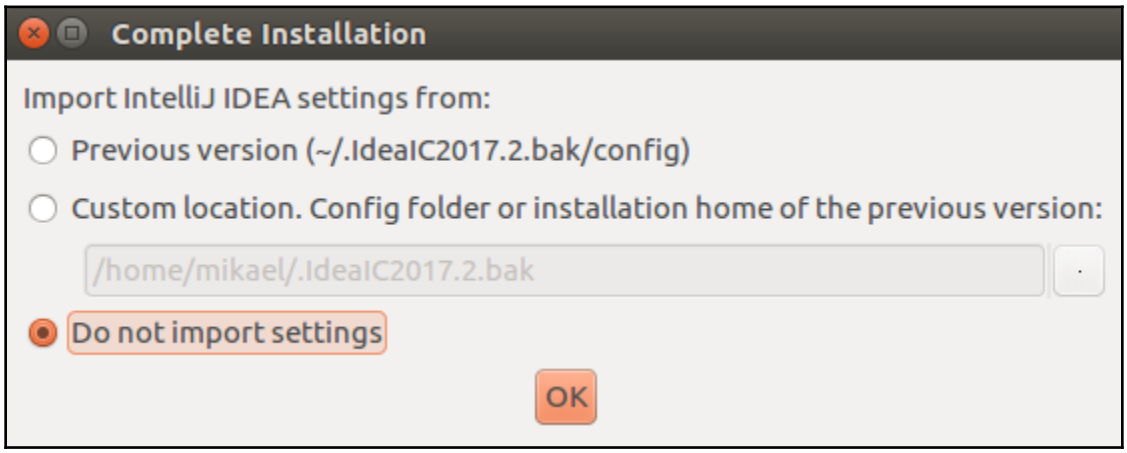
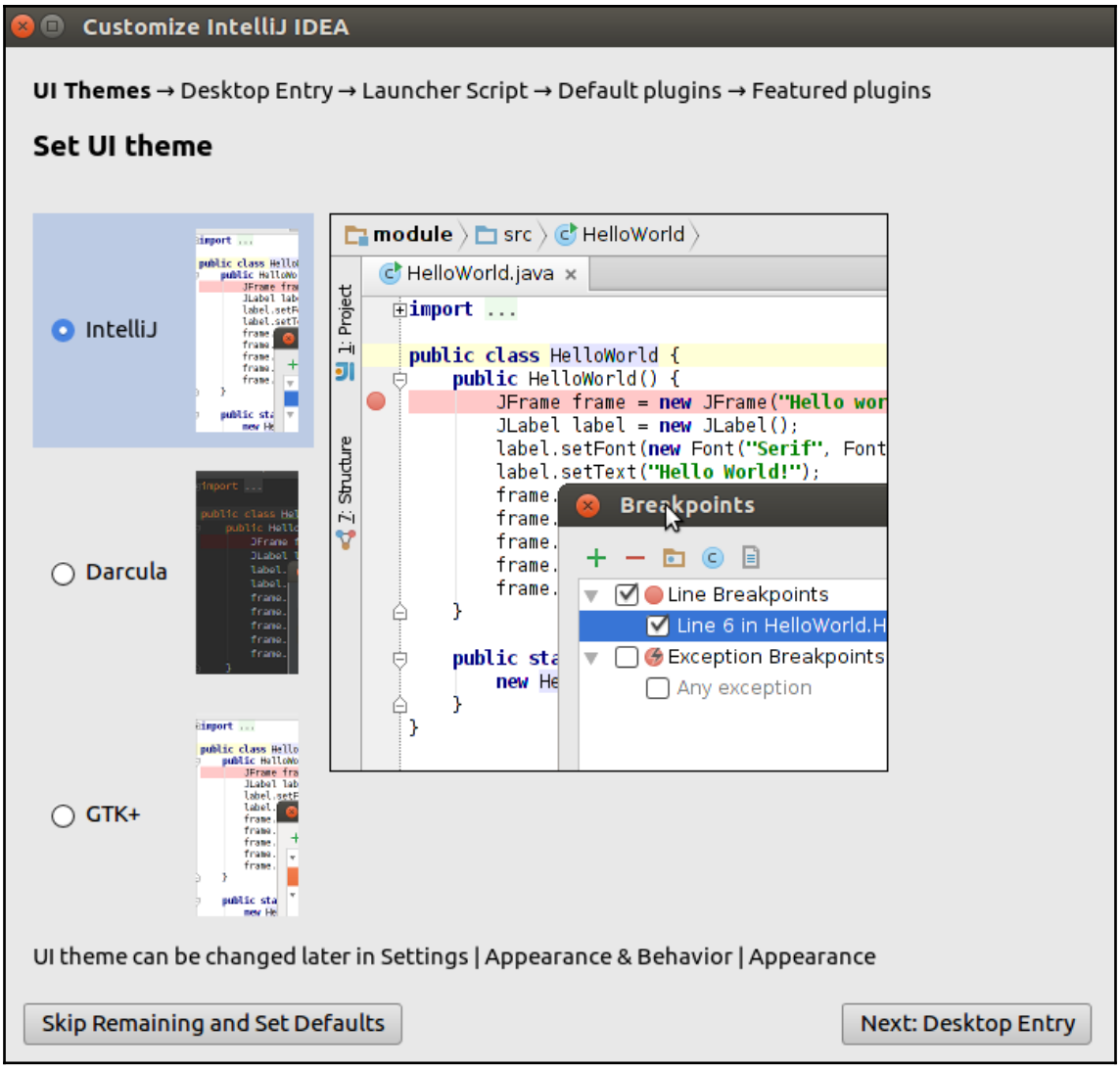
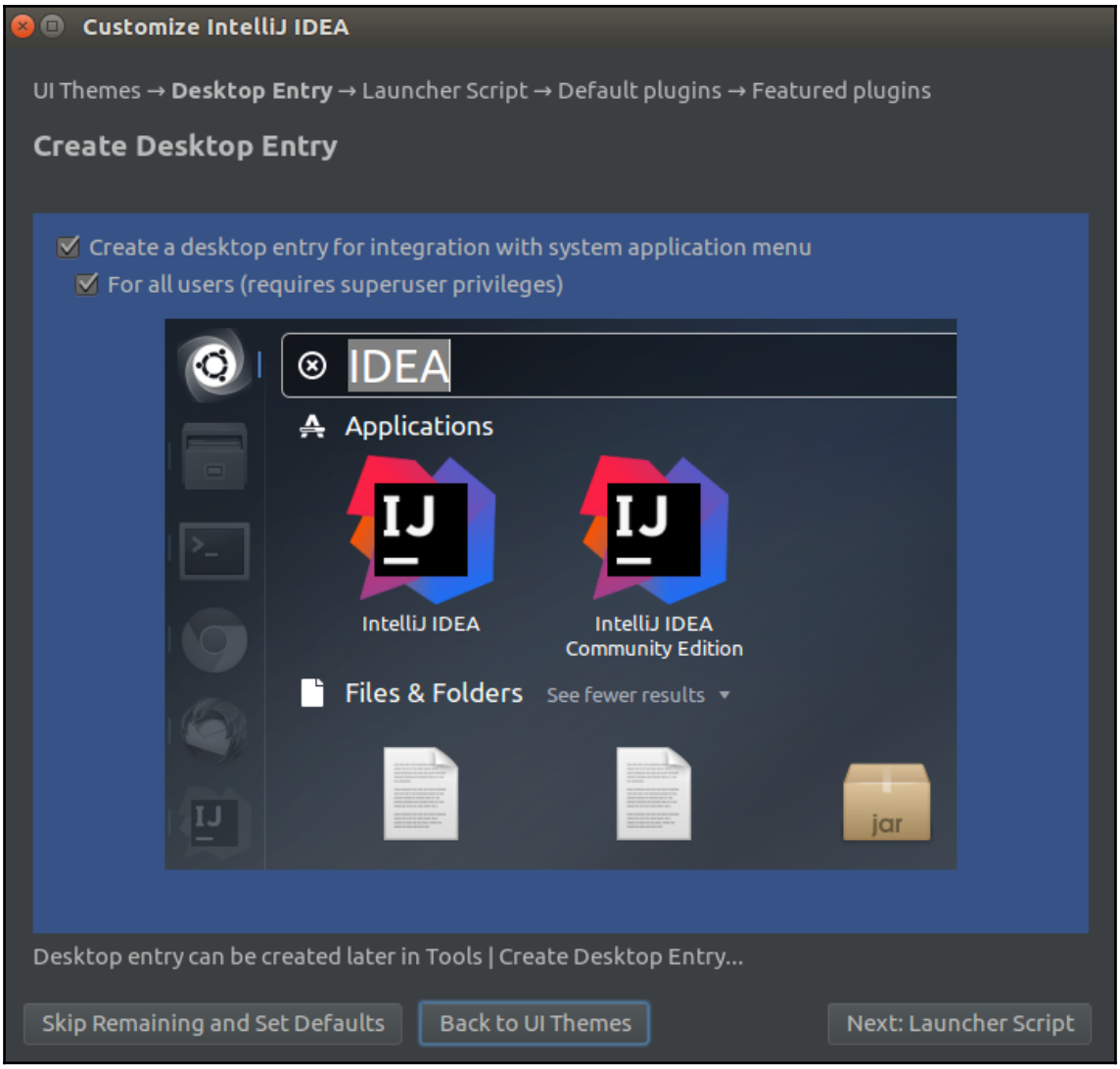
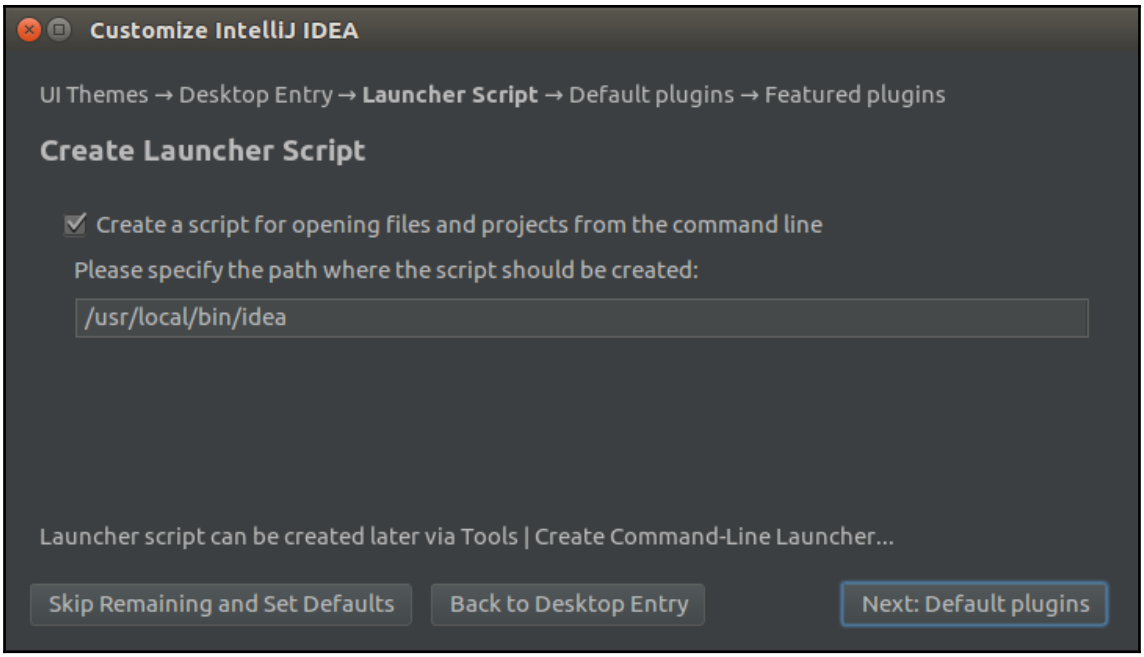
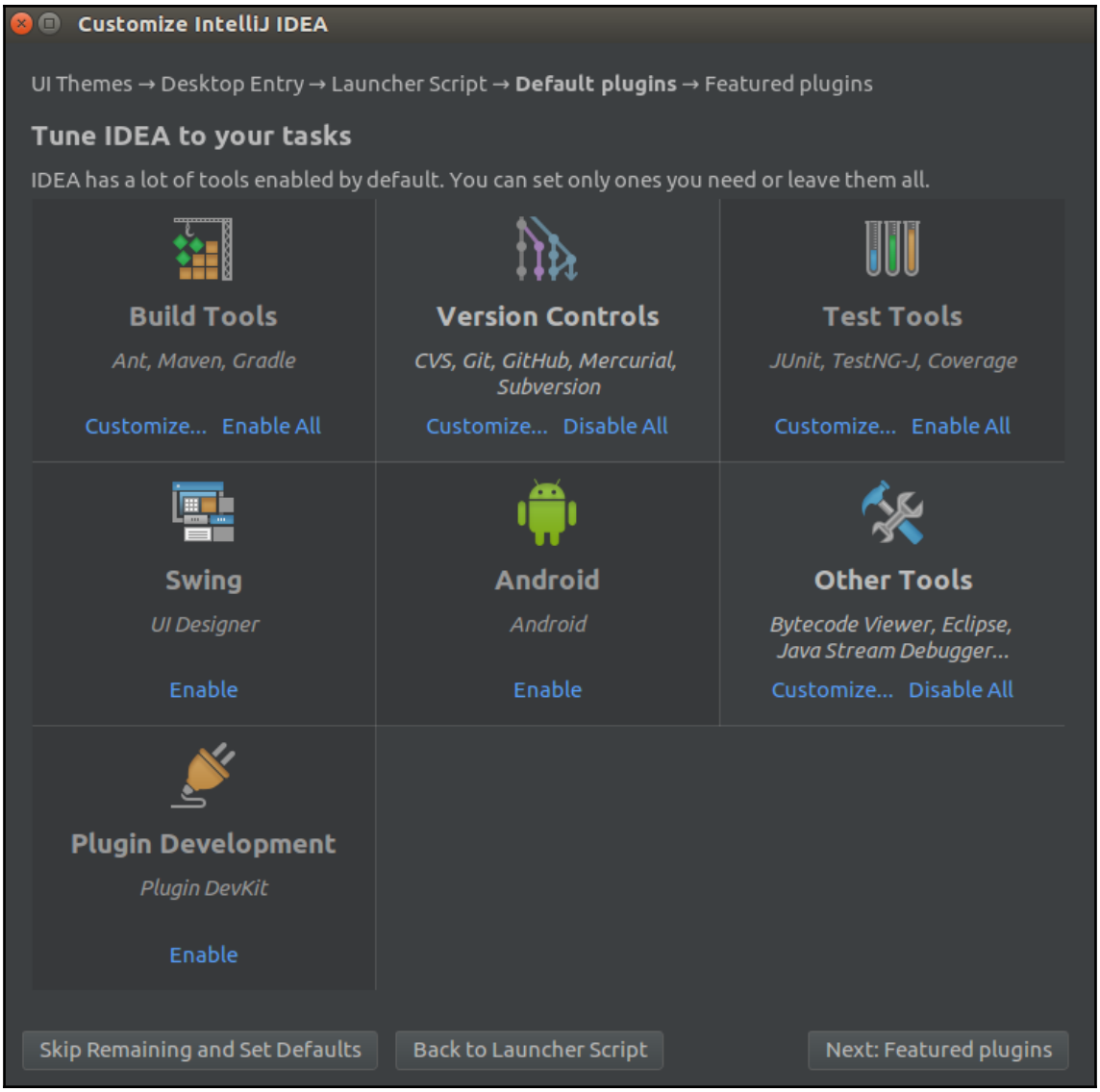
Chapter 1: Writing Your First Program

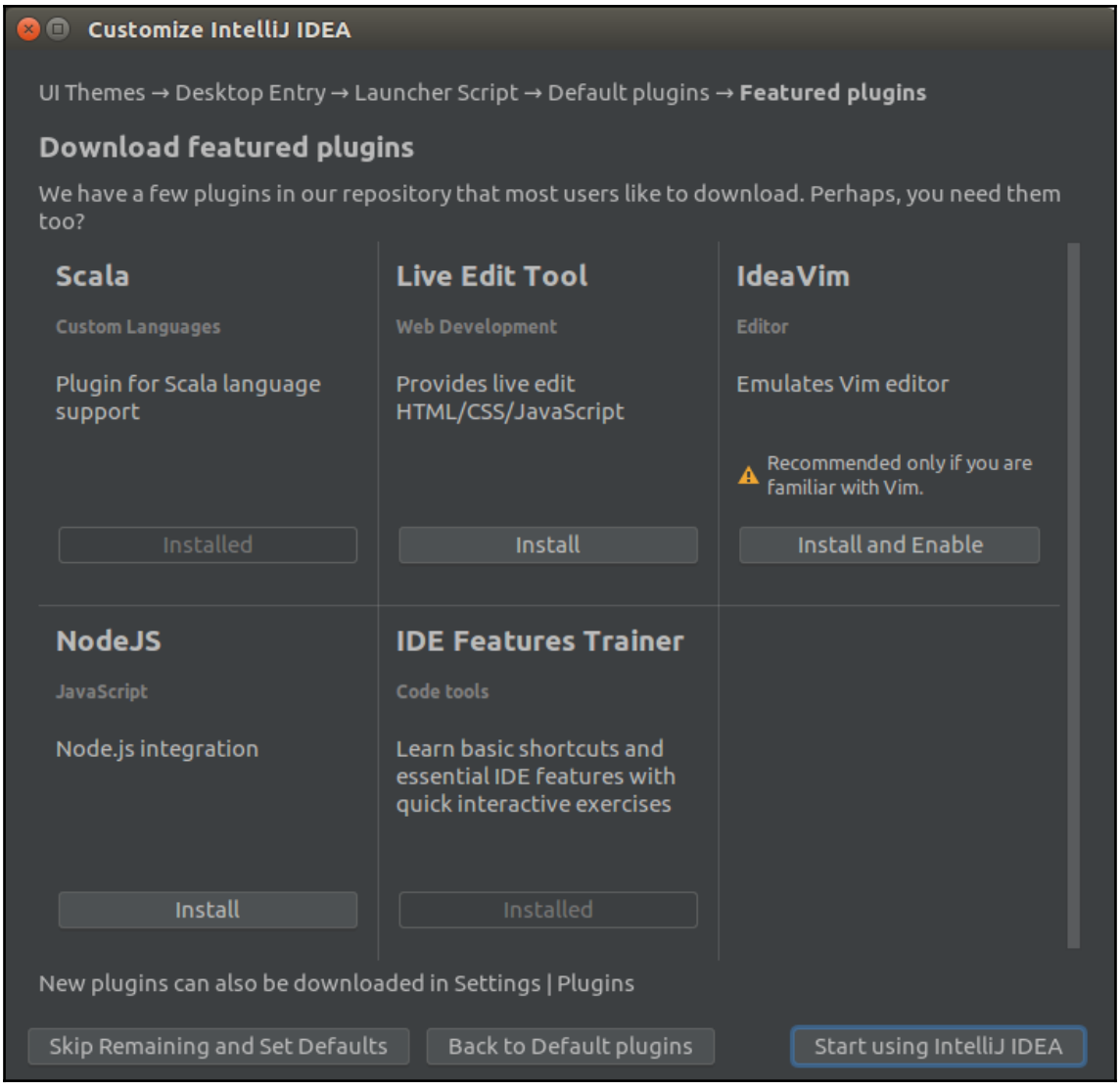



Customize IntelliJ IDEA
UI Themes → Desktop Entry → Launcher Script → Default plugins → Featured plugins
Set UI theme
IntelliJ
Darcula
GTK+
module
src
HelloWorld
HelloWorld.java
1: Project
7: Structure
import ...
public class HelloWorld {
public HelloWorld() {
JFrame frame = new JFrame("Hello wor
JLabel label = new JLabel();
label.setFont(new Font("Serif", Font
label.setText("Hello World!");
Breakpoints
Line Breakpoints
Line 6 in HelloWorld.H
Exception Breakpoints
Any exception
UI theme can be changed later in Settings | Appearance & Behavior | Appearance
Skip Remaining and Set Defaults
Next: Desktop Entry

