무료 전자 책

배우기

playframework

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#playframework

work

1: playframework

playframework , .

. playframework .

Examples

1

Play Java 6 . Play Git Ant .

(`java --version`)

Play Java **$ JAVA_HOME** Java .

Python . (2.5) .

.

1. Java .
2. Play .
3. 'play' .

OS X

Java .

1. Play `/Applications` .
2. `/etc/paths` `/Applications/play-1.2.5` (`/Applications/play-1.2.5` .

OS X .

1. HomeBrew
2. `brew install play`

Java Sun-JDK OpenJDK (Linux Java gcj) .

Windows

Java JDK . .

`sbt `

`sbt activator` Play . .

```
# create a new folder
mkdir myNewProject
# launch sbt
sbt
```

`build.sbt`

```
name := """myProjectName"""

version := "1.0-SNAPSHOT"

offline := true

lazy val root = (project in file(".")).enablePlugins(PlayScala)
scalaVersion := "2.11.6"
# add required dependencies here .. below a list of dependencies I use
libraryDependencies ++= Seq(
  jdbc,
  cache,
  ws,
  filters,
  specs2 % Test,
  "com.github.nscala-time" %% "nscala-time" % "2.0.0",
  "javax.ws.rs" % "jsr311-api" % "1.0",
  "commons-io" % "commons-io" % "2.3",
  "org.asynchttpclient" % "async-http-client" % "2.0.4",
  cache
)


resolvers += "scalaz-bintray" at "http://dl.bintray.com/scalaz/releases"

resolvers ++= Seq("snapshots", "releases").map(Resolver.sonatypeRepo)

resolvers += "Typesafe Releases" at "http://repo.typesafe.com/typesafe/maven-releases/"
```

`project` Play `build.properties` .

```
 addSbtPlugin("com.typesafe.play" % "sbt-plugin" % "2.4.3")
```

! `.sbt` `.sbt activator` .

Play 2.4.x / 2.5.x - Windows, Java

:

1. Java 8 - Oracle .
2. Activator - www.playframework.com/download zip Play (:

```
c:\Play-2.4.2\activator-dist-1.3.5
```

3. sbt - www.scala-sbt.org .

:

1. **JAVA_HOME** , :

```
c:\Program Files\Java\jdk1.8.0_45
```

2. **PLAY_HOME** , :

```
c:\Play-2.4.2\activator-dist-1.3.5;
```

3. **SBT_HOME** :

```
c:\Program Files (x86)\sbt\bin;
```

.

```
%JAVA_HOME%\bin;%PLAY_HOME%;%SBT_HOME%;
```

2.5

Play 2.5.3 (2.5) . :

1. *activator-dist-1.3.10 \ bin \ activator.bat* 55 "%" . : *set SBT_HOME = % BIN_DIRECTORY %*
2. activator *activator-dist-1.3.10* *conf* .
3. *conf* *sbtconfig.txt* .

CLI

cmd . CLI CLI .

```
activator new my-play-app play-java
```

.

```
activator new
```

.

Play 2.4 *project / plugins.sbt* .

```
// Use the Play sbt plugin for Play projects
addSbtPlugin("com.typesafe.play" % "sbt-plugin" % "2.4.x")
```

2.4.x . Play 2.5 .

sbt project / build.properties . **sbt** . Play2.4.x .

```
sbt.version=0.13.8
```

