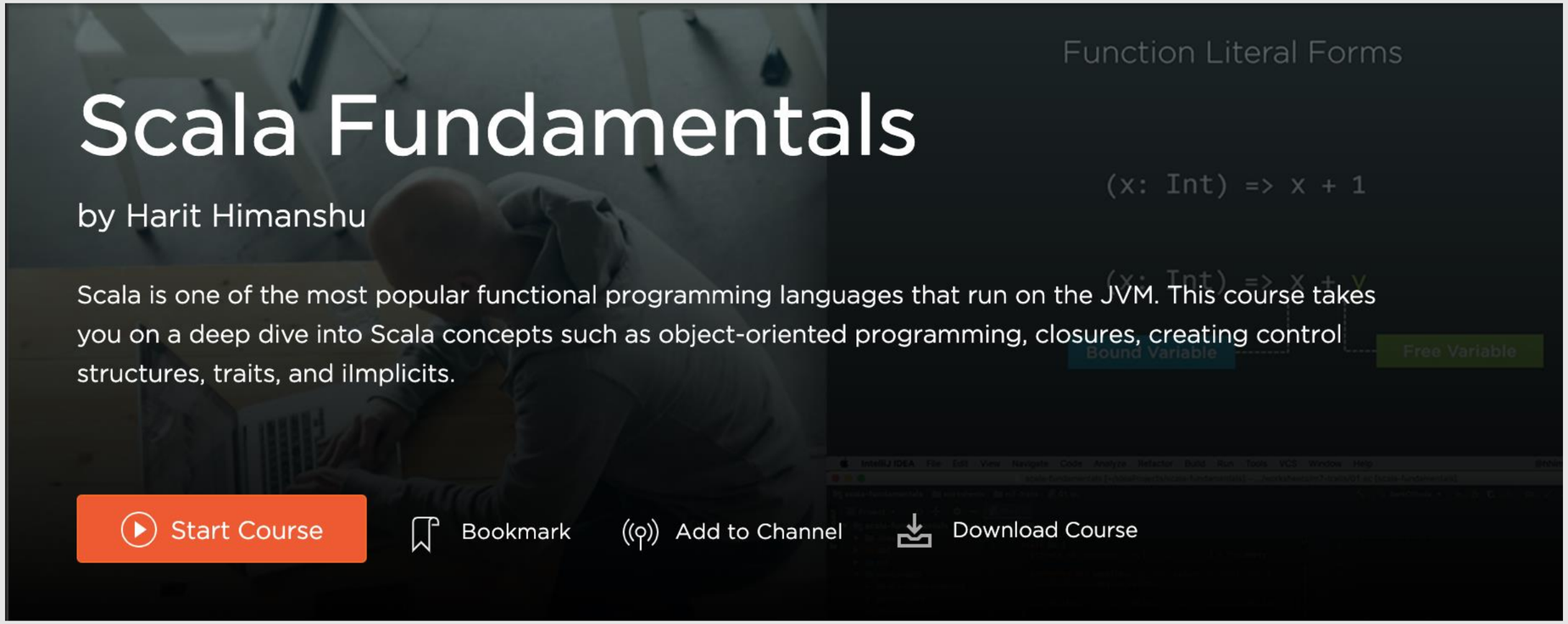
```
cd Unit-Testing-In-Scala

sbt “runMain BankOfScala”
```