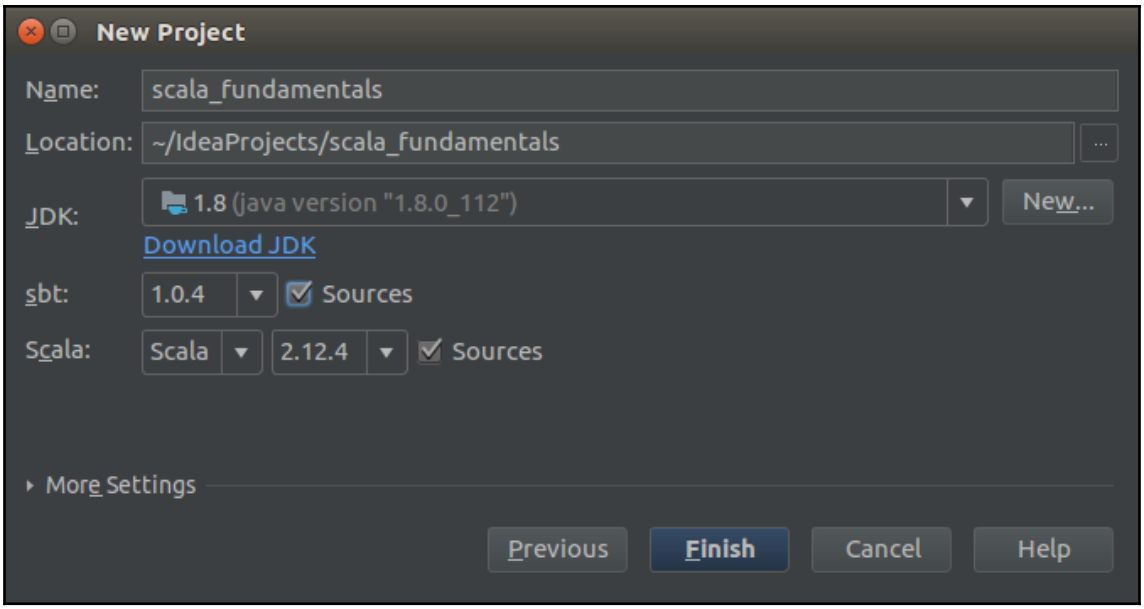

Customize IntelliJ IDEA
UI Themes → Desktop Entry → Launcher Script → Default plugins → Featured plugins
Create Desktop Entry
Create a desktop entry for integration with system application menu
For all users (requires superuser privileges)
IDEA
Applications
IntelliJ IDEA
IntelliJ IDEA Community Edition
Files & Folders
See fewer results
jar
Desktop entry can be created later in Tools | Create Desktop Entry...
Skip Remaining and Set Defaults
Back to UI Themes
Next: Launcher Script

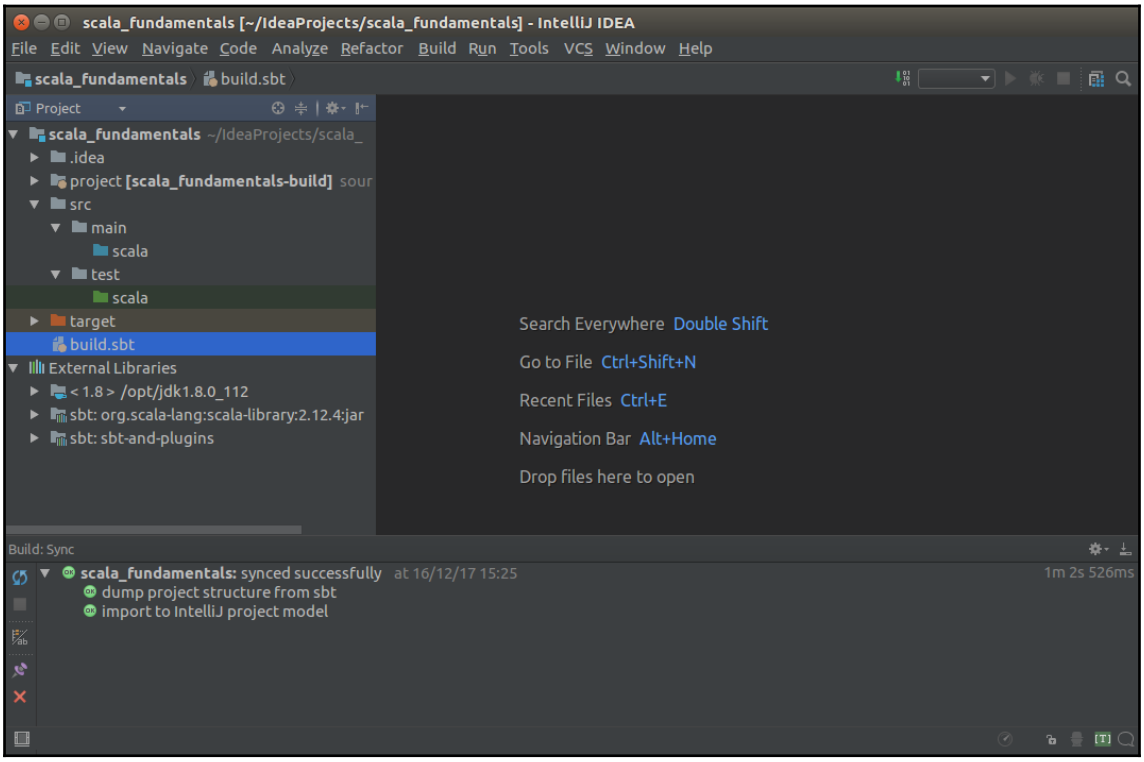

Customize IntelliJ IDEA
UI Themes → Desktop Entry → Launcher Script → Default plugins → Featured plugins
Create Launcher Script
Create a script for opening files and projects from the command line
Please specify the path where the script should be created:
/usr/local/bin/idea
Launcher script can be created later via Tools | Create Command-Line Launcher...
Skip Remaining and Set Defaults
Back to Desktop Entry
Next: Default plugins

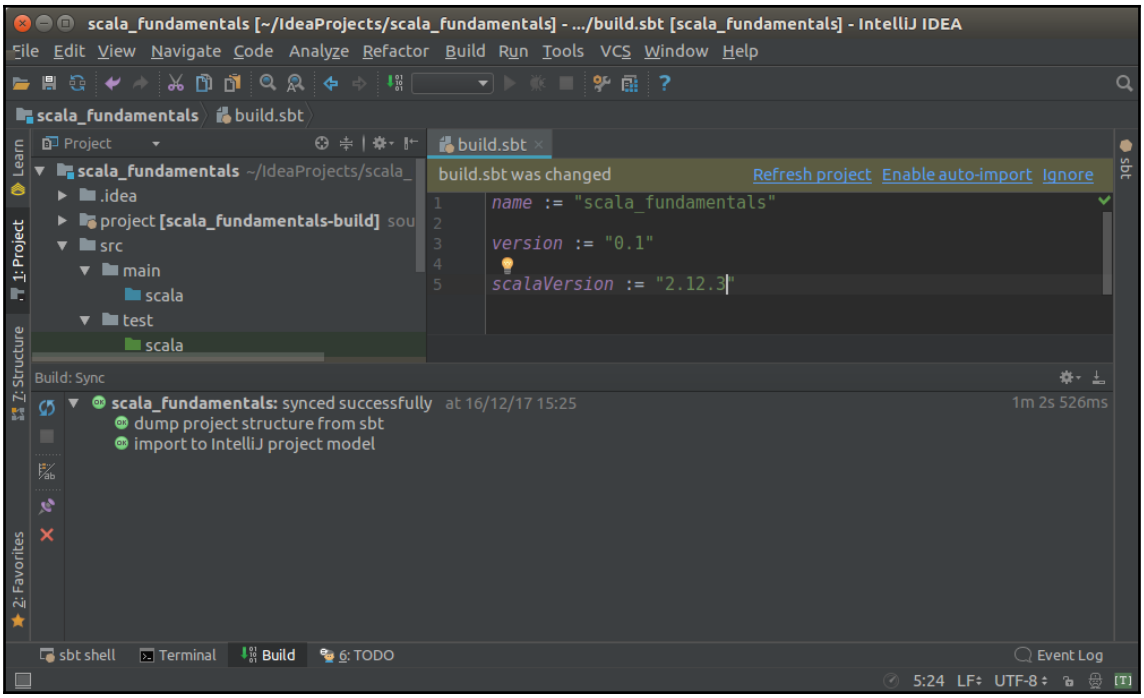

Customize IntelliJ IDEA
UI Themes → Desktop Entry → Launcher Script → Default plugins → Featured plugins
Tune IDEA to your tasks
IDEA has a lot of tools enabled by default. You can set only ones you need or leave them all.
Build Tools
Ant, Maven, Gradle
Customize... Enable All
Version Controls
CVS, Git, GitHub, Mercurial, Subversion
Customize... Disable All
Test Tools
JUnit, TestNG-J, Coverage
Customize... Enable All
Swing
UI Designer
Enable
Android
Android
Enable
Other Tools
Bytecode Viewer, Eclipse, Java Stream Debugger...
Customize... Disable All
Plugin Development
Plugin DevKit
Enable
Skip Remaining and Set Defaults
Back to Launcher Script
Next: Featured plugins

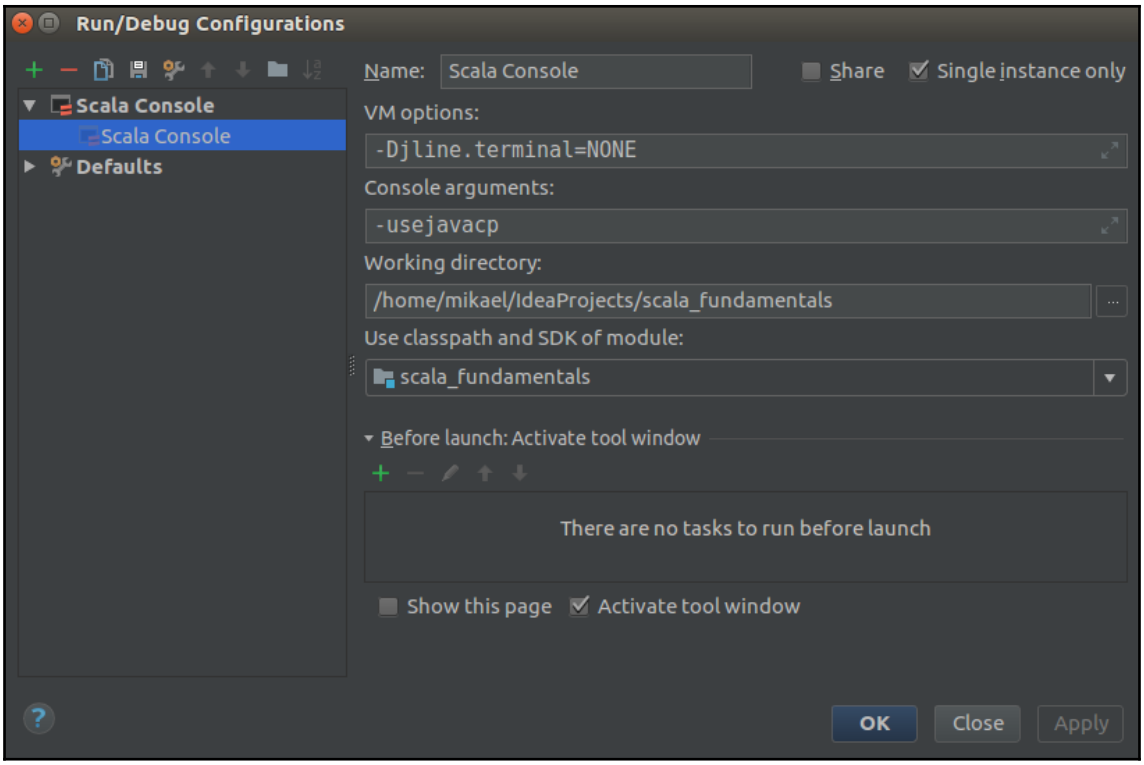

Customize IntelliJ IDEA
UI Themes → Desktop Entry → Launcher Script → Default plugins → Featured plugins
Download featured plugins
We have a few plugins in our repository that most users like to download. Perhaps, you need them too?
Scala
Custom Languages
Plugin for Scala language support
Installed
Live Edit Tool
Web Development
Provides live edit HTML/CSS/JavaScript
Install
IdeaVim
Editor
Emulates Vim editor
Recommended only if you are familiar with Vim.
Install and Enable
NodeJS
JavaScript
Node.js integration
Install
IDE Features Trainer
Code tools
Learn basic shortcuts and essential IDE features with quick interactive exercises
Installed
New plugins can also be downloaded in Settings | Plugins
Skip Remaining and Set Defaults
Back to Default plugins
Start using IntelliJ IDEA

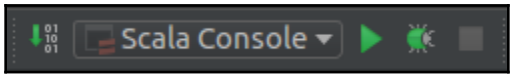

Welcome to IntelliJ IDEA
IJ
IntelliJ IDEA
Version 2017.3.1
Create New Project
Import Project
Open
Check out from Version Control
Learn IntelliJ IDEA
Configure
Get Help

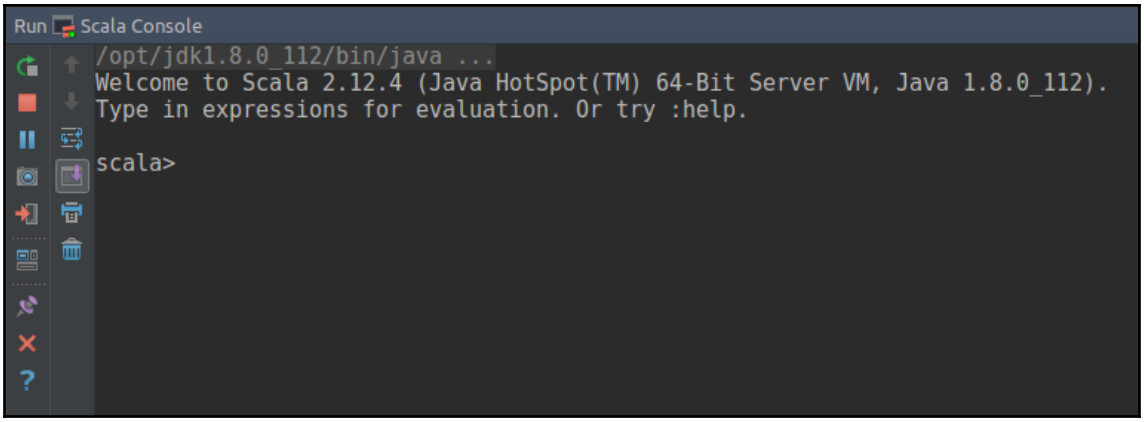

New Project
Name:
scala_fundamentals
Location:
~/IdeaProjects/scala_fundamentals
JDK:
1.8 (java version "1.8.0_112")
New...
Download JDK
sbt:
1.0.4
Sources
Scala:
Scala
2.12.4
Sources
More Settings
Previous
Finish
Cancel
Help

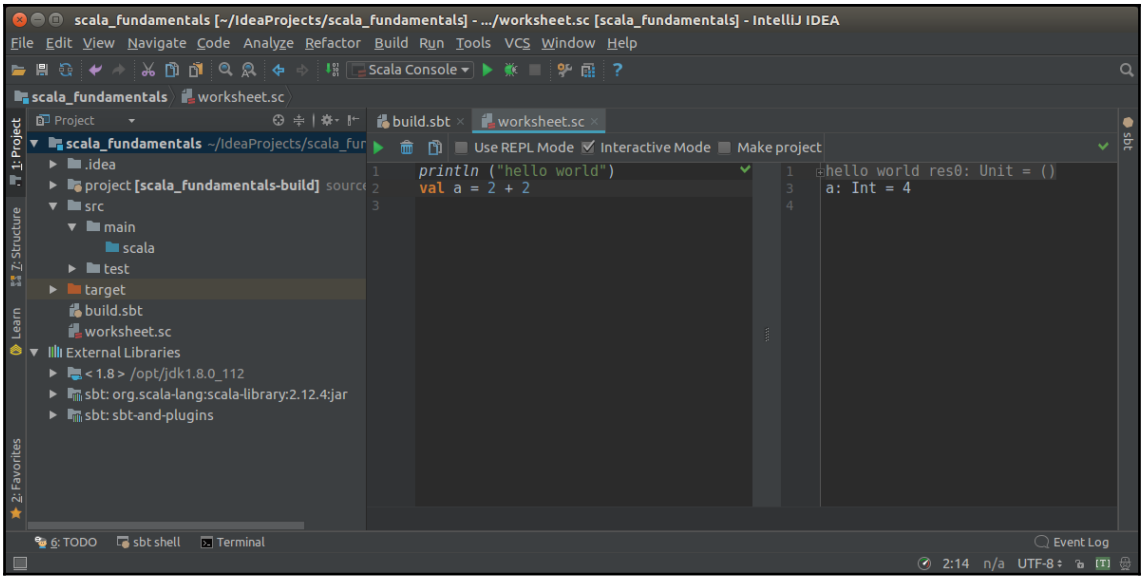

scala_fundamentals [~/IdeaProjects/scala_fundamentals] - IntelliJ IDEA
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
scala_fundamentals
build.sbt
Project
scala_fundamentals ~/IdeaProjects/scala_
.idea
project [scala_fundamentals-build] sour
src
main
scala
test
scala
target
build.sbt
External Libraries
< 1.8 > /opt/jdk1.8.0_112
sbt: org.scala-lang:scala-library:2.12.4:jar
sbt: sbt-and-plugins
Search Everywhere Double Shift
Go to File Ctrl+Shift+N
Recent Files Ctrl+E
Navigation Bar Alt+Home
Drop files here to open
Build: Sync
scala_fundamentals: synced successfully at 16/12/17 15:25
1m 2s 526ms
dump project structure from sbt
import to IntelliJ project model

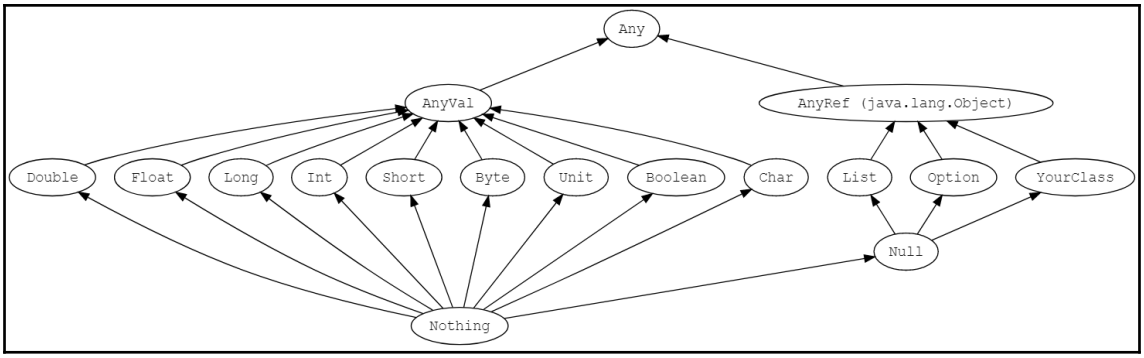

scala_fundamentals [~/IdeaProjects/scala_fundamentals] - .../build.sbt [scala_fundamentals] - IntelliJ IDEA
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
scala_fundamentals
build.sbt
Project
scala_fundamentals ~/IdeaProjects/scala_
.idea
project [scala_fundamentals-build] sou
src
main
scala
test
scala
build.sbt
build.sbt was changed
Refresh project
Enable auto-import
Ignore
1 name := "scala_fundamentals"
2
3 version := "0.1"
4
5 scalaVersion := "2.12.3"
Build: Sync
scala_fundamentals: synced successfully at 16/12/17 15:25
1m 2s 526ms
dump project structure from sbt
import to IntelliJ project model
sbt shell
Terminal
Build
6: TODO
Event Log
5:24 LF UTF-8
Learn
1: Project
7: Structure
2: Favorites
sbt

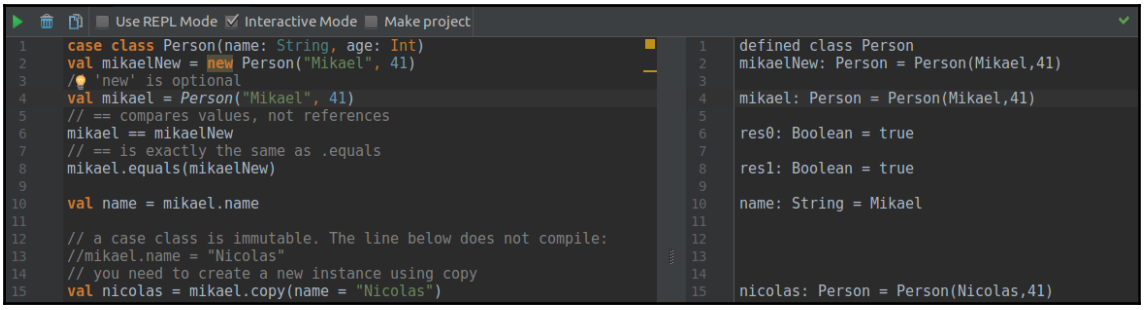

Run/Debug Configurations
Scala Console
Scala Console
Defaults
Name: Scala Console
Share
Single instance only
VM options:
-Djline.terminal=NONE
Console arguments:
-usejavacp
Working directory:
/home/mikael/IdeaProjects/scala_fundamentals
Use classpath and SDK of module:
scala_fundamentals
Before launch: Activate tool window
There are no tasks to run before launch
Show this page
Activate tool window
OK
Close
Apply