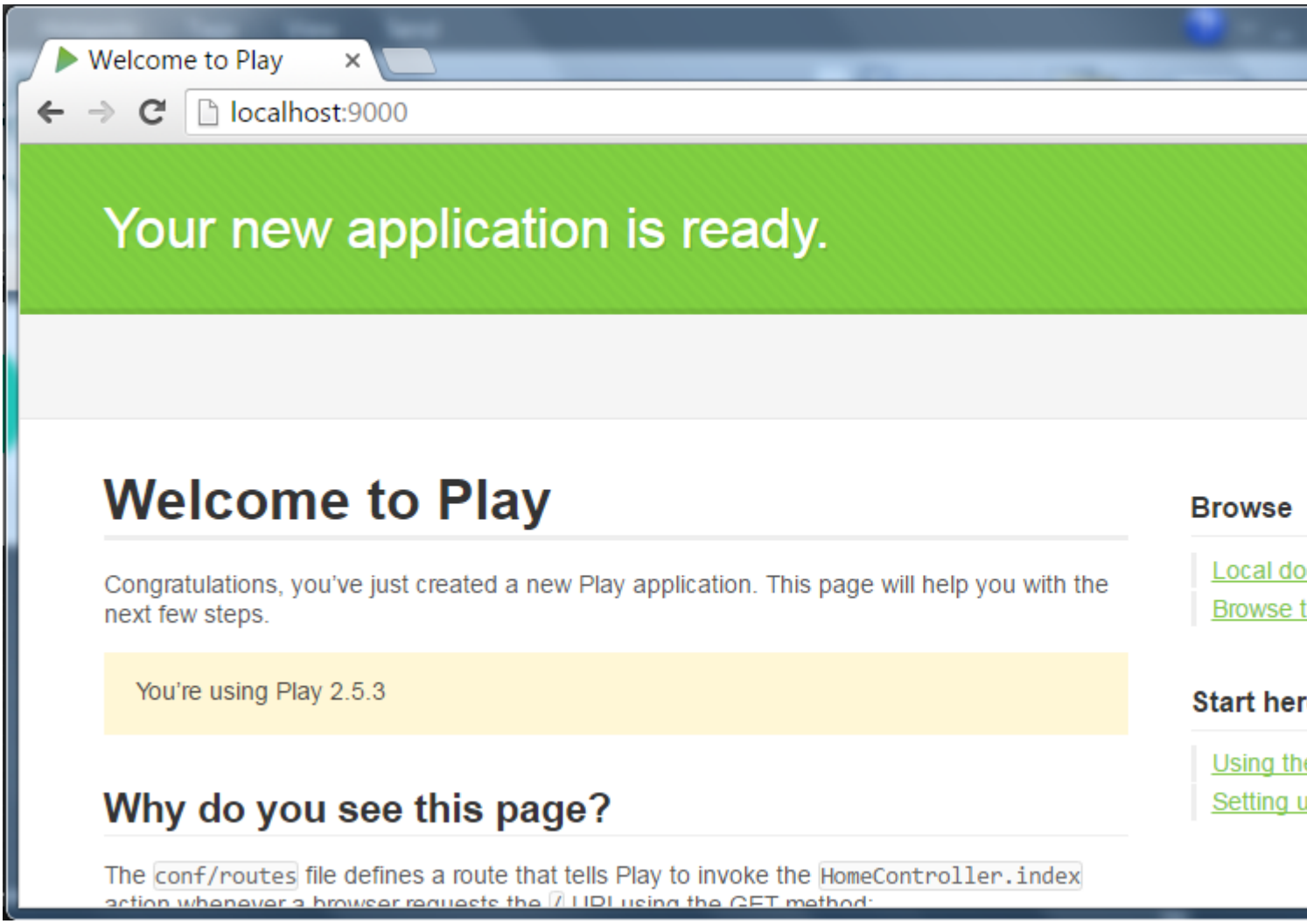
.

```
  cd my-play-app
  activator run
```

.

```
  [info] p.c.s.NettyServer - Listening for HTTP on /0:0:0:0:0:0:0:0:9000
  (Server started, use Ctrl+D to stop and go back to the console...)
```

9000 . *http : // localhost : 9000* URL . :



activator 9000 (http) 443 (https) . (http) .

```
activator "run 9005"
```

playframework : https://riptutorial.com/ko/playframework/topic/1052/playframework-

2: Java - Hello World

- Linux / MacOS Play .

Examples

(`HelloWorld` `play-java`)

```
$ ~/activator-1.3.10-minimal/bin/activator new HelloWorld play-java
```

.

```
Fetching the latest list of templates...

OK, application "HelloWorld" is being created using the "play-java" template.

To run "HelloWorld" from the command line, "cd HelloWorld" then:
/home/YourUserName/HelloWorld/activator run

To run the test for "HelloWorld" from the command line, "cd HelloWorld" then:
/home/YourUserName/HelloWorld/activator test

To run the Activator UI for "HelloWorld" from the command line, "cd HelloWorld" then:
/home/YourUserName/HelloWorld/activator ui
```

( ).

.

Play Framework Activator . Activator Play Framework , .

Activator Play (1.3.10).

.