Verify

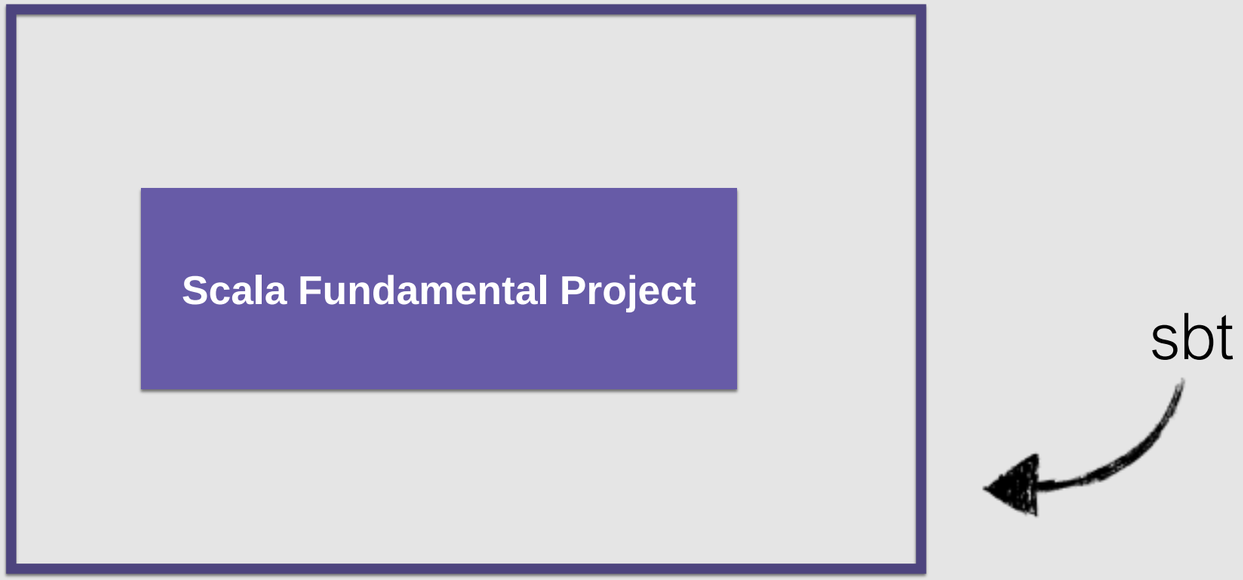
```
-------------------------------------------------------------------------------
Requesting Currency
Cost of converting 120.0 USD -> 175 NZD
Withdrawn $175 from 29d5f98f-d7c4-4277-832c-88e1ab22d3f6 -> Bob,Martin,bob@martin.com with
product=Core Checking has current balance of $10991
The 120.0 USD will be posted to your nearest branch in 2 days.
Cost of converting 100.0 CAD -> 110 NZD
Withdrawn $110 from 29d5f98f-d7c4-4277-832c-88e1ab22d3f6 -> Bob,Martin,bob@martin.com with
product=Student Checking has current balance of $13064
The 100.0 CAD will be posted to your nearest branch in 2 days.
-------------------------------------------------------------------------------
Statistics
-------------------------------------------------------------------------------
Total Money Deposited to Bank: $416559
Total Money Borrowed by Customers: $-88831
Number of Transactions By Account: HashMap(DepositsA -> 62, LendingA -> 20)
[success] Total time: 1 s, completed Nov 30, 2019, 12:14:33 PM
```