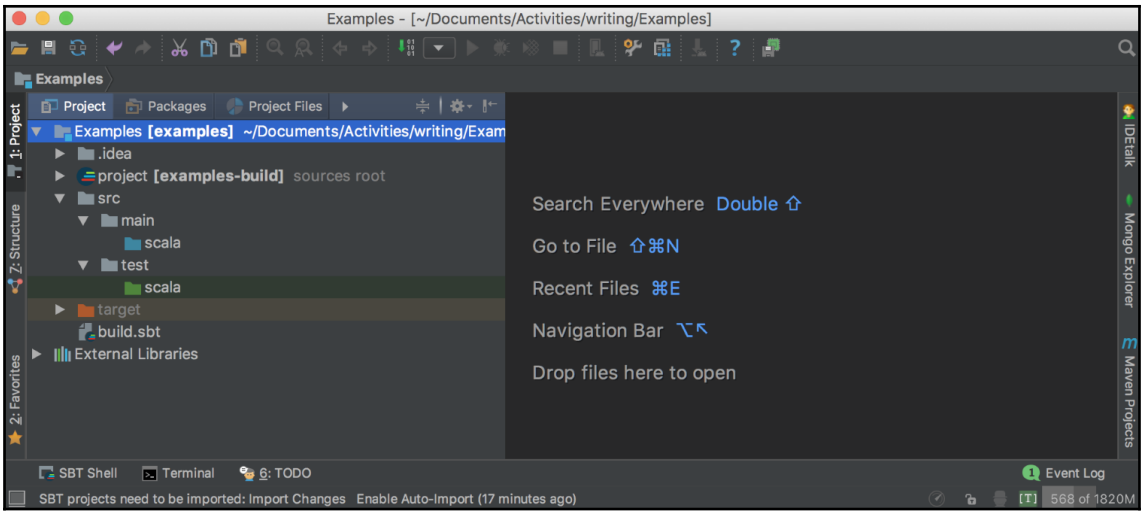

Scala Console

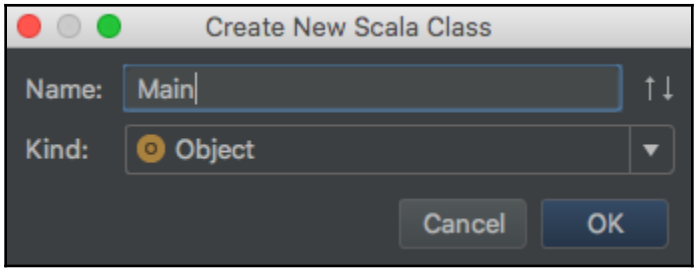

Run
Scala Console
/opt/jdk1.8.0_112/bin/java ...
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_112).
Type in expressions for evaluation. Or try :help.
scala>

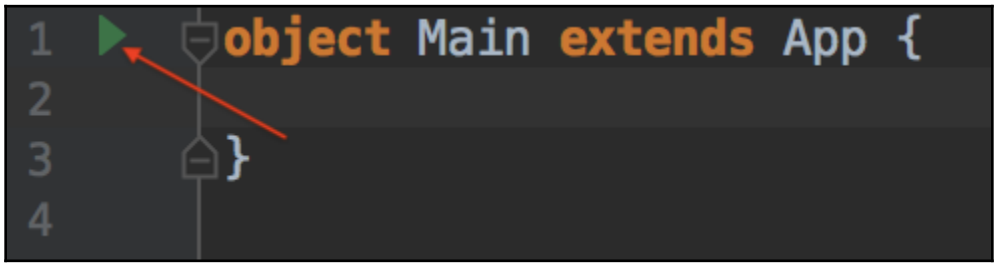

scala_fundamentals [~/IdeaProjects/scala_fundamentals] - .../worksheet.sc [scala_fundamentals] - IntelliJ IDEA
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Scala Console
scala_fundamentals
worksheet.sc
Project
scala_fundamentals ~/IdeaProjects/scala_fur
.idea
project [scala_fundamentals-build]
src
main
scala
test
target
build.sbt
worksheet.sc
External Libraries
< 1.8 > /opt/jdk1.8.0_112
sbt: org.scala-lang:scala-library:2.12.4:jar
sbt: sbt-and-plugins
build.sbt
worksheet.sc
Use REPL Mode
Interactive Mode
Make project
println ("hello world")
val a = 2 + 2
hello world res0: Unit = ()
a: Int = 4
6: TODO
sbt shell
Terminal
Event Log
2:14
n/a
UTF-8

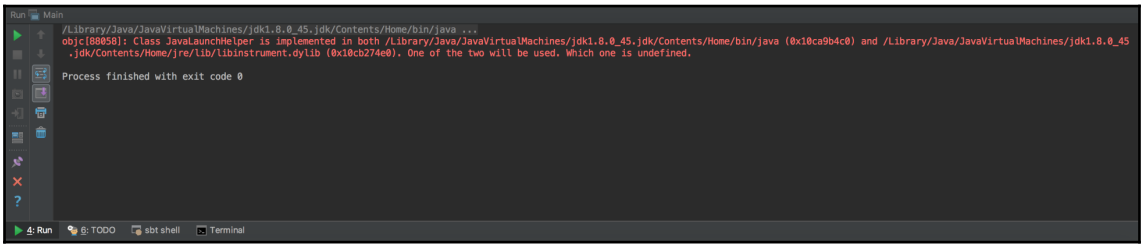

Any
AnyVal
AnyRef (java.lang.Object)
Double
Float
Long
Int
Short
Byte
Unit
Boolean
Char
List
Option
YourClass
Null
Nothing

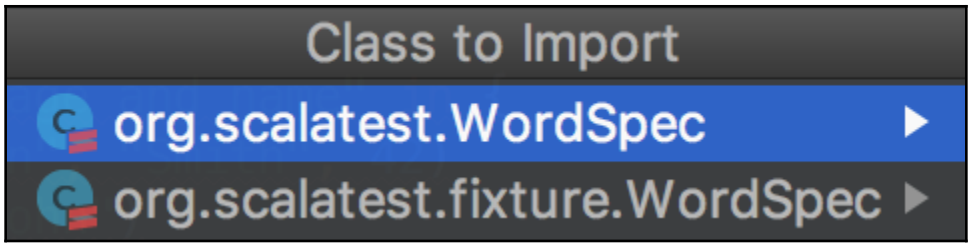

Use REPL Mode
Interactive Mode
Make project
case class Person(name: String, age: Int)
val mikaelNew = new Person("Mikael", 41)
'new' is optional
val mikael = Person("Mikael", 41)
// == compares values, not references
mikael == mikaelNew
// == is exactly the same as .equals
mikael.equals(mikaelNew)
val name = mikael.name
// a case class is immutable. The line below does not compile:
//mikael.name = "Nicolas"
// you need to create a new instance using copy
val nicolas = mikael.copy(name = "Nicolas")
defined class Person
mikaelNew: Person = Person(Mikael,41)
mikael: Person = Person(Mikael,41)
res0: Boolean = true
res1: Boolean = true
name: String = Mikael
nicolas: Person = Person(Nicolas,41)

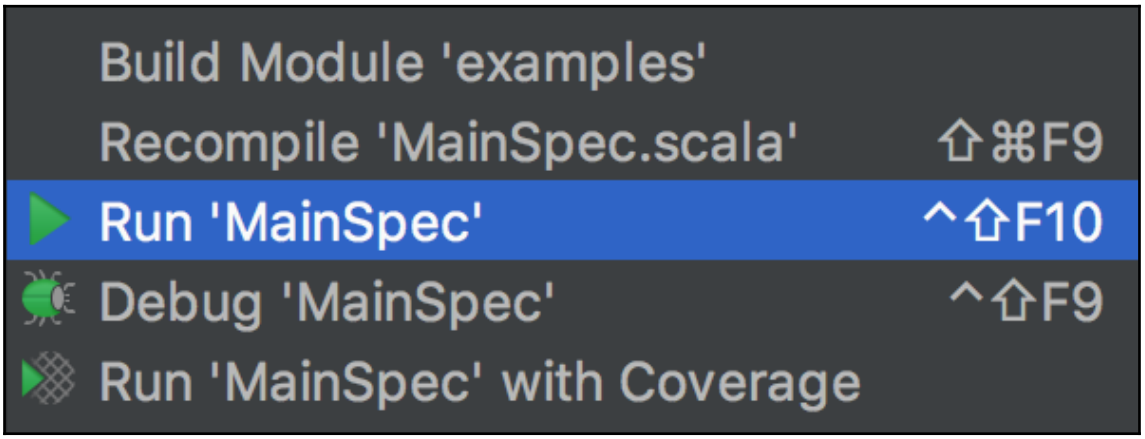

Examples - [~/Documents/Activities/writing/Examples]
Examples
Project
Packages
Project Files
Examples [examples] ~/Documents/Activities/writing/Exam
.idea
project [examples-build] sources root
src
main
scala
test
scala
target
build.sbt
External Libraries
Search Everywhere Double ⇧
Go to File ⇧⌘N
Recent Files ⌘E
Navigation Bar ⌥↖
Drop files here to open
1: Project
7: Structure
2: Favorites
IDEtalk
Mongo Explorer
Maven Projects
SBT Shell
Terminal
6: TODO
Event Log
SBT projects need to be imported: Import Changes Enable Auto-Import (17 minutes ago)
568 of 1820M

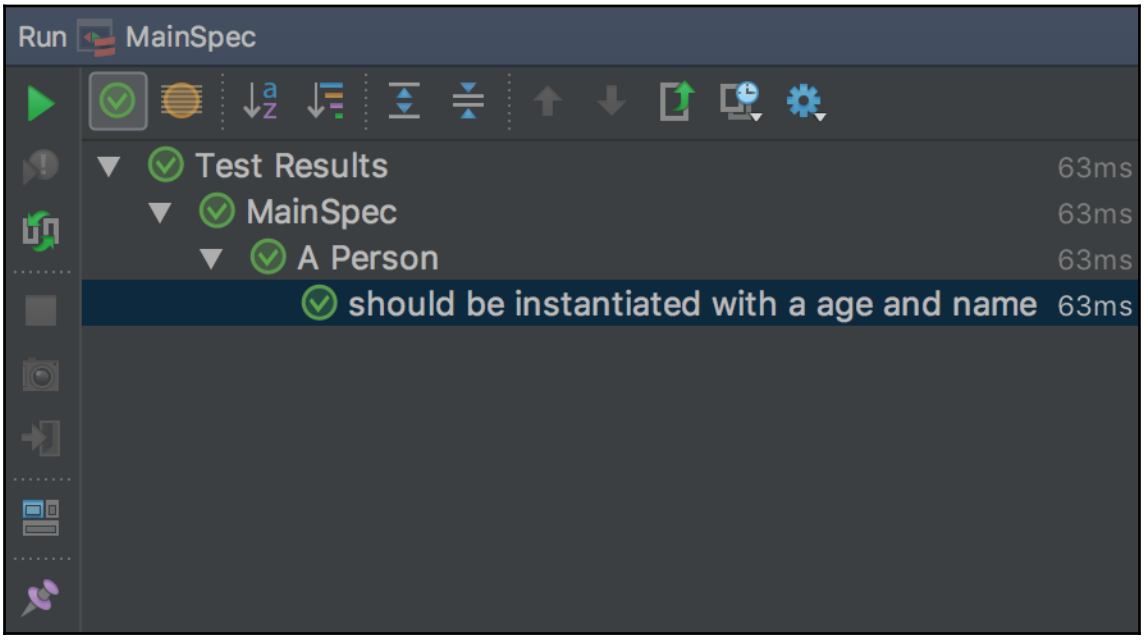

Create New Scala Class
Name: Main
Kind: Object
Cancel
OK

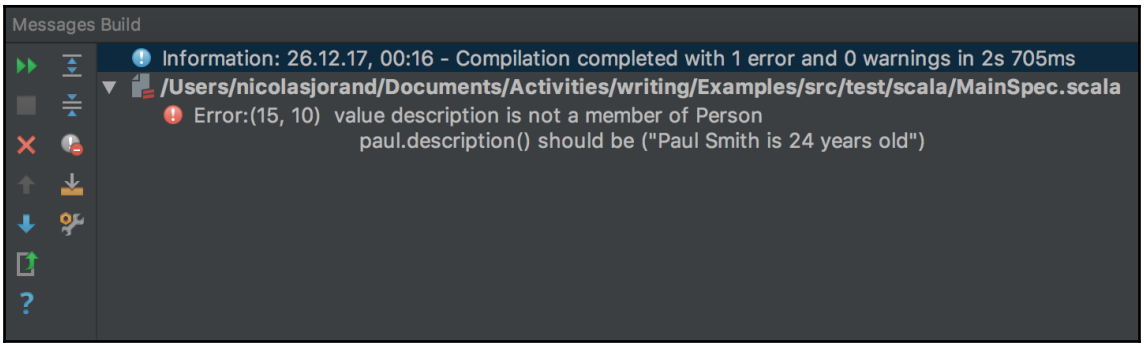

1
2
3
4
object Main extends App {
}

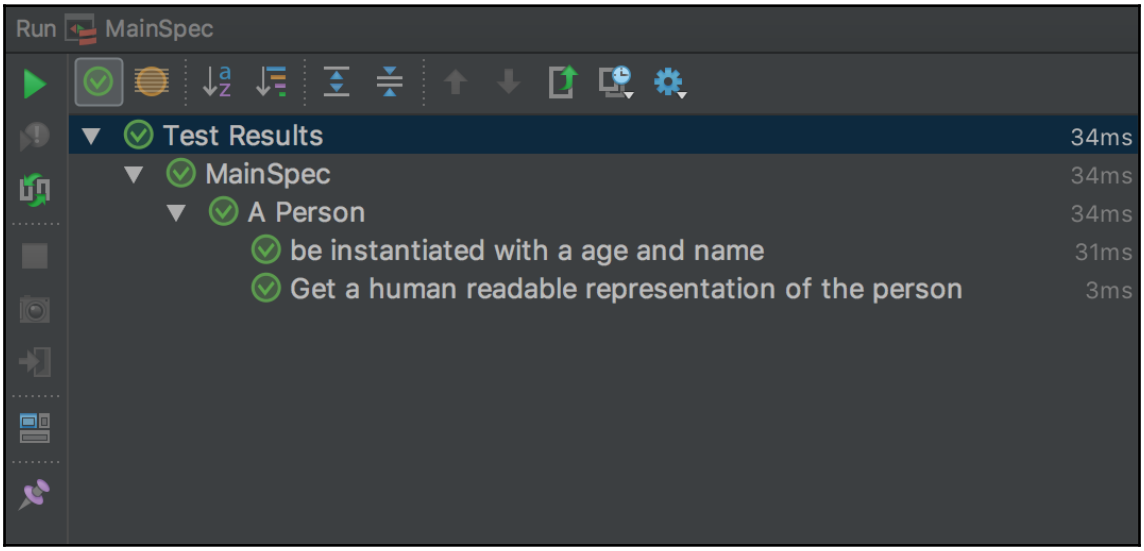

Run Main
/Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java ...
objc[88058]: Class JavaLaunchHelper is implemented in both /Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (0x10ca9b4c0) and /Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/jre/lib/libinstrument.dylib (0x10cb274e0). One of the two will be used. Which one is undefined.
Process finished with exit code 0
4: Run
6: TODO
sbt shell
Terminal


Class to Import
org.scalatest.WordSpec
org.scalatest.fixture.WordSpec

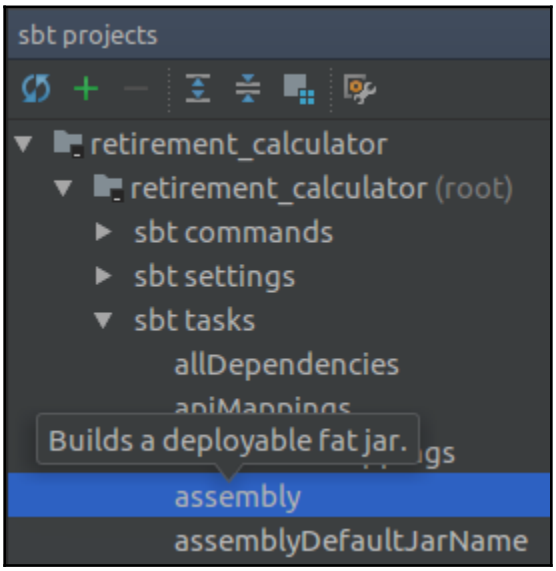

Build Module 'examples'
Recompile 'MainSpec.scala' ⇧⌘F9
Run 'MainSpec' ^⇧F10
Debug 'MainSpec' ^⇧F9
Run 'MainSpec' with Coverage


Run MainSpec
Test Results 63ms
MainSpec 63ms
A Person 63ms
should be instantiated with a age and name 63ms


Messages Build
Information: 26.12.17, 00:16 - Compilation completed with 1 error and 0 warnings in 2s 705ms
/Users/nicolasjorand/Documents/Activities/writing/Examples/src/test/scala/MainSpec.scala
Error:(15, 10) value description is not a member of Person
paul.description() should be ("Paul Smith is 24 years old")


Run MainSpec
Test Results 34ms
MainSpec 34ms
A Person 34ms
be instantiated with a age and name 31ms
Get a human readable representation of the person 3ms

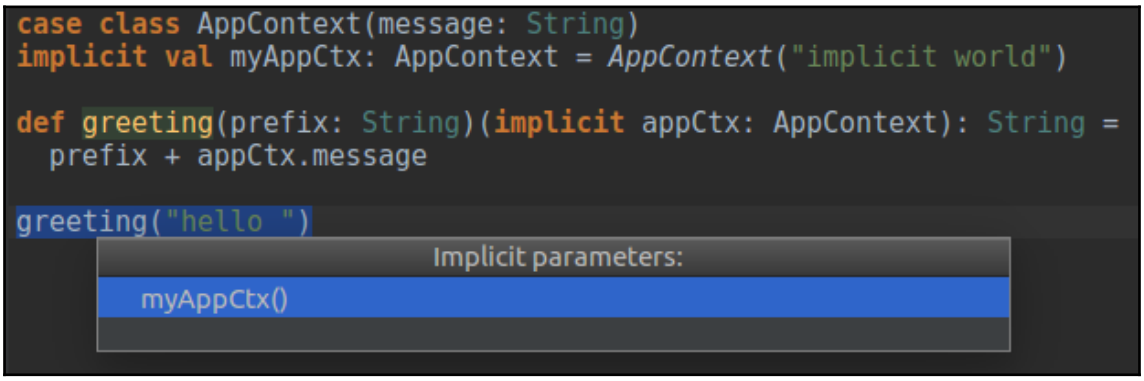
Chapter 2: Developing a Retirement Calculator

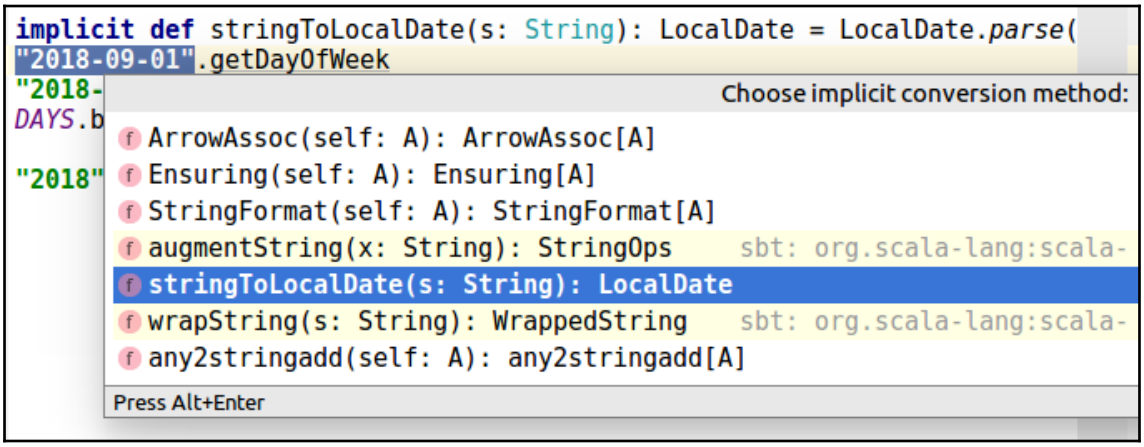


Chapter 3: Handling Errors

No Images.