Activator .

```
To run "HelloWorld" from the command line, "cd HelloWorld" then:
    /home/YourUserName/HelloWorld/activator run
```

: `activator` `bin/activator` . , ,

```
bin/activator
```

Activator . . ,

```
[HelloWorld] $
```

`~run` . Activator . . Ctrl + D (Activator) Ctrl + D (OS) .

```
[HelloWorld] $ ~run
```

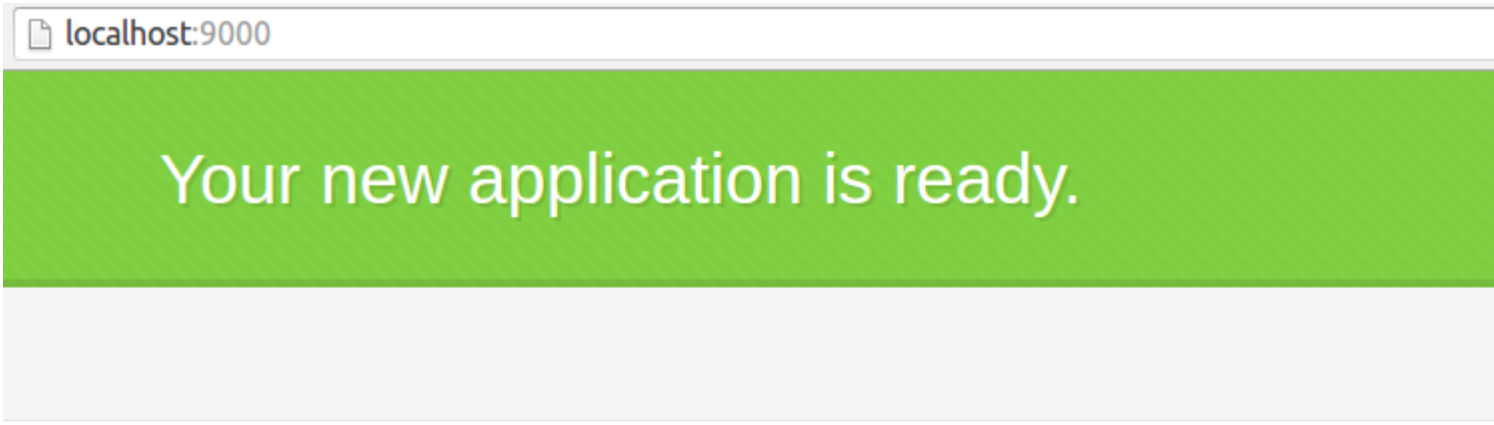
Play . .

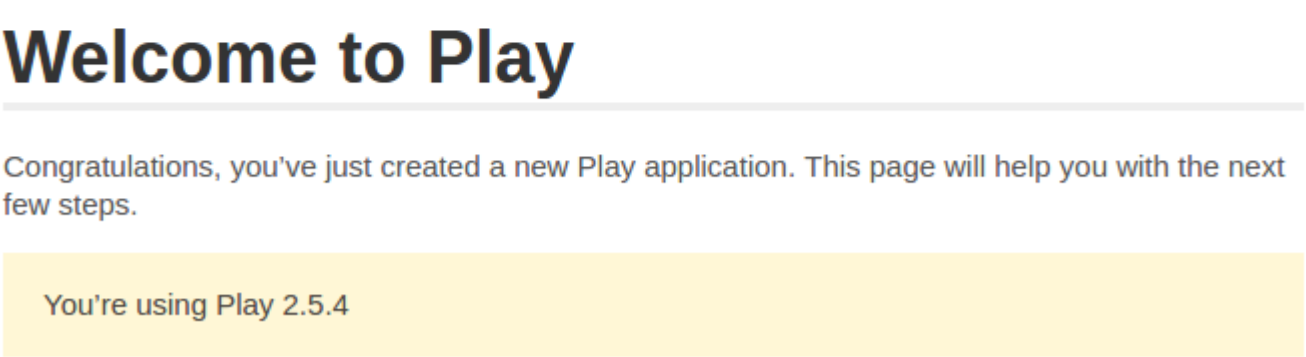
```
-- (Running the application, auto-reloading is enabled) ---

[info] p.c.s.NettyServer - Listening for HTTP on /0:0:0:0:0:0:0:0:9000

(Server started, use Ctrl+D to stop and go back to the console...)
```

localhost : 9000 Play





. .