Overview of Course Project

A Working Bank

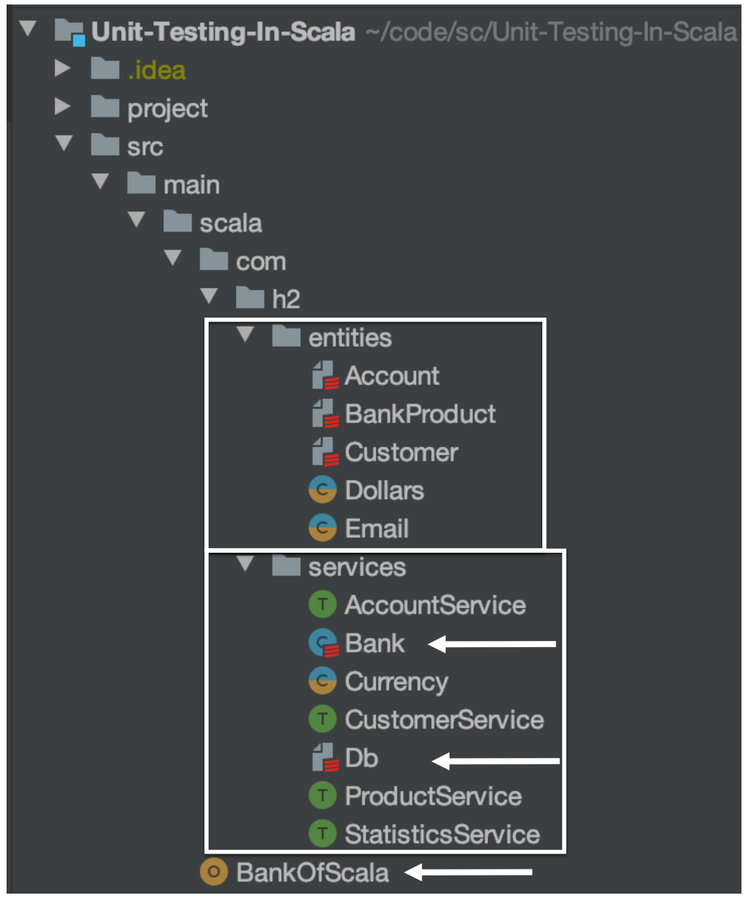


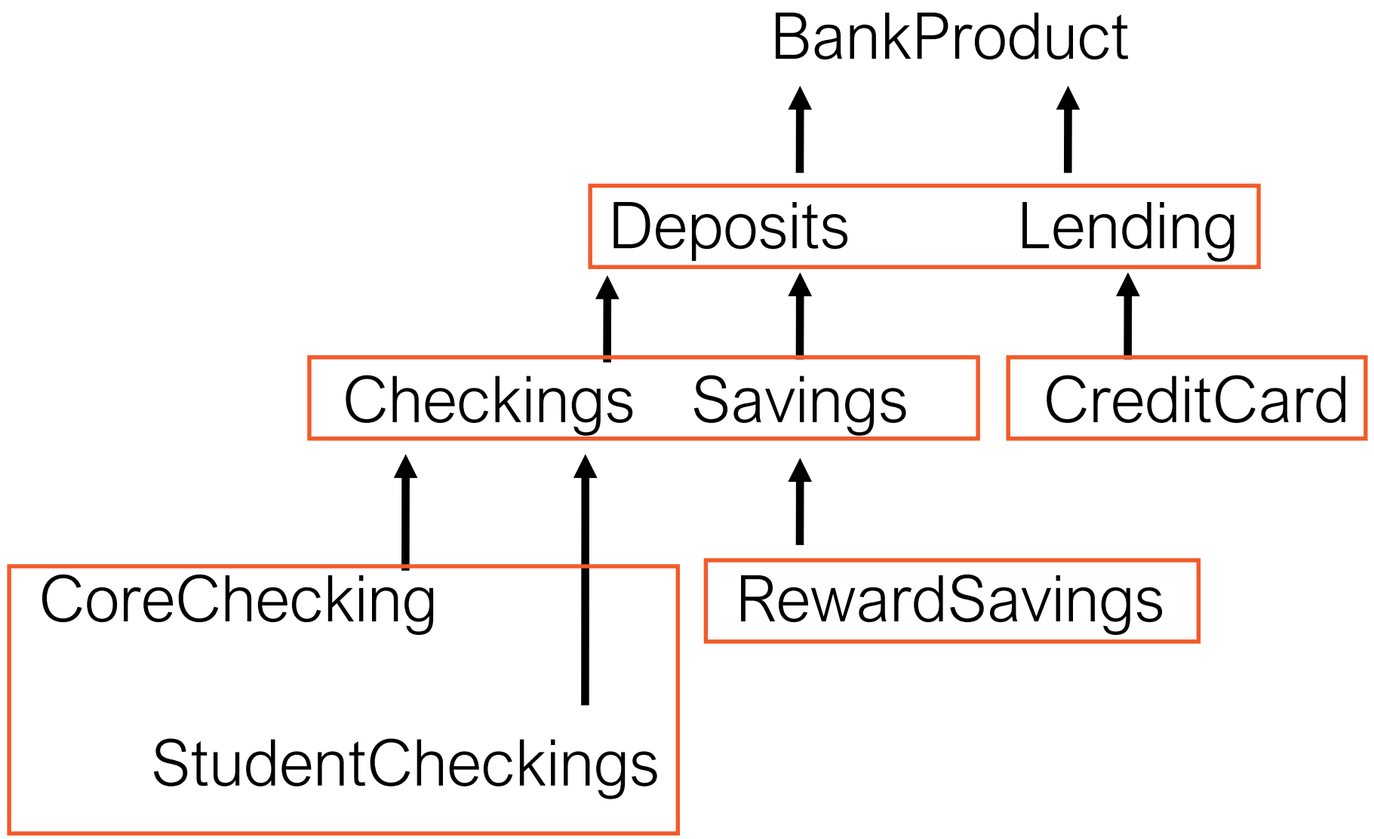
A Working Bank - with sbt



★ Updated Scala and sbt

Course Project Overview





Course Project Overview

Account

Customer

BankProduct

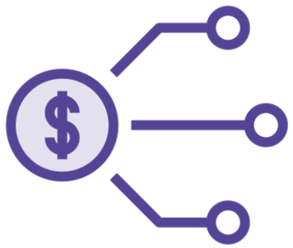
AccountCategory

DepositsA

LendingA

Seq[Transactions]

Course Project Overview



Transaction

Customer

Dollar

Transaction Type

- In
- Out

AccountCategory

- DepositsA
- LendingA

Course Project Overview

CustomerDB

ProductsDB

AccountsDB

CustomerService

ProductService

AccountService

StatisticsService

Currency

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