Chapter 4: Advanced Features

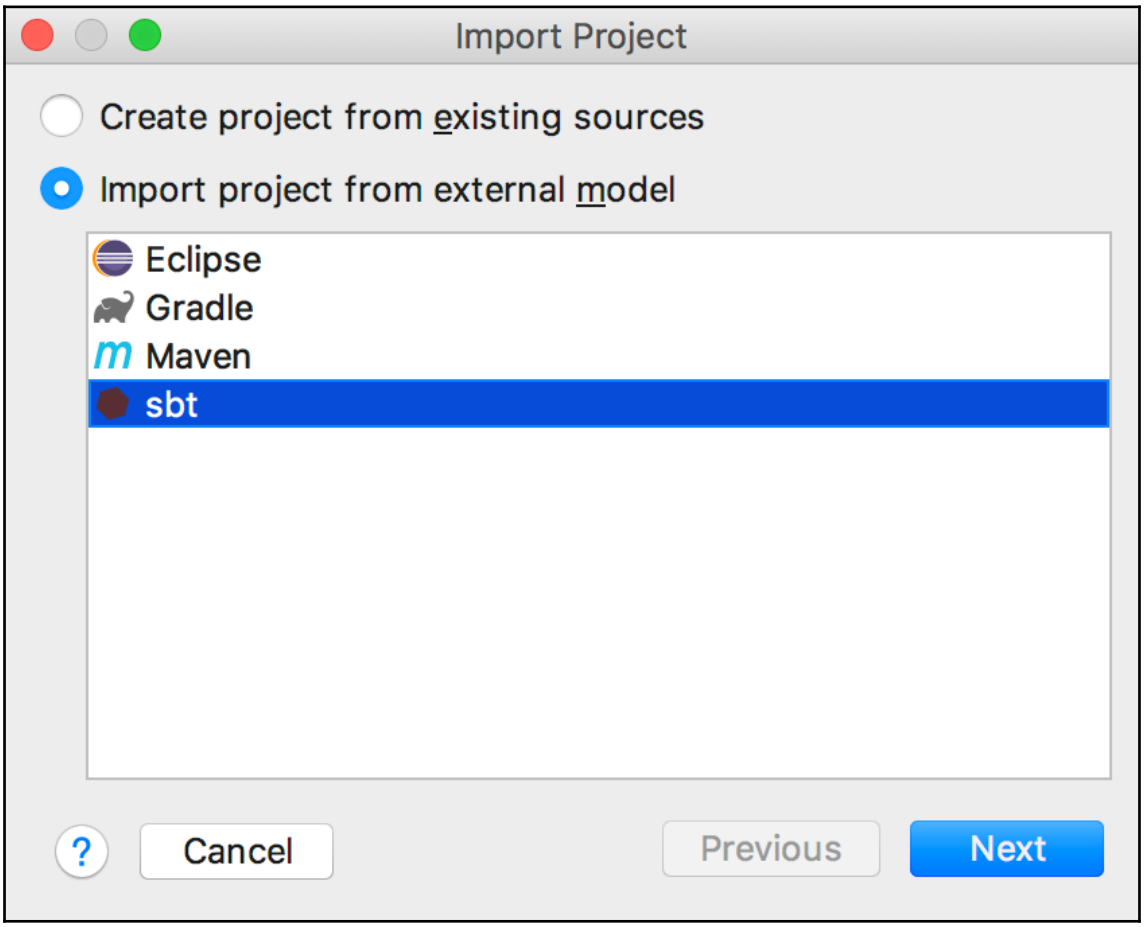


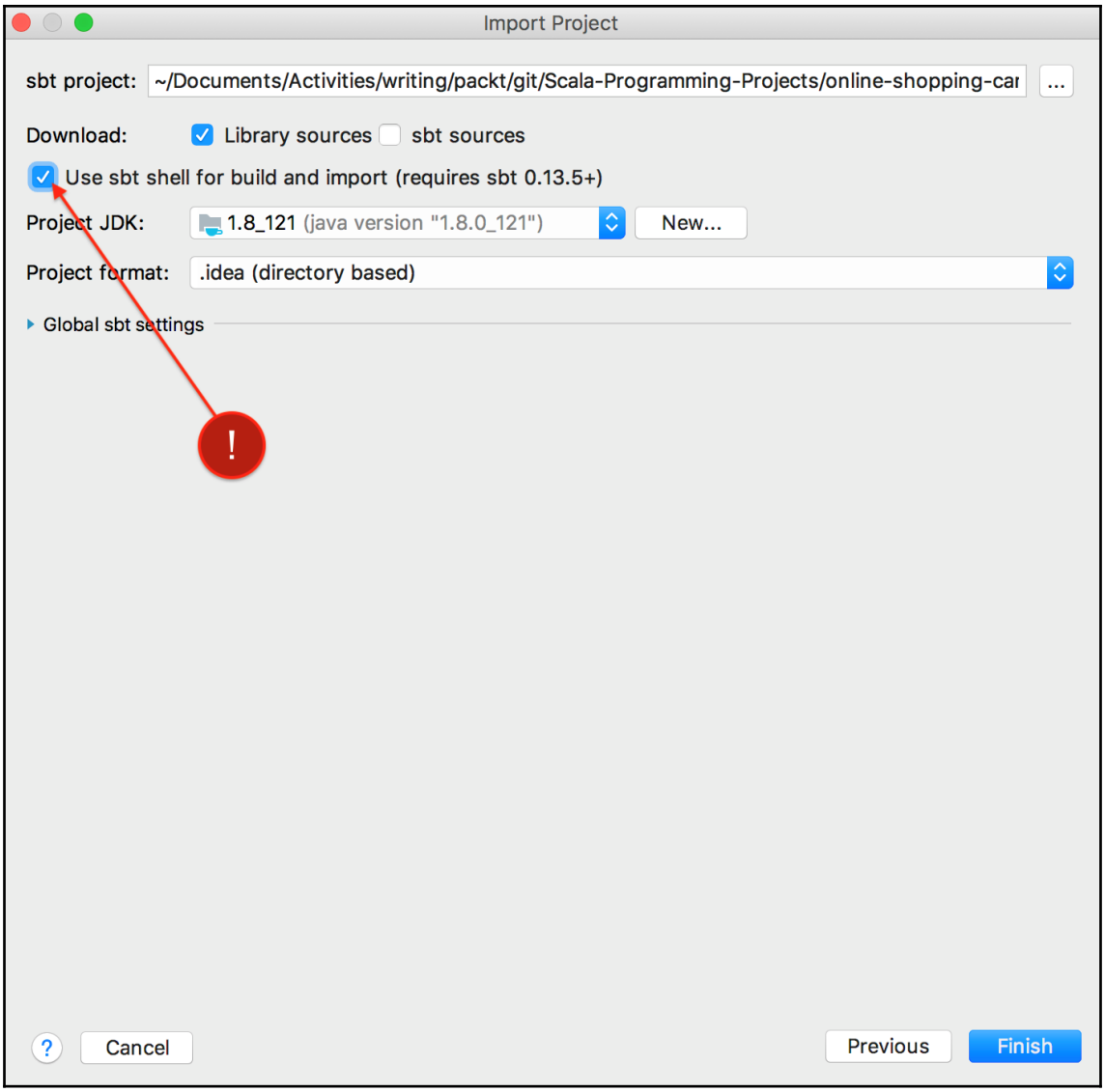


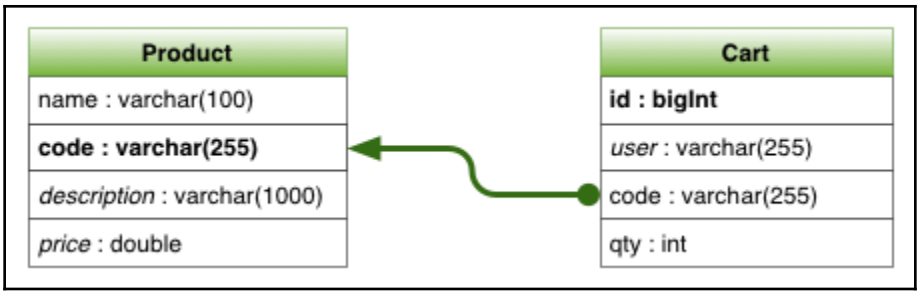
Chapter 5: Type Classes

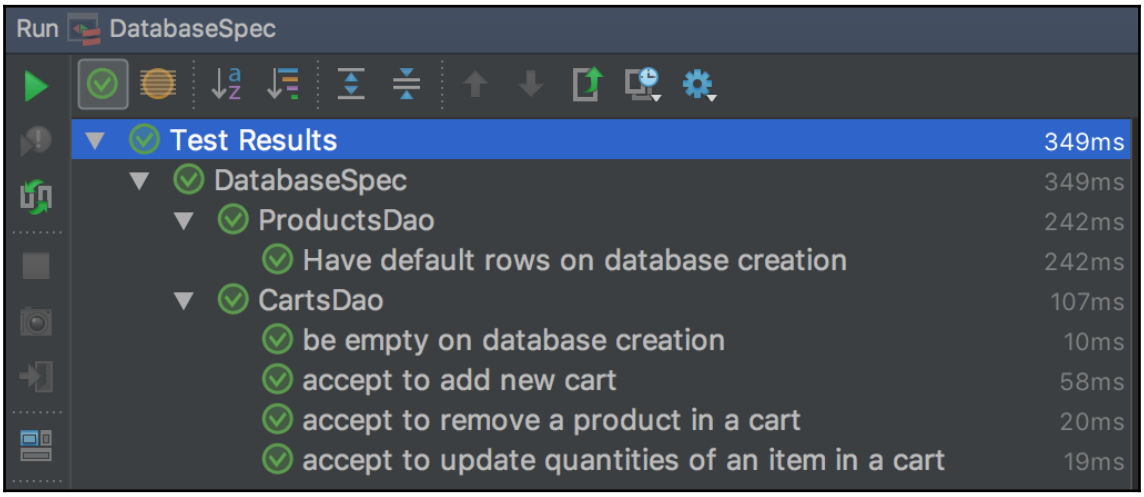
No Images.

Chapter 6: Online Shopping - Persistence



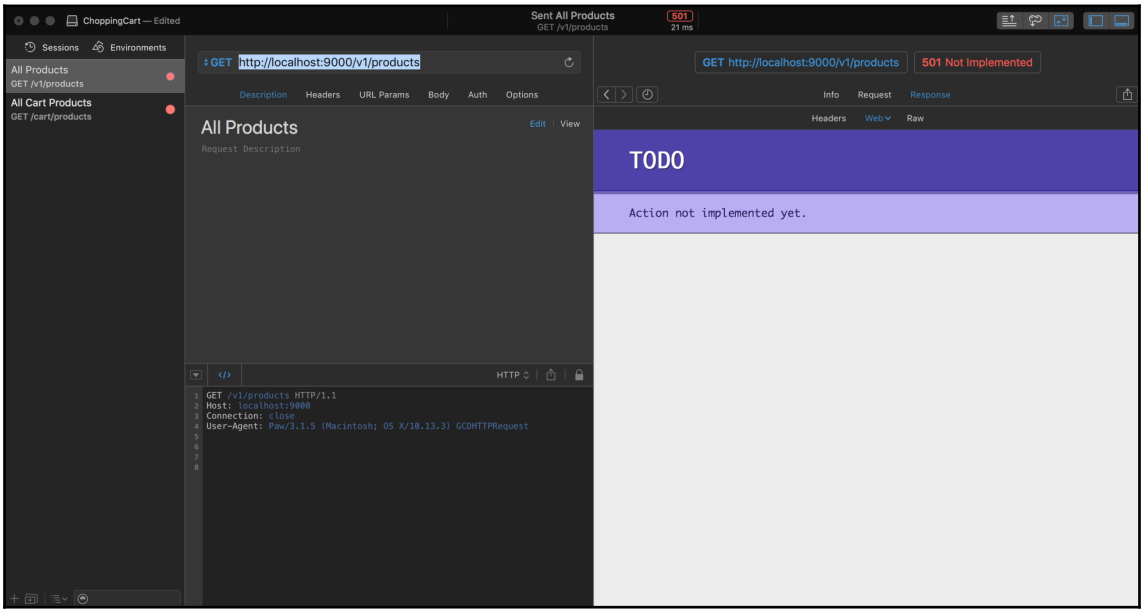

Import Project
sbt project:
~/Documents/Activities/writing/packt/git/Scala-Programming-Projects/online-shopping-car
...
Download:
Library sources
sbt sources
Use sbt shell for build and import (requires sbt 0.13.5+)
Project JDK:
1.8_121 (java version "1.8.0_121")
New...
Project format:
.idea (directory based)
Global sbt settings
!
?
Cancel
Previous
Finish

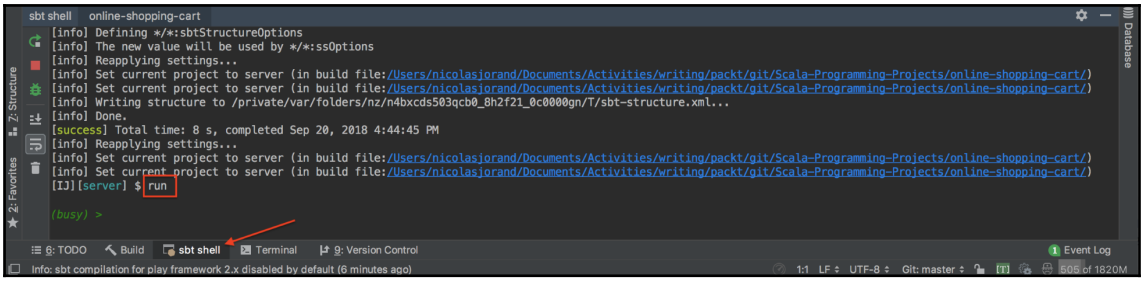

Product
name : varchar(100)
code : varchar(255)
description : varchar(1000)
price : double
Cart
id : bigInt
user : varchar(255)
code : varchar(255)
qty : int

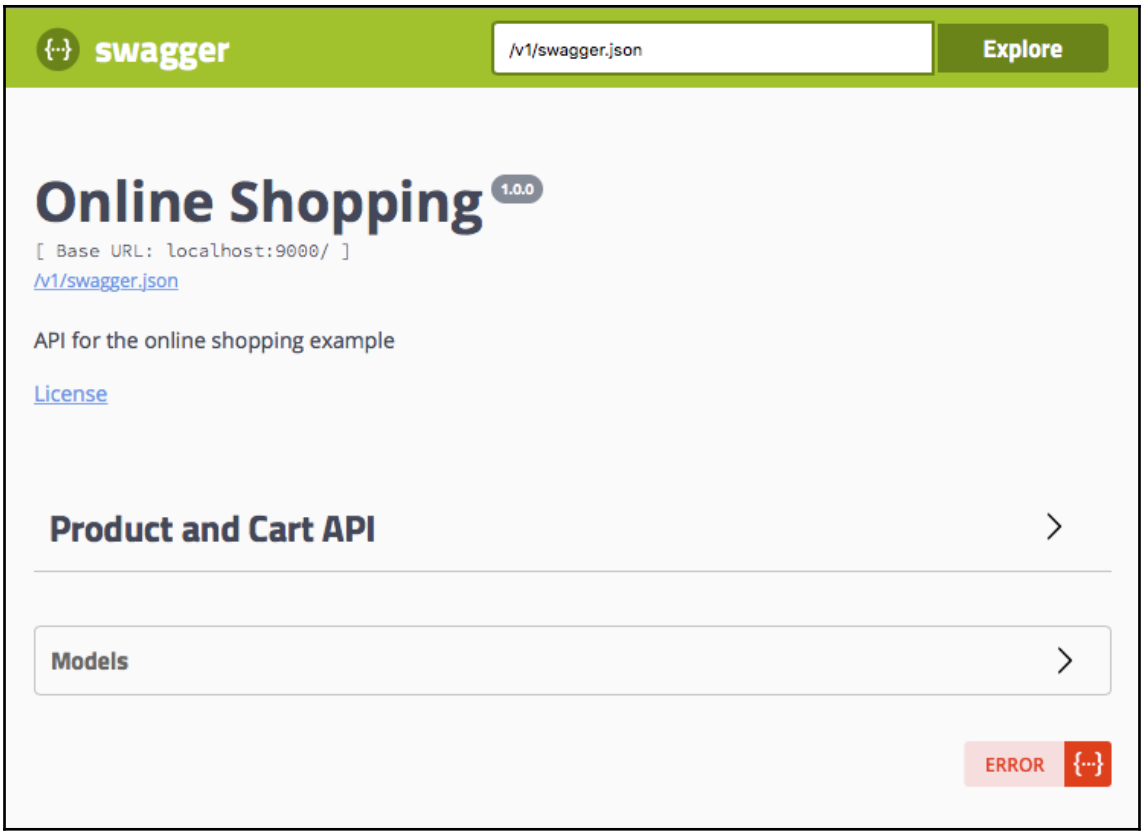

Run DatabaseSpec
Test Results 349ms
DatabaseSpec 349ms
ProductsDao 242ms
Have default rows on database creation 242ms
CartsDao 107ms
be empty on database creation 10ms
accept to add new cart 58ms
accept to remove a product in a cart 20ms
accept to update quantities of an item in a cart 19ms

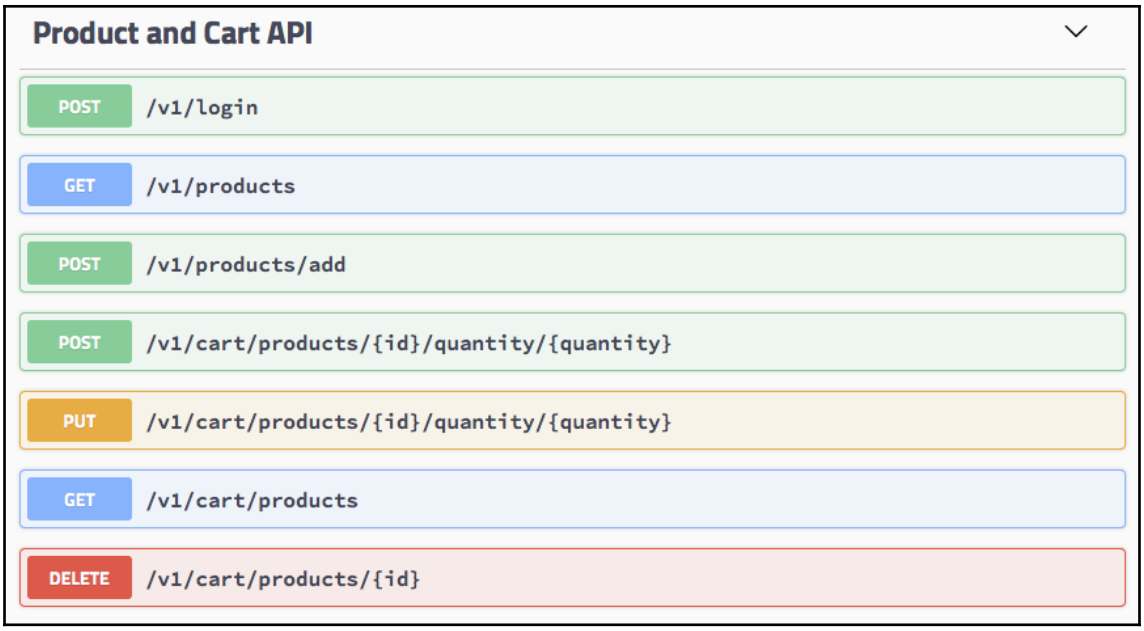

shopping-fs.herokuapp.co
Play and Scala.js share a same message
Play shouts out: It works!
Scala.js shouts out: It works!