Hello World "Hello World"

"Hello World" Hello World . .

app/controllers/HomeController.java .

```
public Result hello() {
    return ok("Hello world!");
}
```

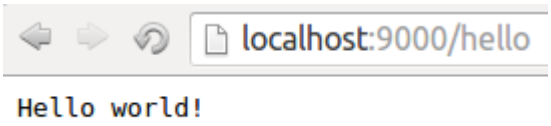
conf/routes .

```
GET     /hello                      controllers.HomeController.hello
```

Play .

```
[info] Compiling 4 Scala sources and 1 Java source to
/home/YourUserName/HelloWorld/target/scala-2.11/classes...
[success] Compiled in 4s
```

localhost : 9000 / hello hello world .



Java - Hello World : https://riptutorial.com/ko/playframework/topic/5887/java---hello-world

3: Java - JSON

Play : https://www.playframework.com/documentation/2.5.x/JavaJsonActions

Examples

JSON

```
import play.libs.Json;


public JsonNode createJson() {
    // {"id": 33, "values": [3, 4, 5]}
    ObjectNode rootNode = Json.newObject();
    ArrayNode listNode = Json.newArray();

    long values[] = {3, 4, 5};
    for (long val: values) {
        listNode.add(val);
    }

    rootNode.put("id", 33);
    rootNode.set("values", listNode);
    return rootNode;
}
```

/ json

```
import play.libs.Json;
// (...)
```

```
// Note: "app" is an play.Application instance
JsonNode node = Json.parse(app.resourceAsStream("public/myjson.json"));
```

```
String myStr = "{\"name\": \"John Doe\"}";
JsonNode node = Json.parse(myStr);
```

JSON

`json` JSON .

```
[
  {
    "name": "John Doe",
    "work": {
      "company": {
        "name": "ASDF INC",
        "country": "USA"
      },
      "cargo": "Programmer"
```

```
    },
    "tags": ["java", "jvm", "play"]
  },
  {
    "name": "Bob Doe",
    "work": {
      "company": {
        "name": "NOPE INC",
        "country": "AUSTRALIA"
      },
      "cargo": "SysAdmin"
    },
    "tags": ["puppet", "ssh", "networking"],
    "active": true
  }
]
```

( )

```
JsonNode node = json.get(0).get("name"); // --> "John Doe"
// This will throw a NullPointerException, because there is only two elements
JsonNode node = json.get(2).get("name"); // --> *crash*
```

( )

```
JsonNode node1 = json.at("/0/name"); // --> TextNode("John Doe")
JsonNode node2 = json.at("/2/name"); // --> MissingNode instance
if (! node2.isMissingNode()) {
    String name = node2.asText();
}
```

```
JsonNode node2 = json.at("/0/work/company/country"); // TextNode("USA")
```

```
List<JsonNode> d = json.findValues("country"); // List(TextNode("USA"), TextNode("AUSTRALIA"))
```

""

```
List<JsonNode> e = json.findParents("active"); // List(ObjectNode("Bob Doe"))
```

JSON Java ()

Jackson (JSON Play) json . getter / setter . ISBN `Book` `getISBN/setISBN` `getISBN/setISBN` Jackson

- Java JSON "ISBN" JSON
- JSON "ISBN" `setISBN` Java isbn .

JSON

```
public class Person {
    String id, name;
}

JsonNode node = Json.parse("{\"id\": \"3S2F\", \"name\", \"Salem\"}");
Person person = Json.fromJson(node, Person.class);
System.out.println("Hi " + person.name); // Hi Salem
```

Java JSON

```
// "person" is the object from the previous example
JsonNode personNode = Json.toJson(person)
```

JSON JSON

```
// personNode comes from the previous example
String json = personNode.toString();
// or
String json = Json.stringify(json);
```

JSON

```
System.out.println(personNode.toString());
/* Prints:
{"id":"3S2F","name":"Salem"}
*/

System.out.println(Json.prettyPrint(personNode));
/* Prints:
{
  "id" : "3S2F",
  "name" : "Salem"
}
*/
```

Java - JSON : https://riptutorial.com/ko/playframework/topic/6318/java---json-

4: JSON -

play json Play .