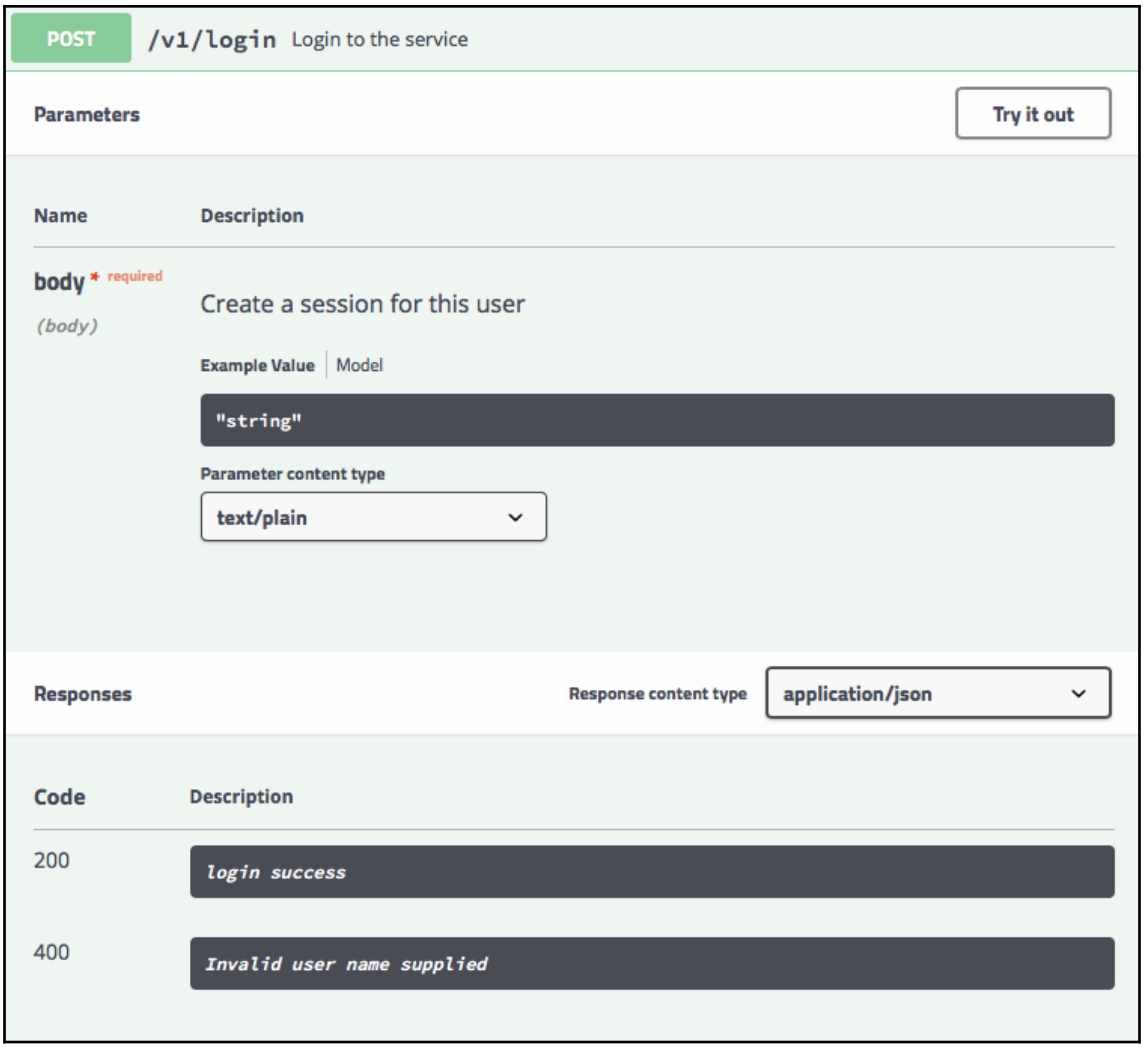
Chapter 7: Online Shopping - REST API

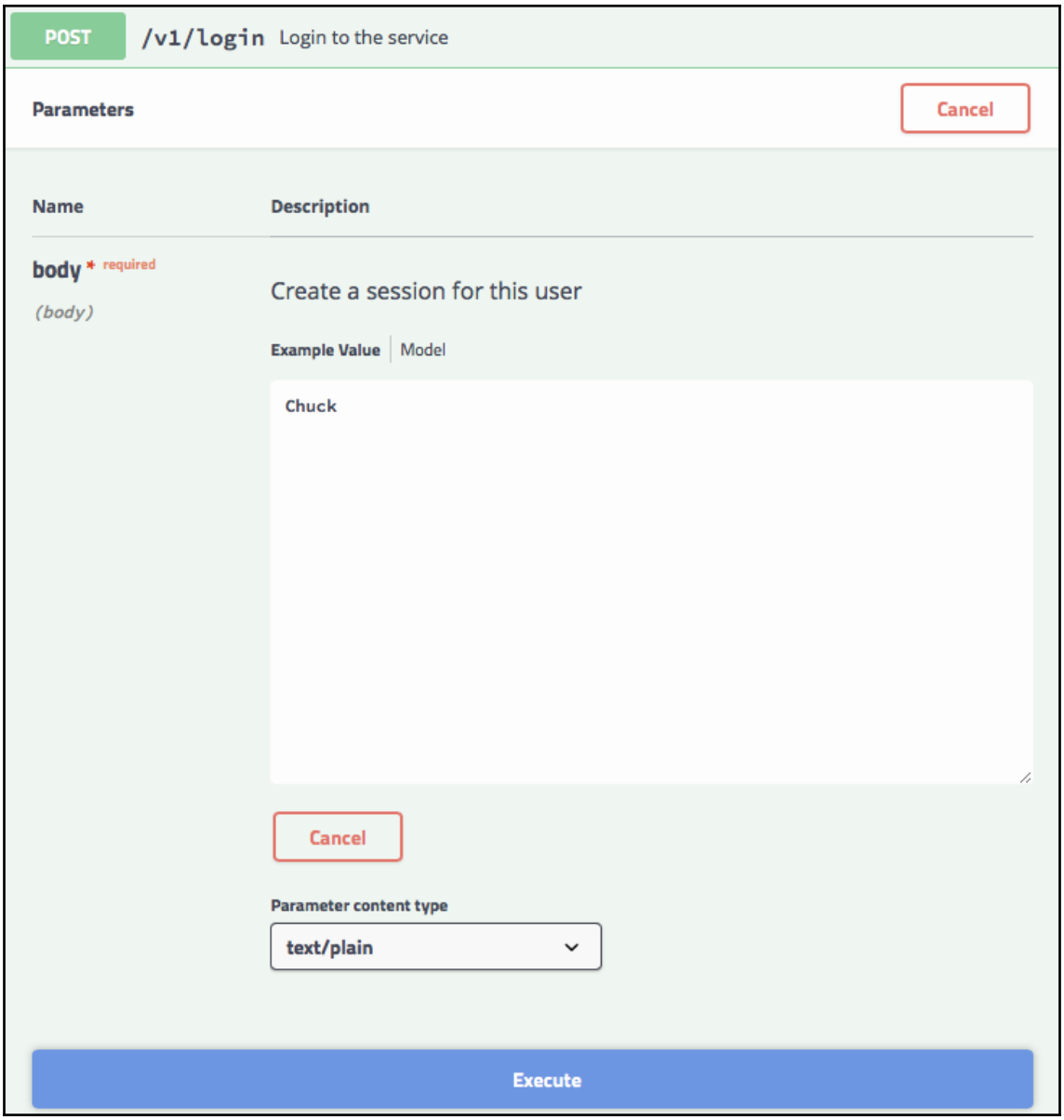


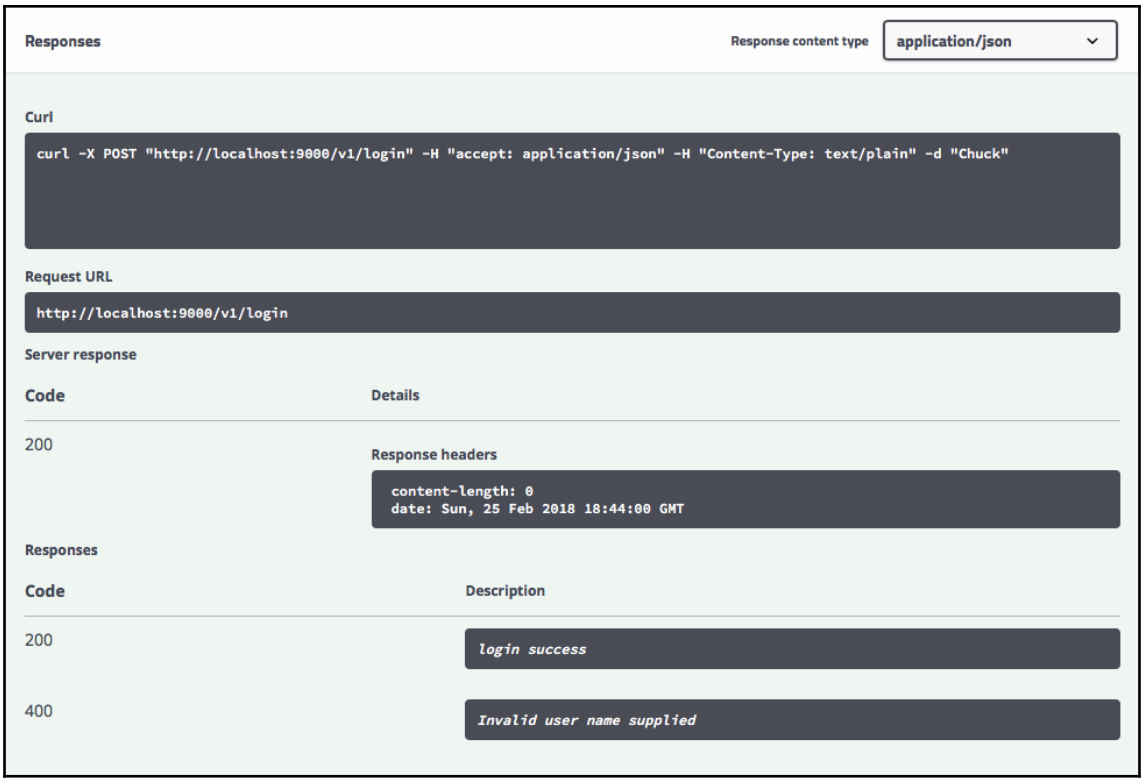



swagger
/v1/swagger.json
Explore
Online Shopping
1.0.0
[Base URL: localhost:9000/]
/v1/swagger.json
API for the online shopping example
License
Product and Cart API
Models
ERROR


Product and Cart API
POST /v1/login
GET /v1/products
POST /v1/products/add
POST /v1/cart/products/{id}/quantity/{quantity}
PUT /v1/cart/products/{id}/quantity/{quantity}
GET /v1/cart/products
DELETE /v1/cart/products/{id}


POST
/v1/login
Login to the service
Parameters
Try it out
Name
Description
body * required
(body)
Create a session for this user
Example Value
Model
"string"
Parameter content type
text/plain
Responses
Response content type
application/json
Code
Description
200
login success
400
Invalid user name supplied


POST
/v1/login
Login to the service
Parameters
Cancel
Name
Description
body * required
(body)
Create a session for this user
Example Value
Model
Chuck
Cancel
Parameter content type
text/plain
Execute


Responses
Response content type
application/json
Curl
curl -X POST "http://localhost:9000/v1/login" -H "accept: application/json" -H "Content-Type: text/plain" -d "Chuck"
Request URL
http://localhost:9000/v1/login
Server response
Code
Details
200
Response headers
content-length: 0
date: Sun, 25 Feb 2018 18:44:00 GMT
Responses
Code
Description
200
login success
400
Invalid user name supplied

Server response

Code	Details
200	Response body

```
[
  {
    "name": "NAO",
    "code": "ALD1",
    "description": "NAO is an humanoid robot.",
    "price": 3500
  },
  {
    "name": "PEPER",
    "code": "ALD2",
    "description": "PEPPER is a robot moving with wheels and with a screen as human interaction",
    "price": 7000
  },
  {
    "name": "BEOBOT",
    "code": "BEO1",
    "description": "Beobot is a multipurpose robot.",
    "price": 159
  }
]
```

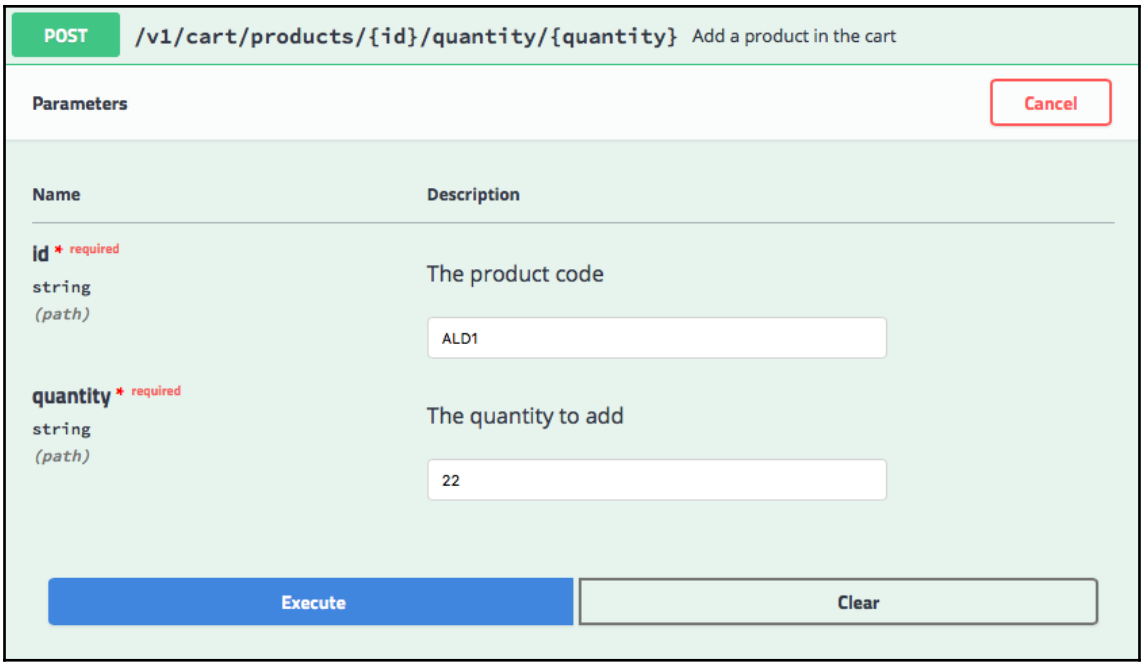
Response headers

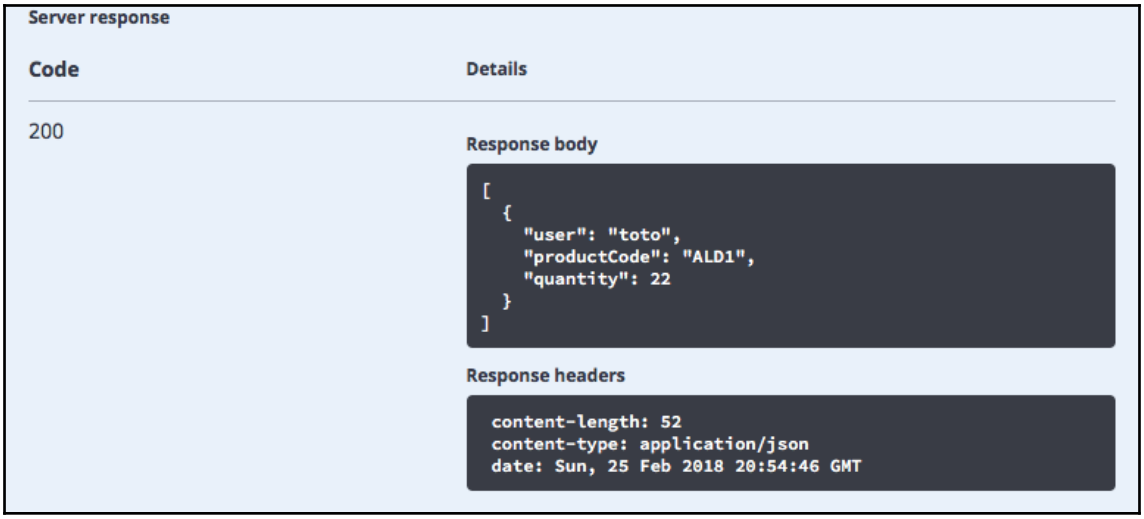
```
content-length: 319
content-type: application/json
date: Sun, 25 Feb 2018 18:48:16 GMT
```

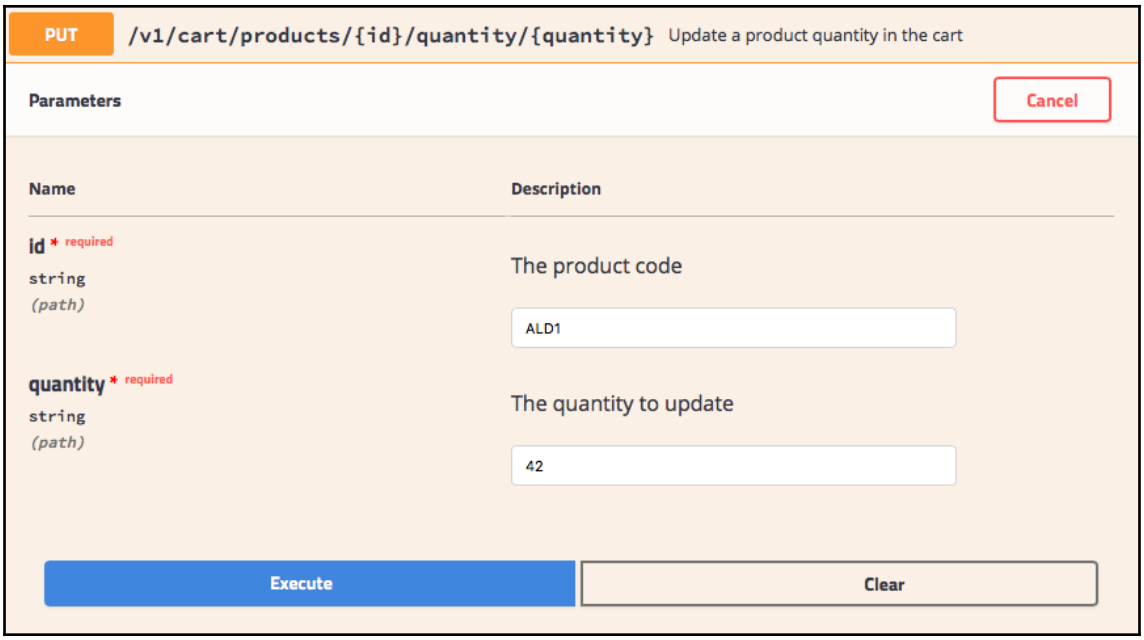
Name	Description
body * required *(body)*	The product to add Example Value | **Model**

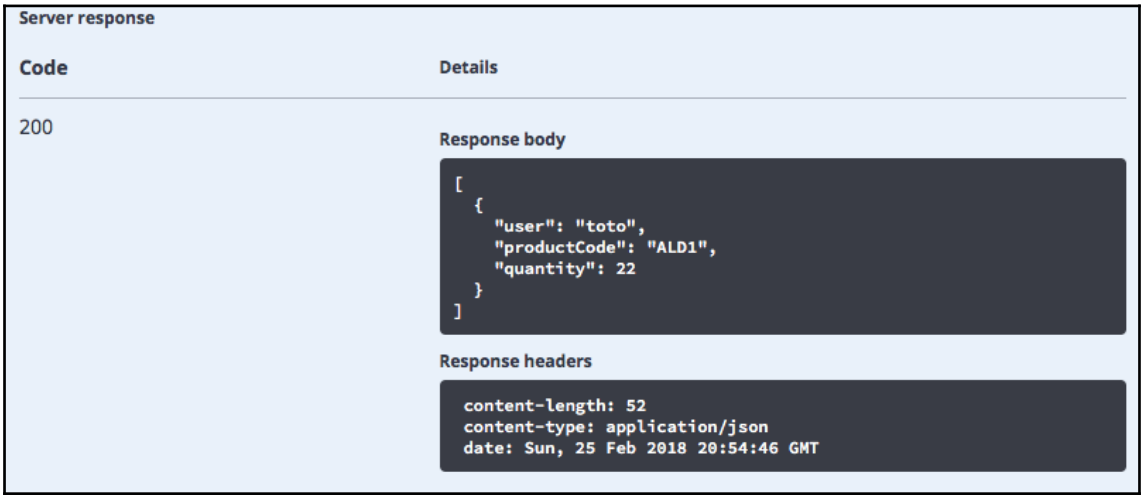
```
Product ⌄ {
    name*           string
    code*           string
    description*    string
    price*          number($double)
}
```

Responses Response content type application/json ⌄

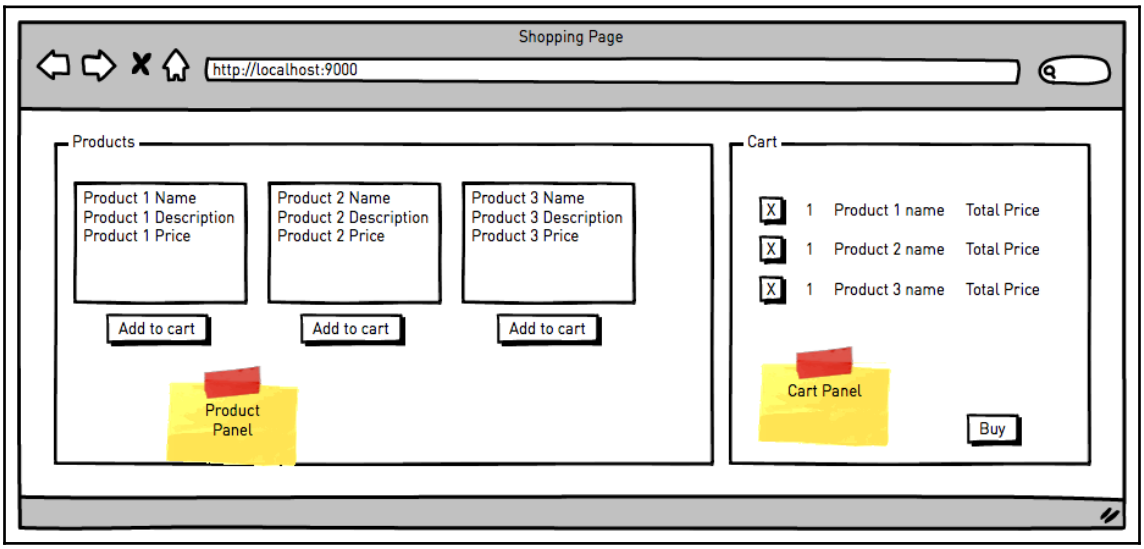

POST
/v1/cart/products/{id}/quantity/{quantity}
Add a product in the cart
Parameters
Cancel
Name
Description
id * required
string
(path)
The product code
ALD1
quantity * required
string
(path)
The quantity to add
22
Execute
Clear

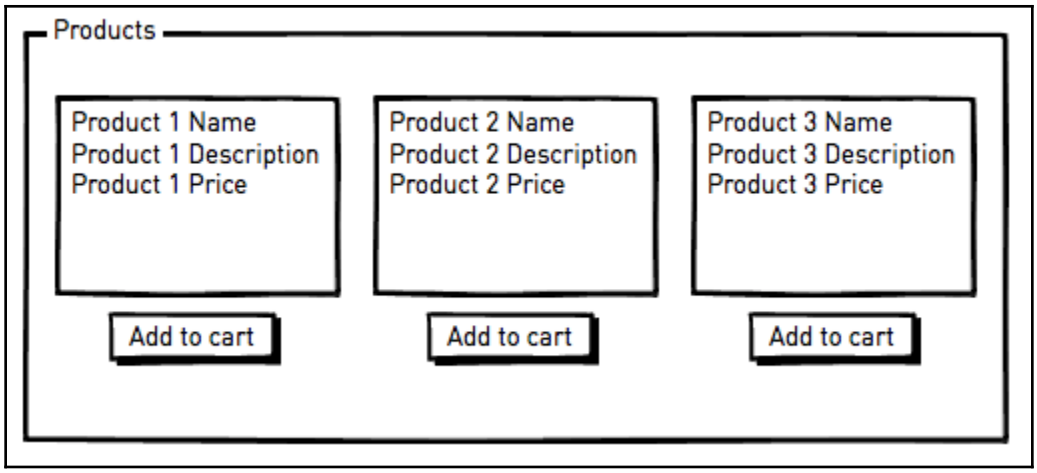

Server response
Code
Details
200
Response body
[
{
"user": "toto",
"productCode": "ALD1",
"quantity": 22
}
]
Response headers
content-length: 52
content-type: application/json
date: Sun, 25 Feb 2018 20:54:46 GMT

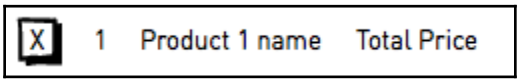

PUT
/v1/cart/products/{id}/quantity/{quantity}
Update a product quantity in the cart
Parameters
Cancel
Name
Description
id * required
string
(path)
The product code
ALD1
quantity * required
string
(path)
The quantity to update
42
Execute
Clear

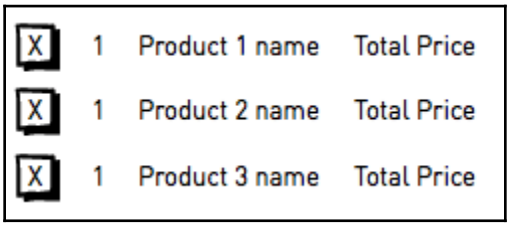

Server response
Code
Details
200
Response body
[
{
"user": "toto",
"productCode": "ALD1",
"quantity": 22
}
]
Response headers
content-length: 52
content-type: application/json
date: Sun, 25 Feb 2018 20:54:46 GMT

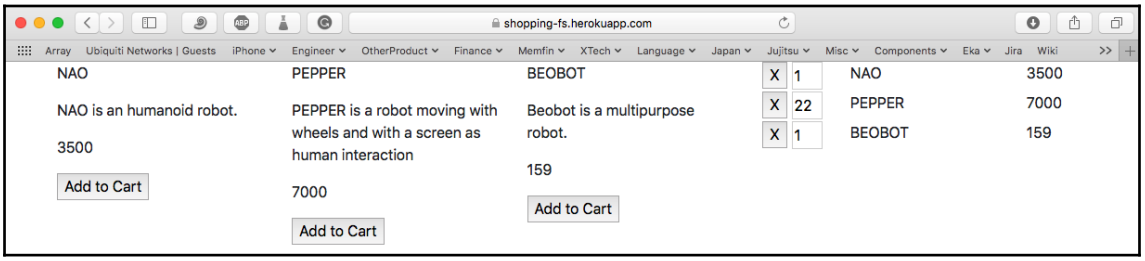
Chapter 8: Online Shopping - User Interface

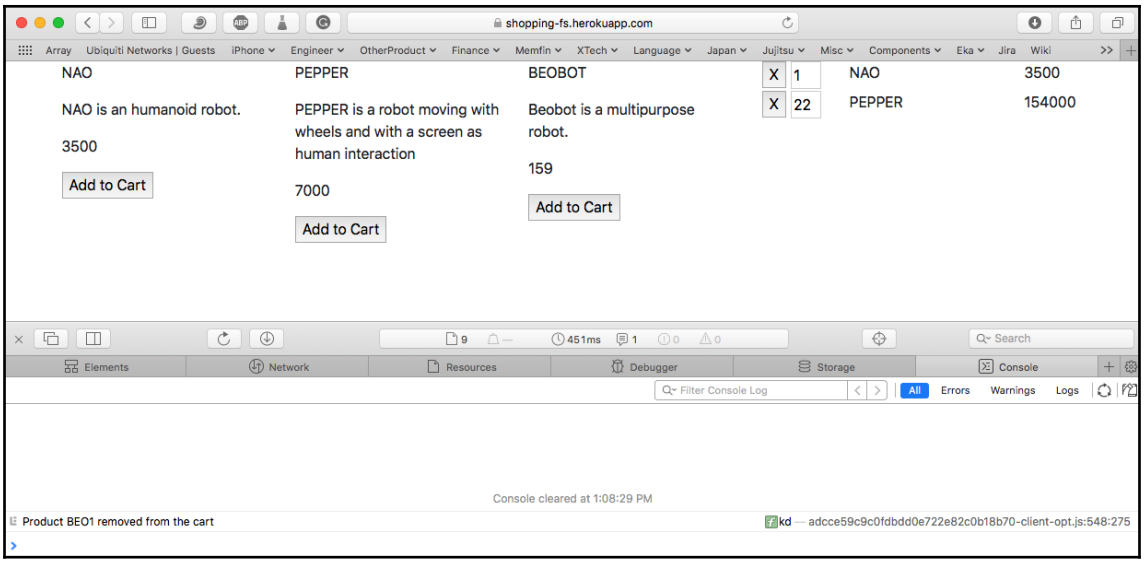


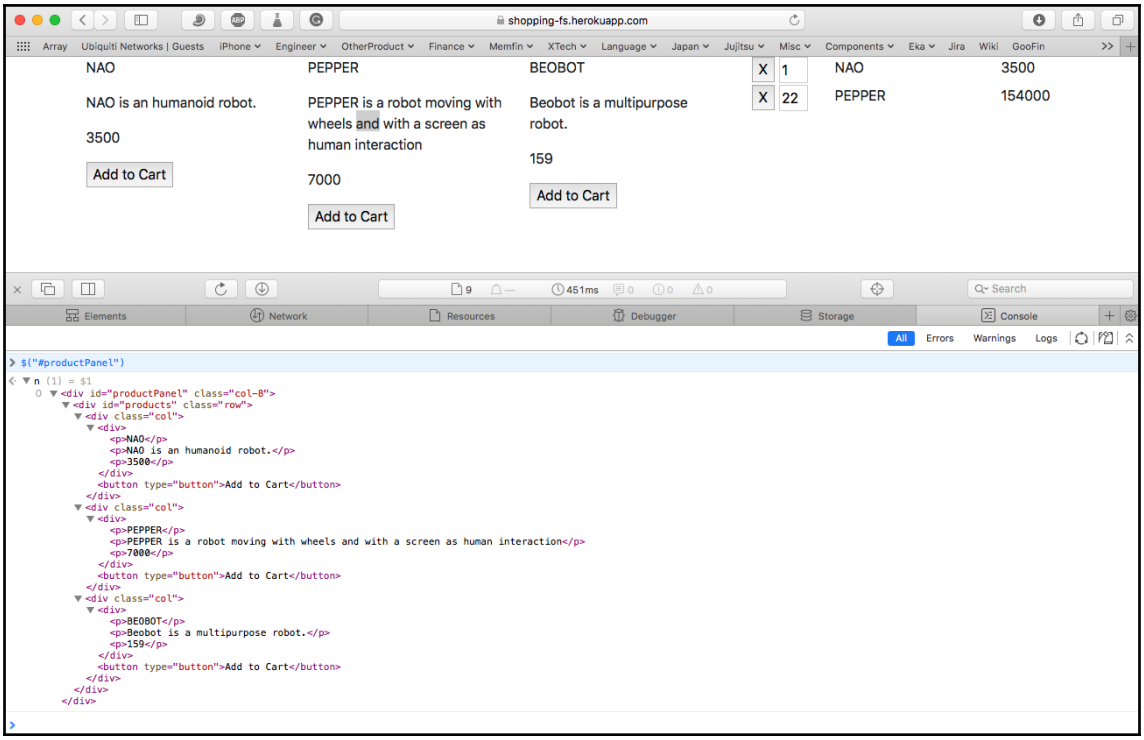

Products
Product 1 Name
Product 1 Description
Product 1 Price
Product 2 Name
Product 2 Description
Product 2 Price
Product 3 Name
Product 3 Description
Product 3 Price
Add to cart
Add to cart
Add to cart


X
1
Product 1 name
Total Price

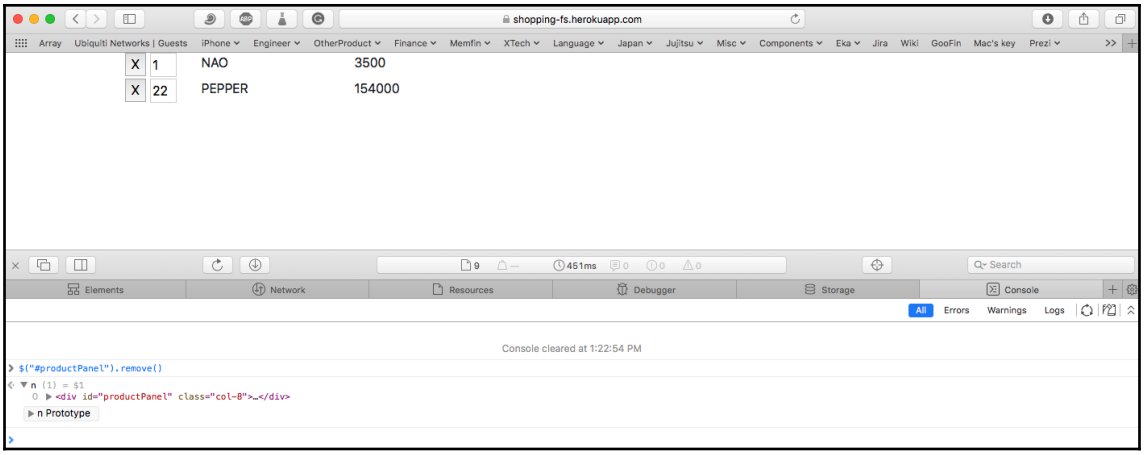

X
1
Product 1 name
Total Price
X
1
Product 2 name
Total Price
X
1
Product 3 name
Total Price

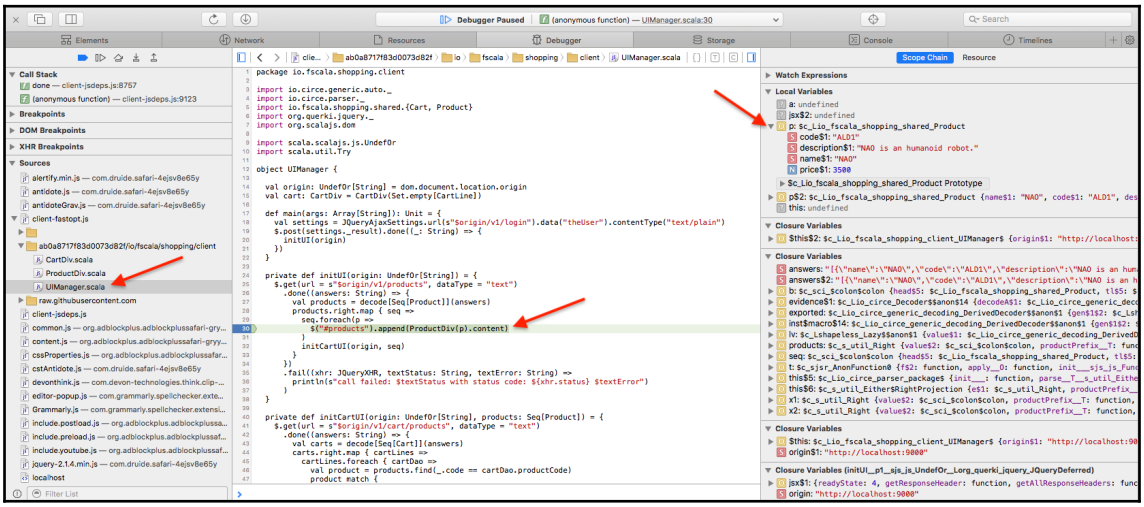

shopping-fs.herokuapp.com
NAO
NAO is an humanoid robot.
3500
Add to Cart
PEPPER
PEPPER is a robot moving with wheels and with a screen as human interaction
7000
Add to Cart
BEOBOT
Beobot is a multipurpose robot.
159
Add to Cart
X 1 NAO 3500
X 22 PEPPER 7000
X 1 BEOBOT 159


shopping-fs.herokuapp.com
NAO
NAO is an humanoid robot.
3500
Add to Cart
PEPPER
PEPPER is a robot moving with wheels and with a screen as human interaction
7000
Add to Cart
BEOBOT
Beobot is a multipurpose robot.
159
Add to Cart
X 1
X 22
NAO 3500
PEPPER 154000
Elements
Network
Resources
Debugger
Storage
Console
Console cleared at 1:08:29 PM
Product BEO1 removed from the cart

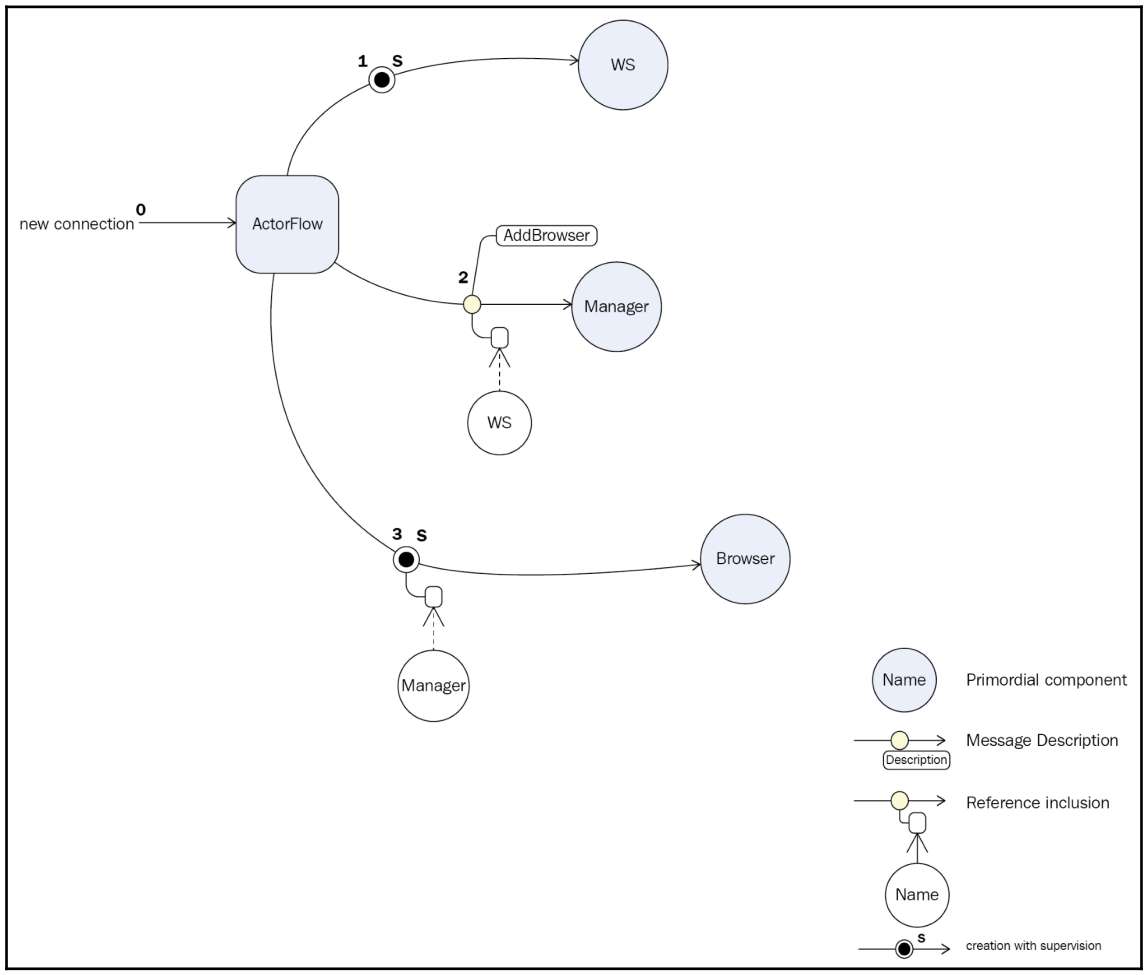

shopping-fs.herokuapp.com
NAO
NAO is an humanoid robot.
3500
Add to Cart
PEPPER
PEPPER is a robot moving with wheels and with a screen as human interaction
7000
Add to Cart
BEOBOT
Beobot is a multipurpose robot.
159
Add to Cart
X 1
X 22
NAO 3500
PEPPER 154000
$("#productPanel")

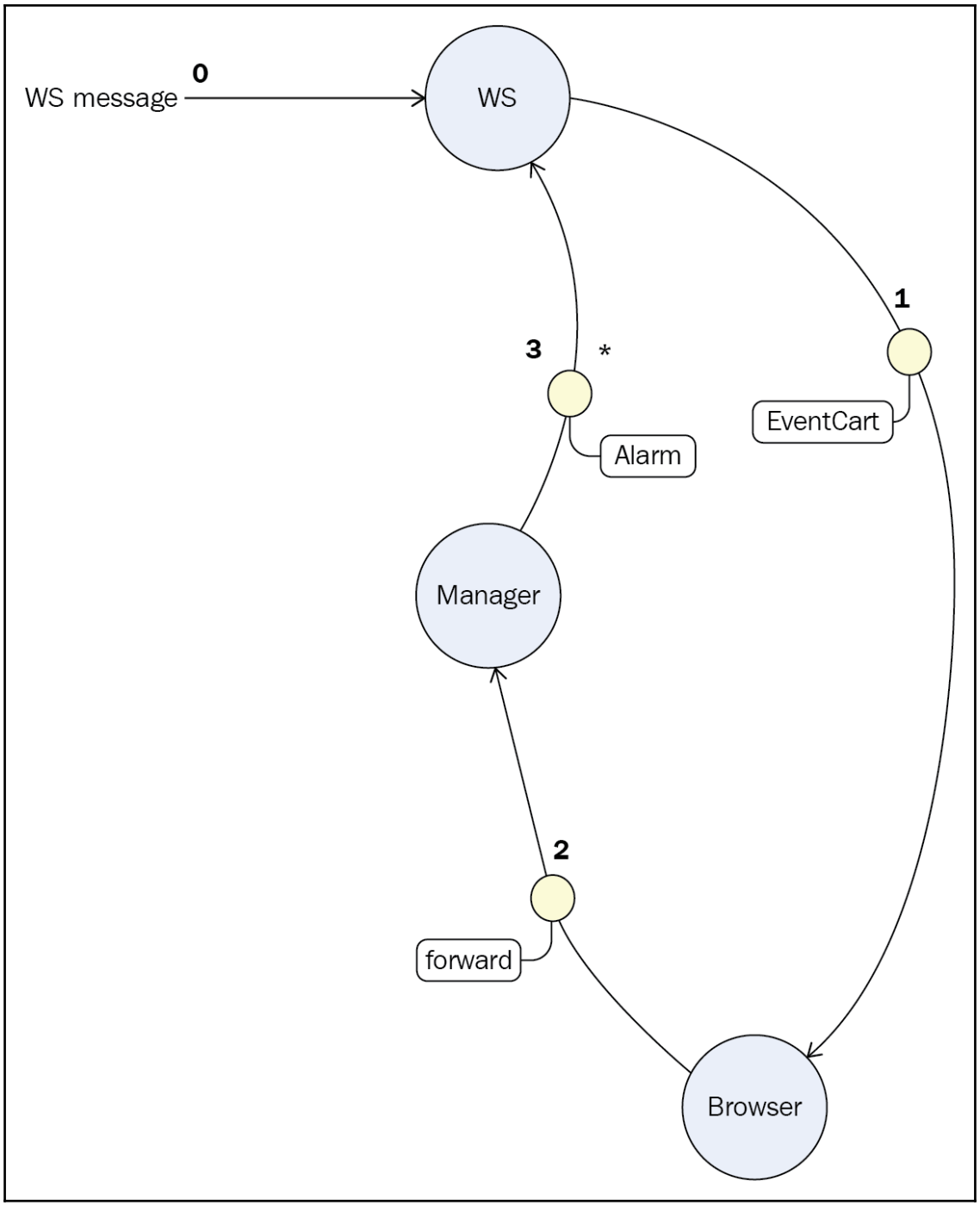
NAO
NAO is an humanoid robot.
3500
<button type="button">Add to Cart</button>
PEPPER
PEPPER is a robot moving with wheels and with a screen as human interaction
7000
<button type="button">Add to Cart</button>
BEOBOT
Beobot is a multipurpose robot.
159
<button type="button">Add to Cart</button>