`build.sbt` `"com.typesafe.play" % "play-json_2.11" % "2.5.3",`

- https://mvnrepository.com/artifact/com.typesafe.play/play-json_2.11
- sbt Play JSON

Examples

JSON

JSON (`JsValue`) .

```
import play.api.libs.json._

val json = JsObject(Map(
  "name" -> JsString("Jsony McJsonface"),
  "age" -> JsNumber(18),
  "hobbies" -> JsArray(Seq(
    JsString("Fishing"),
    JsString("Hunting"),
    JsString("Camping")
  ))
))
```

.

```
import play.api.libs.json._

val json = Json.obj(
  "name" -> "Jsony McJsonface",
  "age" -> 18,
  "hobbies" -> Seq(
    "Fishing",
    "Hunting",
    "Camping"
  )
)
```

JSON .

```
json.toString
// {"name":"Jsony McJsonface","age":18,"hobbies":["Fishing","Hunting","Camping"]}
Json.prettyPrint(json)
//  {
//    "name" : "Jsony McJsonface",
//    "age" : 18,
//    "hobbies" : [ "Fishing", "Hunting", "Camping" ]
//  }
```

Java : JSON

```
public Result sayHello() {
    JsonNode json = request().body().asJson();
    if(json == null) {
        return badRequest("Expecting Json data");
    } else {
        String name = json.findPath("name").textValue();
        if(name == null) {
            return badRequest("Missing parameter [name]");
        } else {
            return ok("Hello " + name);
        }
    }
}
```

Java : BodyParser JSON

```
@BodyParser.Of(BodyParser.Json.class)
public Result sayHello() {
    JsonNode json = request().body().asJson();
    String name = json.findPath("name").textValue();
    if(name == null) {
        return badRequest("Missing parameter [name]");
    } else {
        return ok("Hello " + name);
    }
}
```

: Play HTTP 400 (Content-type `application/json` JSON)

: JSON

JSON :

```
val str =
    """{
    |    "name" : "Jsony McJsonface",
    |    "age" : 18,
    |    "hobbies" : [ "Fishing", "Hunting", "Camping" ],
    |    "pet" : {
    |        "name" : "Doggy",
    |        "type" : "dog"
    |    }
    |}""".stripMargin
```

JSON JsValue .

```
val json = Json.parse(str)
```

.

```
(json \ "name").as[String]          // "Jsony McJsonface"
```

- `\` JSON .
- `\\` JSON .
- `.apply(idx)` (`(idx)`) .
- `.as[T]`
- `.asOpt[T]` , None .
- `.validate[T]` JSON JsSuccess JsError .

```
(json \ "name").as[String]          // "Jsony McJsonface"
(json \ "pet" \ "name").as[String]  // "Doggy"
(json \\ "name").map(_.as[String])  // List("Jsony McJsonface", "Doggy")
(json \\ "type")(0).as[String]      // "dog"
(json \ "wrongkey").as[String]      // throws JsResultException
(json \ "age").as[Int]              // 18
(json \ "hobbies").as[Seq[String]]  // List("Fishing", "Hunting", "Camping")
(json \ "hobbies")(2).as[String]    // "Camping"
(json \ "age").asOpt[String]        // None
(json \ "age").validate[String]     // JsError containing some error detail
```

/

JSON JSON (,).

```
case class Person(
  name: String,
  age: Int,
  hobbies: Seq[String],
  pet: Pet
)

case class Pet(
  name: String,
  `type`: String
)

// these macros will define automatically the conversion to/from JSON
// based on the cases classes definition
implicit val petFormat = Json.format[Pet]
implicit val personFormat = Json.format[Person]
```

Json

```
val person = Person(
  "Jsony McJsonface",
  18,
  Seq("Fishing", "Hunting", "Camping"),
  Pet("Doggy", "dog")
)

Json.toJson(person).toString
// {"name":"Jsony
McJsonface","age":18,"hobbies":["Fishing","Hunting","Camping"],"pet":{"name":"Doggy","type":"dog"}}
```

Json

```
val str =
    """{
    |    "name" : "Jsony McJsonface",
    |    "age" : 18,
    |    "hobbies" : [ "Fishing", "Hunting", "Camping" ],
    |     "pet" : {
    |       "name" : "Doggy",
    |       "type" : "dog"
    |     }
    |}""".stripMargin


Json.parse(str).as[Person]
// Person(Jsony McJsonface,18,List(Fishing, Hunting, Camping),Pet(Doggy,dog))
```

JSON - : https://riptutorial.com/ko/playframework/topic/2983/json----

5: WSClient

: https://www.playframework.com/documentation/2.5.x/ScalaWS

Examples

()