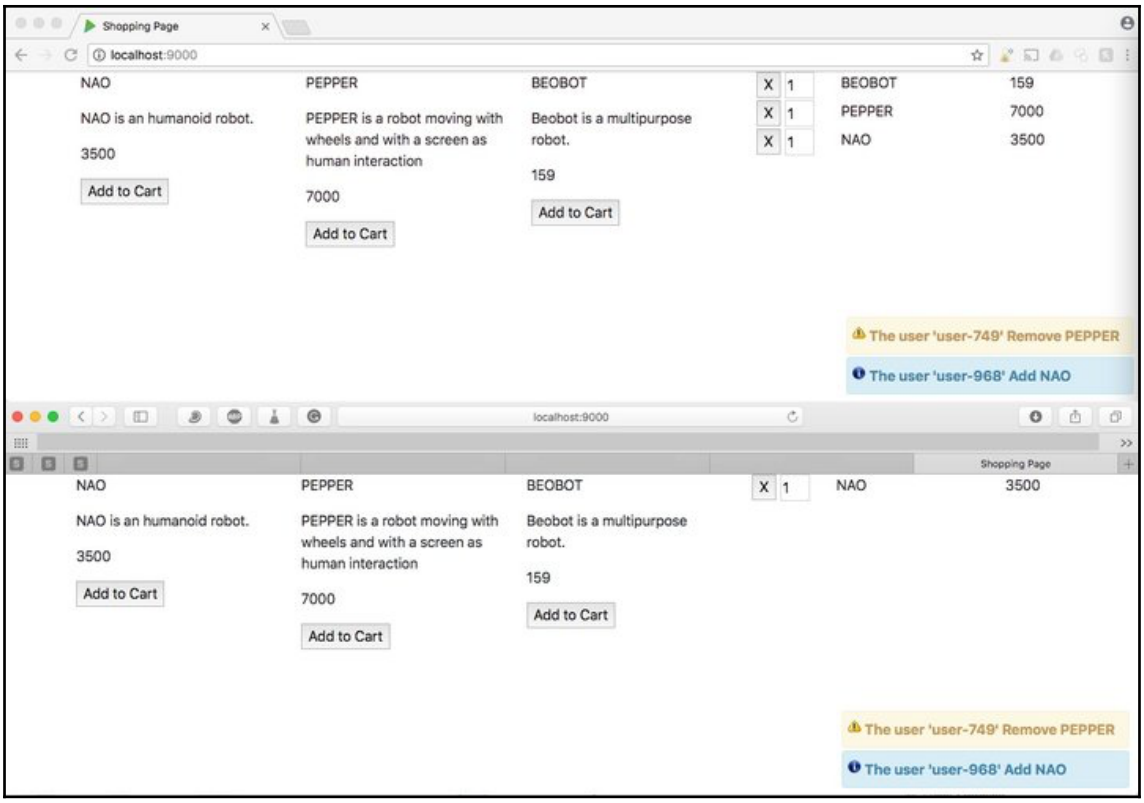

shopping-fs.herokuapp.com
X 1 NAO 3500
X 22 PEPPER 154000
Console cleared at 1:22:54 PM
$("#productPanel").remove()


Debugger Paused
(anonymous function) — UIManager.scala:30
UIManager.scala
package io.fscala.shopping.client
import io.circe.generic.auto._
import io.circe.parser._
import io.fscala.shopping.shared.{Cart, Product}
import org.querki.jquery._
import org.scalajs.dom
import scala.scalajs.js.UndefOr
import scala.util.Try
object UIManager {
val origin: UndefOr[String] = dom.document.location.origin
val cart: CartDiv = CartDiv(Set.empty[CartLine])
def main(args: Array[String]): Unit = {
val settings = JQueryAjaxSettings.url(s"$origin/v1/login").data("theUser").contentType("text/plain")
$.post(settings,_result).done((_: String) => {
initUI(origin)
})
}
private def initUI(origin: UndefOr[String]) = {
$.get(url = s"$origin/v1/products", dataType = "text")
.done((answers: String) => {
val products = decode[Seq[Product]](answers)
products.right.map { seq =>
seq.foreach(p =>
$("#products").append(ProductDiv(p).content)
)
initCartUI(origin, seq)
}
})
.fail((xhr: JQueryXHR, textStatus: String, textError: String) =>
println(s"call failed: $textStatus with status code: ${xhr.status} $textError")
)
}
private def initCartUI(origin: UndefOr[String], products: Seq[Product]) = {
$.get(url = s"$origin/v1/cart/products", dataType = "text")
.done((answers: String) => {
val carts = decode[Seq[Cart]](answers)
carts.right.map { cartLines =>
cartLines.foreach { cartDao =>
val product = products.find(_.code == cartDao.productCode)
product match {

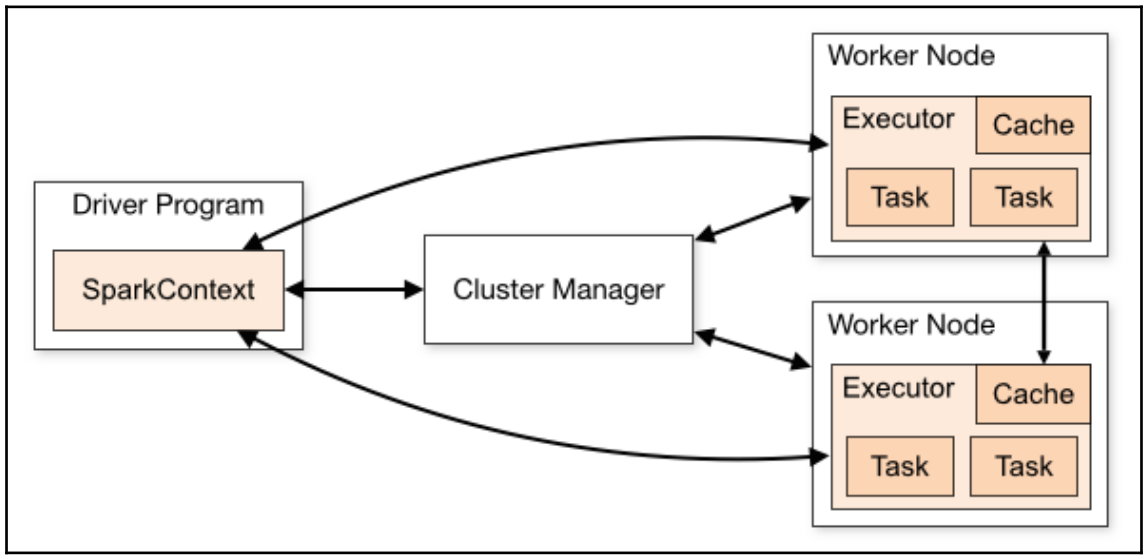
Chapter 9: Interactive Browser



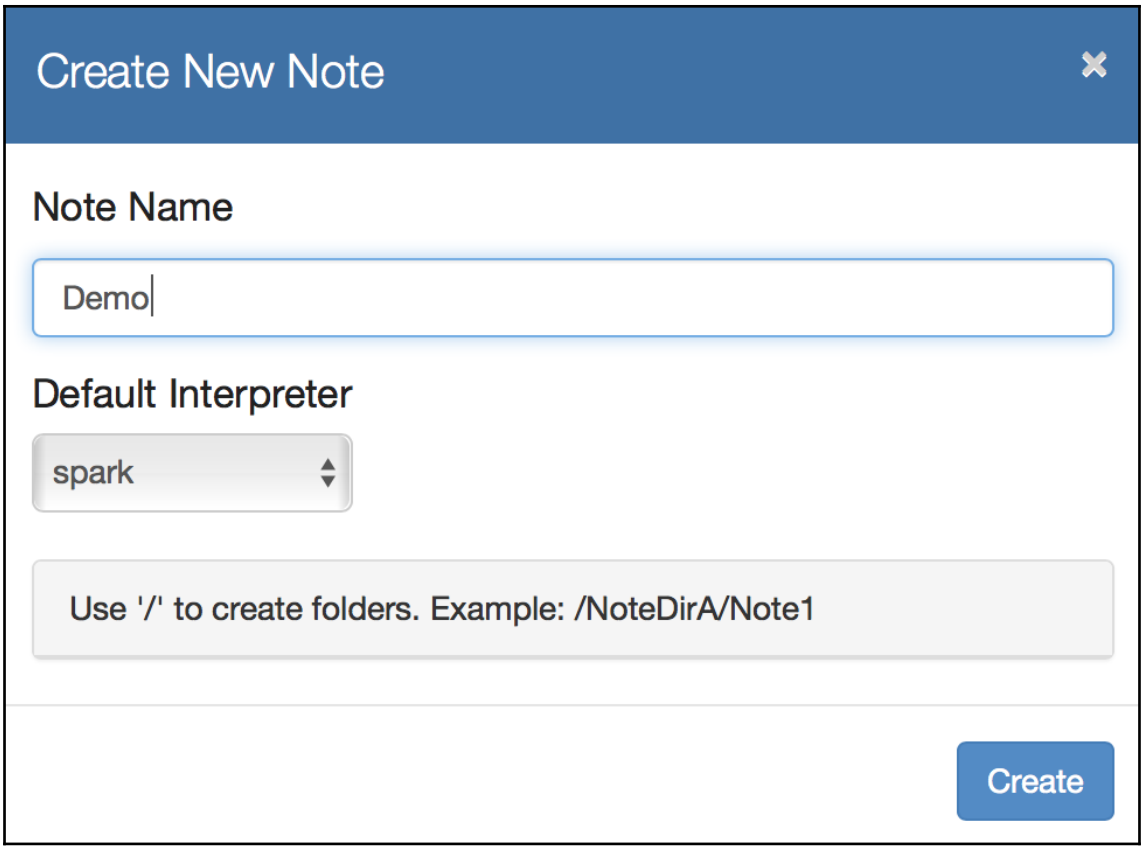

WS message
0
WS
1
3
*
EventCart
Alarm
Manager
2
forward
Browser

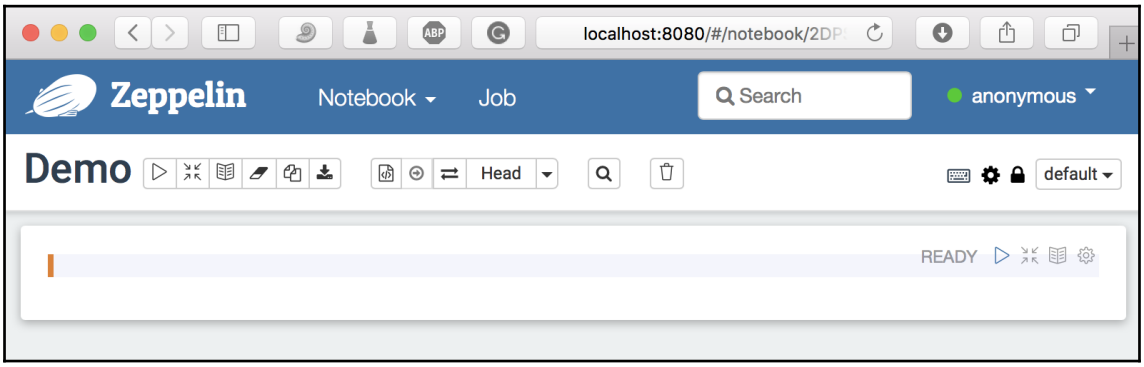

Shopping Page
localhost:9000
NAO
NAO is an humanoid robot.
3500
Add to Cart
PEPPER
PEPPER is a robot moving with wheels and with a screen as human interaction
7000
Add to Cart
BEOBOT
Beobot is a multipurpose robot.
159
Add to Cart
X 1
X 1
X 1
BEOBOT 159
PEPPER 7000
NAO 3500
The user 'user-749' Remove PEPPER
The user 'user-968' Add NAO
localhost:9000
Shopping Page
NAO
NAO is an humanoid robot.
3500
Add to Cart
PEPPER
PEPPER is a robot moving with wheels and with a screen as human interaction
7000
Add to Cart
BEOBOT
Beobot is a multipurpose robot.
159
Add to Cart
X 1
NAO 3500
The user 'user-749' Remove PEPPER
The user 'user-968' Add NAO

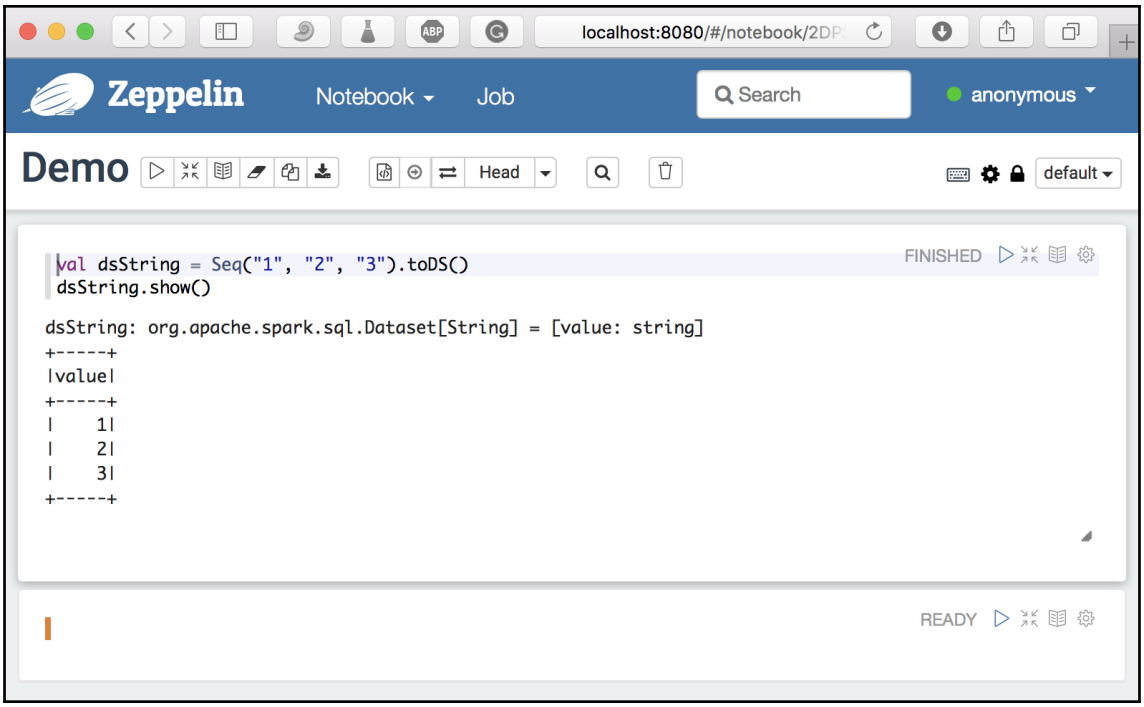
Chapter 10: Fetching and Persisting Bitcoin Market Data



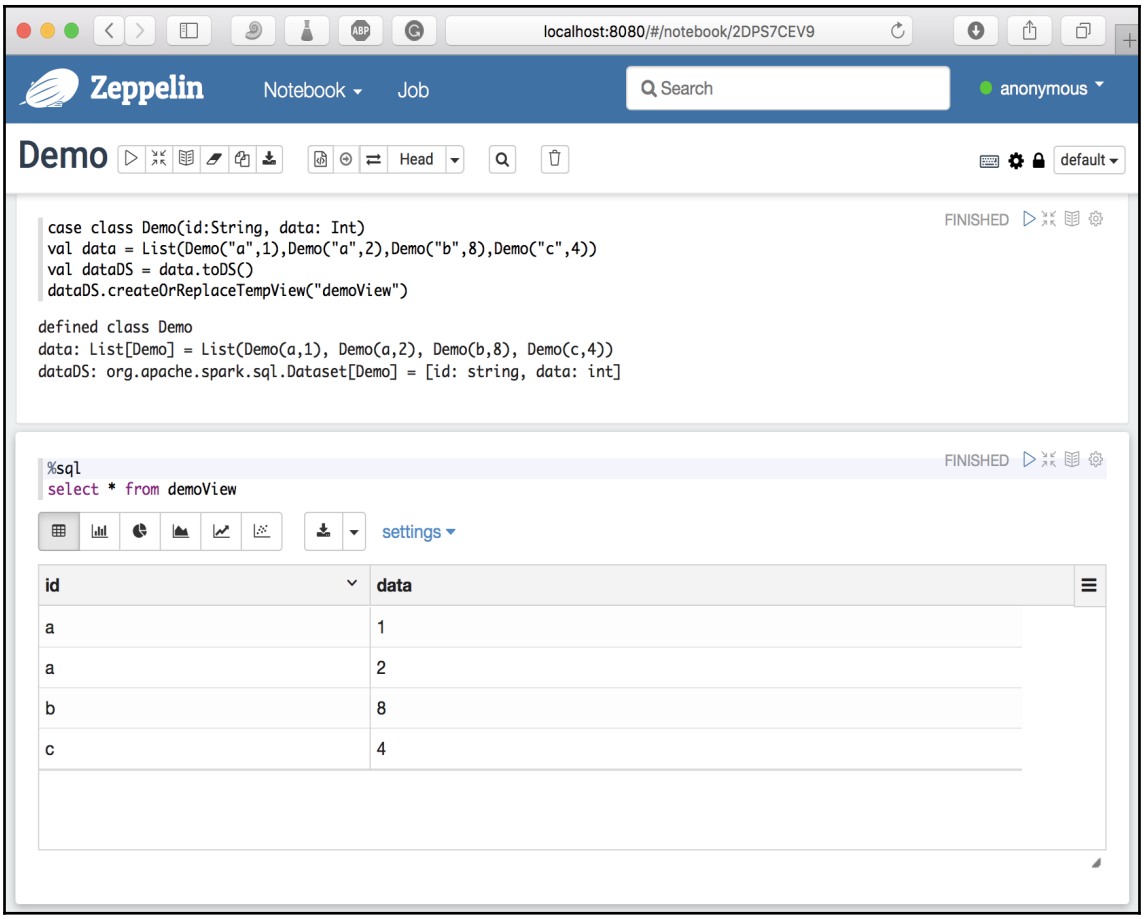
Chapter 11: Batch and Streaming Analytics

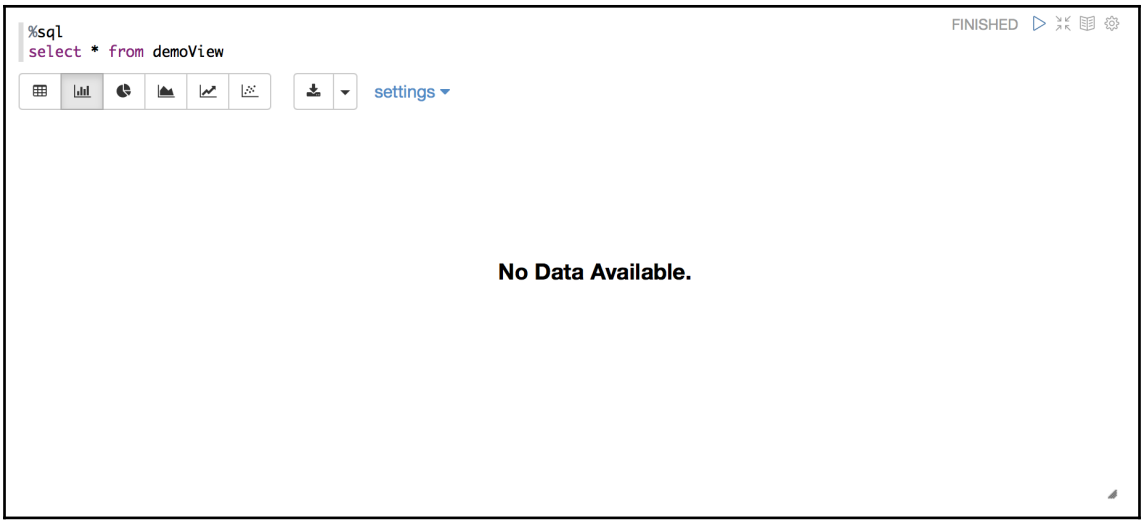

Create New Note
Note Name
Demo
Default Interpreter
spark
Use '/' to create folders. Example: /NoteDirA/Note1
Create

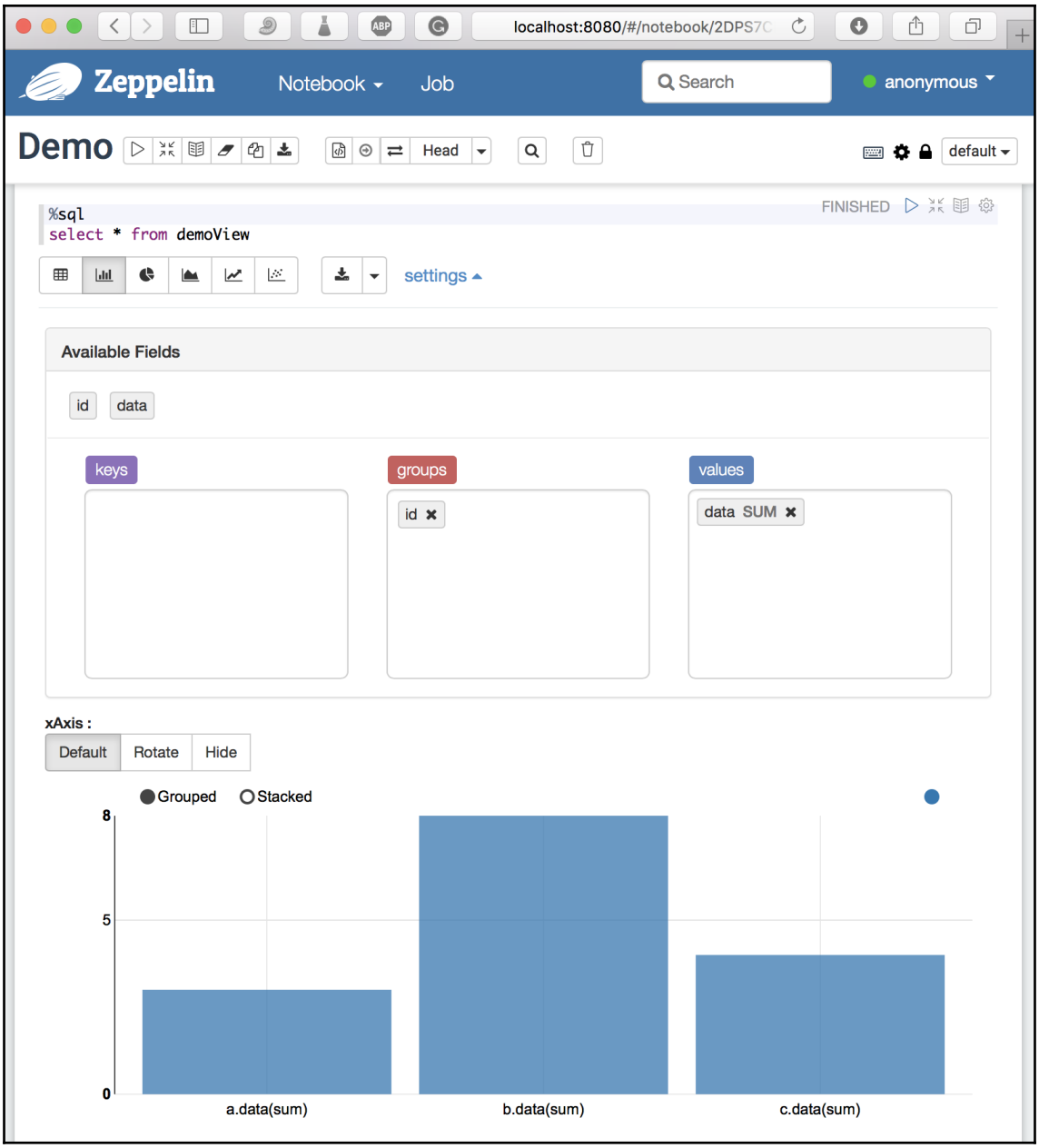

localhost:8080/#/notebook/2DP
Zeppelin
Notebook
Job
Search
anonymous
Demo
Head
default
READY

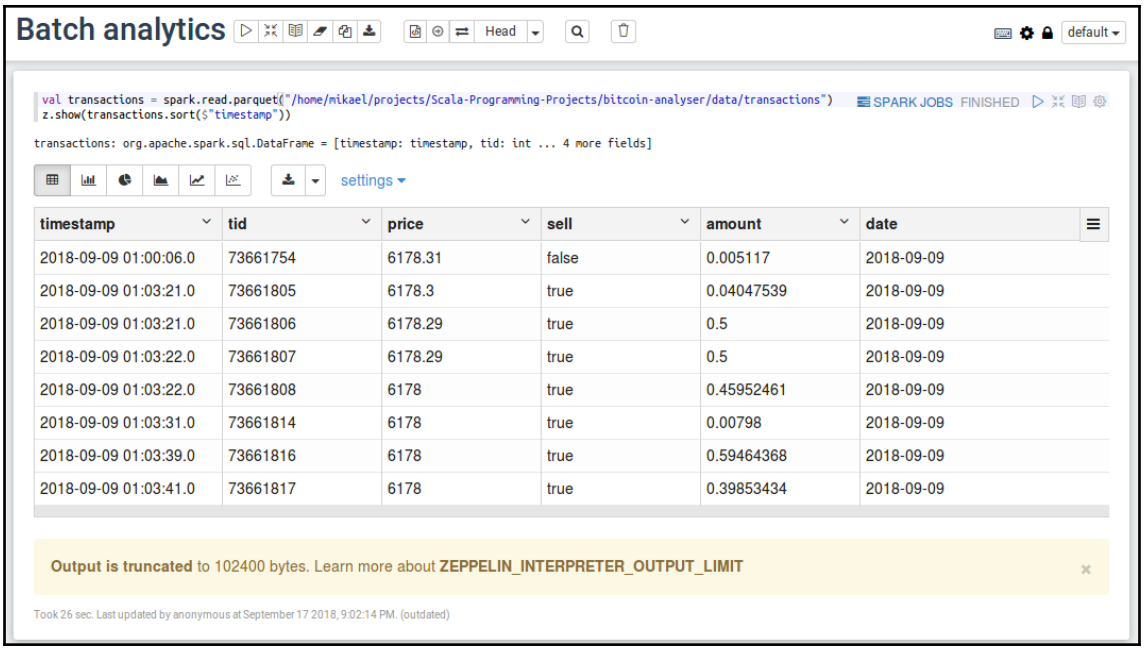

localhost:8080/#/notebook/2DP
Zeppelin
Notebook
Job
Search
anonymous
Demo
Head
default
FINISHED
val dsString = Seq("1", "2", "3").toDS()
dsString.show()
dsString: org.apache.spark.sql.Dataset[String] = [value: string]
+-----+
|value|
+-----+
| 1|
| 2|
| 3|
+-----+
READY


localhost:8080/#/notebook/2DP
Zeppelin
Notebook
Job
Search
anonymous
Demo
Head
default
FINISHED
val dsString = Seq("1", "2", "3").toDS()
dsString.show()
spark.version
dsString: org.apache.spark.sql.Dataset[String] = [value: string]
+-----+
|value|
+-----+
| 1|
| 2|
| 3|
+-----+
res14: String = 2.2.0
READY


localhost:8080/#/notebook/2DPS7CEV9
Zeppelin
Notebook
Job
Search
anonymous
Demo
Head
default
FINISHED
case class Demo(id:String, data: Int)
val data = List(Demo("a",1),Demo("a",2),Demo("b",8),Demo("c",4))
val dataDS = data.toDS()
dataDS.createOrReplaceTempView("demoView")
defined class Demo
data: List[Demo] = List(Demo(a,1), Demo(a,2), Demo(b,8), Demo(c,4))
dataDS: org.apache.spark.sql.Dataset[Demo] = [id: string, data: int]
FINISHED
%sql
select * from demoView
settings
id
data
a
1
a
2
b
8
c
4


%sql
select * from demoView
FINISHED
settings
No Data Available.

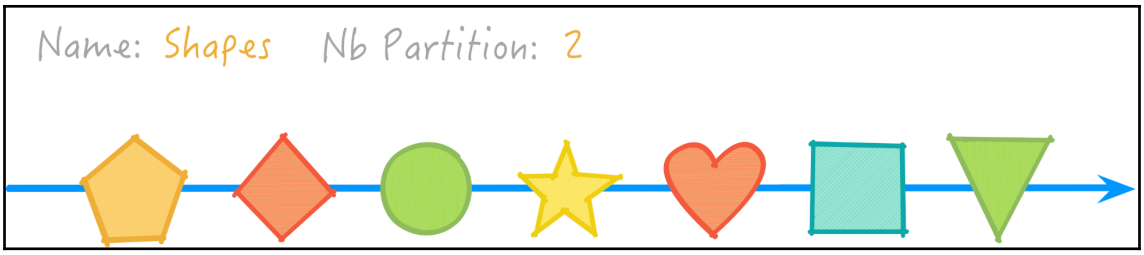

localhost:8080/#/notebook/2DPS7C
Zeppelin
Notebook
Job
Search
anonymous
Demo
Head
default
%sql
select * from demoView
FINISHED
settings
Available Fields
id
data
keys
groups
values
id
data SUM
xAxis :
Default
Rotate
Hide
Grouped
Stacked
8
5
0
a.data(sum)
b.data(sum)
c.data(sum)

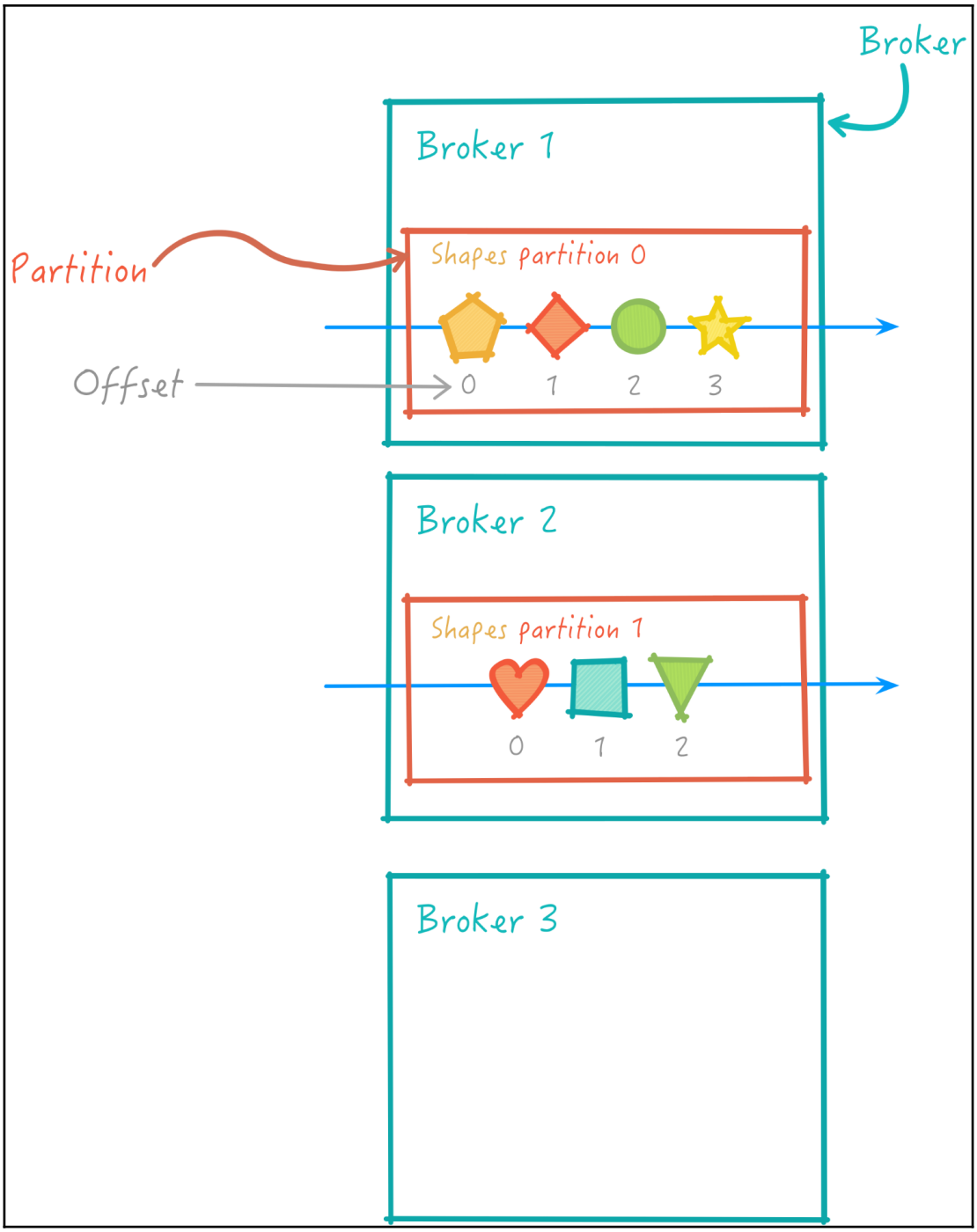

Batch analytics
Head
default
val transactions = spark.read.parquet("/home/mikael/projects/Scala-Programming-Projects/bitcoin-analyser/data/transactions")
z.show(transactions.sort($"timestamp"))
SPARK JOBS FINISHED
transactions: org.apache.spark.sql.DataFrame = [timestamp: timestamp, tid: int ... 4 more fields]
settings
timestamp
tid
price
sell
amount
date
2018-09-09 01:00:06.0
73661754
6178.31
false
0.005117
2018-09-09
2018-09-09 01:03:21.0
73661805
6178.3
true
0.04047539
2018-09-09
2018-09-09 01:03:21.0
73661806
6178.29
true
0.5
2018-09-09
2018-09-09 01:03:22.0
73661807
6178.29
true
0.5
2018-09-09
2018-09-09 01:03:22.0
73661808
6178
true
0.45952461
2018-09-09
2018-09-09 01:03:31.0
73661814
6178
true
0.00798
2018-09-09
2018-09-09 01:03:39.0
73661816
6178
true
0.59464368
2018-09-09
2018-09-09 01:03:41.0
73661817
6178
true
0.39853434
2018-09-09
Output is truncated to 102400 bytes. Learn more about ZEPPELIN_INTERPRETER_OUTPUT_LIMIT
Took 26 sec. Last updated by anonymous at September 17 2018, 9:02:14 PM. (outdated)

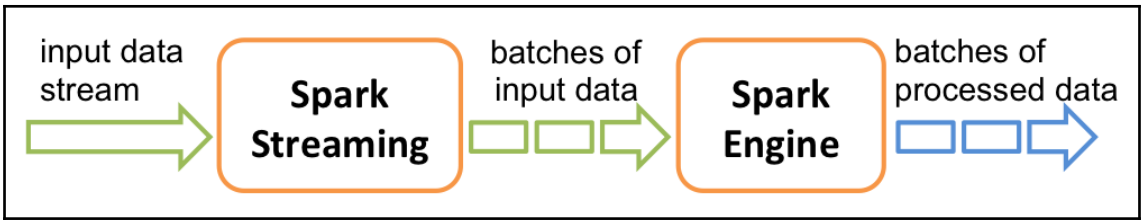

Average price & Last price
SPARK JOBS FINISHED
val group = transactions.groupBy(window($"timestamp", "20 minutes"))
val tmpAgg = group.agg(
count("tid").as("count"),
avg("price").as("avgPrice"),
stddev("price").as("stddevPrice"),
last("price").as("lastPrice"),
sum("amount").as("sumAmount"))
val aggregate = tmpAgg.select("window.start", "count", "avgPrice", "lastPrice", "stddevPrice", "sumAmount").sort("start").cache()
z.show(aggregate)
group: org.apache.spark.sql.RelationalGroupedDataset = RelationalGroupedDataset: [grouping expressions: [window: struct<start: timestamp, end: timestamp>], value: [time
stamp: timestamp, tid: int ... 4 more fields], type: GroupBy]
tmpAgg: org.apache.spark.sql.DataFrame = [window: struct<start: timestamp, end: timestamp>, count: bigint ... 4 more fields]
aggregate: org.apache.spark.sql.Dataset[org.apache.spark.sql.Row] = [start: timestamp, count: bigint ... 4 more fields]
settings
Available Fields
start
count
avgPrice
lastPrice
stddevPrice
sumAmount
keys
start
groups
values
avgPrice SUM
lastPrice SUM
force Y to 0
zoom
Date format
xAxis :
Default
Rotate
Hide
avgPrice
lastPrice
6,401.896
6,350
6,300
6,250
6,200
6,146.916
2018-09-09 01:00:00.0
2018-09-09 14:20:00.0
2018-09-09 21:00:00.0
2018-09-10 04:40:00.0
2018-09-10 11:20:00.0
2018-09-10 18:00:00.0
2018-09-11 07:


2018-09-09 19:00:00.0
avgPrice 6,376.511
lastPrice 6,376.77


settings
SPARK JOBS FINISHED
Line Chart
sumAmount
765.626
700
600
500
400
300
200
100
2.715
Took 1 sec. Last updated by anonymous at September 17 2018, 9:35:17 PM. (outdated)
settings
SPARK JOBS FINISHED
stddevPrice
77.52
70
60
50
40
30
20
10
0.944
Took 1 sec. Last updated by anonymous at September 17 2018, 9:35:14 PM. (outdated)


Name: Shapes Nb Partition: 2


Broker
Broker 1
Partition
Shapes partition 0
Offset
0
1
2
3
Broker 2
Shapes partition 1
0
1
2
Broker 3



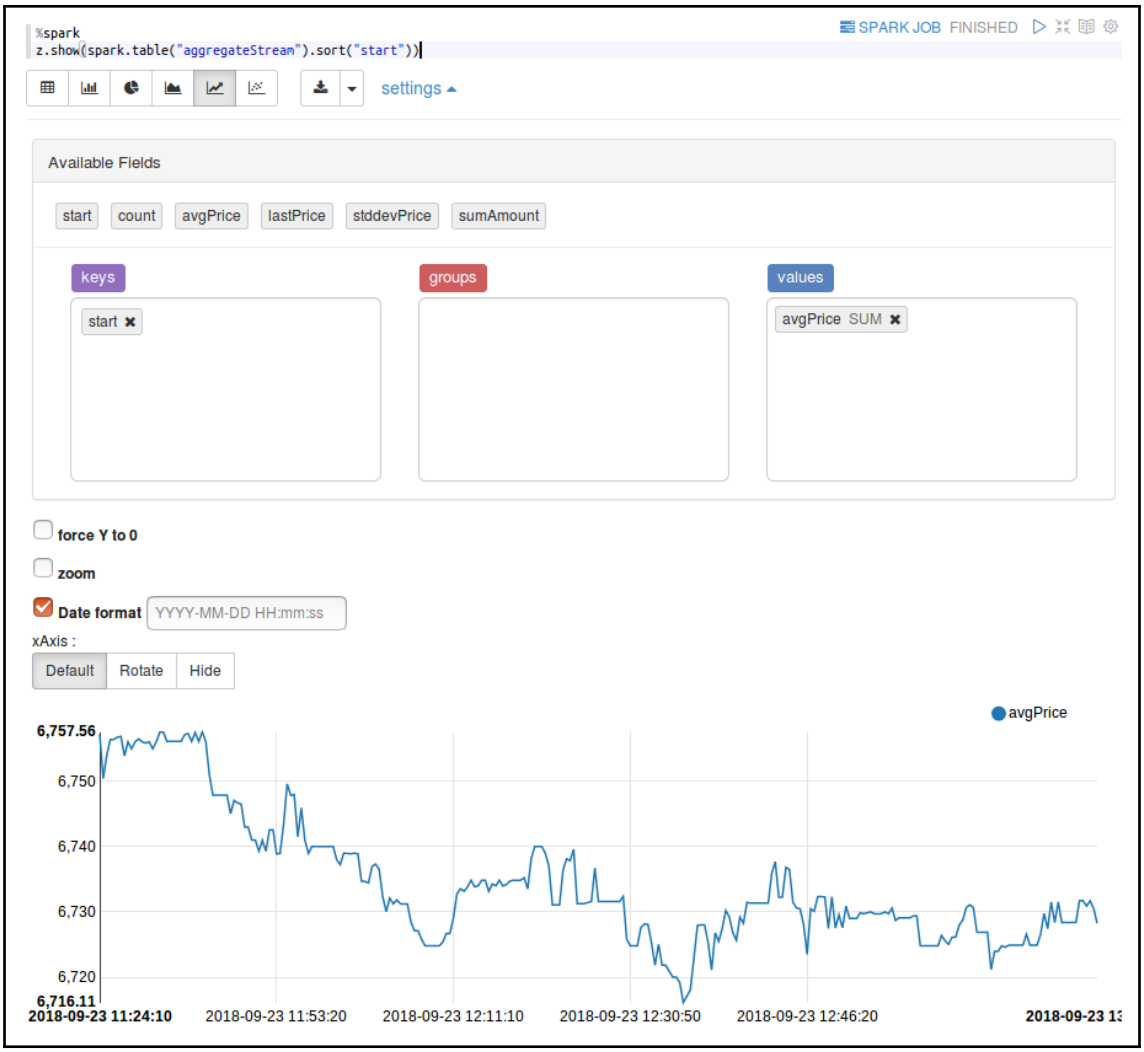

```
%spark
z.show(spark.table("transactionsStream").sort("timestamp"))
```

SPARK JOB FINISHED

settings

timestamp	date	tid	price	sell	amount
2018-09-23 11:23:37.0	2018-09-23	74649764	6757.22	false	0.001
2018-09-23 11:23:49.0	2018-09-23	74649765	6753.9	true	0.5812
2018-09-23 11:24:14.0	2018-09-23	74649786	6757.22	false	0.01051763
2018-09-23 11:24:37.0	2018-09-23	74649805	6753.9	true	1.04394506
2018-09-23 11:24:39.0	2018-09-23	74649810	6749.32	true	1.51821
2018-09-23 11:24:39.0	2018-09-23	74649811	6749.16	false	0.28184494
2018-09-23 11:24:39.0	2018-09-23	74649809	6749.33	false	1.5
2018-09-23 11:25:48.0	2018-09-23	74649833	6754.14	true	0.01392627


%spark
z.show(spark.table("transactionsStream").sort("timestamp"))
SPARK JOB FINISHED
settings
Available Fields
timestamp
date
tid
price
sell
amount
xAxis
timestamp
yAxis
price
group
sell
size
false
true
6,757.56
6,750
6,740
6,730
6,720
6,716.1
2018-09-23 11:23:37.0
2018-09-23 11:59:57.0
2018-09-23 12:11:22.0
2018-09-23 12:33:23.0
2018-09-23 12:49:36.0


%spark
z.show(spark.table("aggregateStream").sort("start"))
SPARK JOB FINISHED
settings
Available Fields
start
count
avgPrice
lastPrice
stddevPrice
sumAmount
keys
groups
values
start
avgPrice SUM
force Y to 0
zoom
Date format
YYYY-MM-DD HH:mm:ss
xAxis :
Default
Rotate
Hide
avgPrice
6,757.56
6,750
6,740
6,730
6,720
6,716.11
2018-09-23 11:24:10
2018-09-23 11:53:20
2018-09-23 12:11:10
2018-09-23 12:30:50
2018-09-23 12:46:20