HTTP WSClient , .

```
import javax.inject.Inject

import play.api.libs.ws.WSClient

import scala.concurrent.{ExecutionContext, Future}

class MyClass @Inject() (
  wsClient: WSClient
)(implicit ec: ExecutionContext){

  def doGetRequest(): Future[String] = {
    wsClient
      .url("http://www.google.com")
      .get()
      .map { response =>
      // Play won't check the response status,
      // you have to do it manually
      if ((200 to 299).contains(response.status)) {
        println("We got a good response")
        // response.body returns the raw string
        // response.json could be used if you know the response is JSON
        response.body
      } else
        throw new IllegalStateException(s"We received status ${response.status}")
    }
  }
}
```

WSClient : https://riptutorial.com/ko/playframework/topic/2981/wsclient----

6:

- dist

Examples

`scripts` :

1. .
2. build.sbt .

```
import NativePackagerHelper._
```

3. build.sbt .

```
mappings in Universal ++= directory("scripts")
```

4. ***dist*** . `target/universal/` .

: https://riptutorial.com/ko/playframework/topic/6642/---

7: IDE

Examples

IntelliJ IDEA

1. Intellij IDEA ( )
2. IntelliJ
3. Activator (`activator new [nameoftheproject] play-scala` Play .

1. Open IntelliJ IDEA
2. `File` > `Open ...` [ ]> `OK`
3. . , . `OK` .
4. Intellij IDEA . `root` `root-build` . `OK` .
5. IntelliJ . IntelliJ . .

Intellij

IDE `sbt` / / . Intellij . . :

1. `Run` > `Edit configurations...`
2. `+` `Play 2 App` .
3. (: [nameofyourproject]). `OK` .
4. `Run` UI `Run` `Debug` . `Run` `sbt run` . `Debug` .

`Intellij IDEA` > `Preferences` > `Build, Execution, Deployment` > `Build tools` > `SBT` > `Project-level settings` > `Use auto-import` .

`import` . `build.sbt` Intellij IDEA . Intellij IDEA . Intellij . Intellij `build.sbt` . . UI SBT .

Play IDE Eclipse - Java, Play 2.4, 2.5

Play IDE-s . . **sbt** . . IDE , . Scala Java 8 : **luna** **mars** Eclipse (http://scala-ide.org/download/sdk.html) .

Eclipse IDE

Play Eclipse .

1. Eclipse *project / plugins.sbt* .

```
//Support Play in Eclipse
addSbtPlugin("com.typesafe.sbteclipse" % "sbteclipse-plugin" % "4.0.0")
```

2. eclipse *build.sbt* .

```
EclipseKeys.preTasks := Seq(compile in Compile)
```

3. {user root} .sbt \ repositories . *activator-launcher-local* *activator-local* .

```
activator-local: file:////${activator.local.repository-C:/Play-2.5.3/activator-dist-
1.3.10//repository},
[organization]/[module]/(scala_[scalaVersion]/)(sbt_[sbtVersion]/)[revision]/[type]s/[artifact](-
[classifier]).[ext]
activator-launcher-local: file:////${activator.local.repository-${activator.home-
${user.home}/.activator}/repository},
[organization]/[module]/(scala_[scalaVersion]/)(sbt_[sbtVersion]/)[revision]/[type]s/[artifact](-
[classifier]).[ext]
```

4. :

```
activator compile
```

5. Eclipse .

```
activator eclipse
```

Existing Projects **Workspace** eclipse .

1. *build.sbt* .

```
EclipseKeys.withSource := true
```

2.

eclipse IDE

sbt .

1. *.sbt* \ *0.13* \ *plugins* *plugins.sbt* . Windows **asch** :

```
c:\asch\.sbt\0.13\plugins\plugins.sbt
```

2. Eclipse *plugins.sbt* .

```
//Support Play in Eclipse
addSbtPlugin("com.typesafe.sbteclipse" % "sbteclipse-plugin" % "4.0.0")
```

3. *.sbt* *sbteclipse.sbt* . Windows **asch** :

```
c:\asch\.sbt\0.13\sbteclipse.sbt
```

4. **activator eclipse** *sbteclipse.sbt* .

```
import com.typesafe.sbteclipse.plugin.EclipsePlugin.EclipseKeys
EclipseKeys.preTasks := Seq(compile in Compile)
```

5. **EclipseKeys** .

Eclipse

9999 .

```
activator -jvm-debug run
```

```
activator -jvm-debug [port] run
```

:

1. , .
2. **Debug Configurations** **Remote Java Application** **New** .
3. (9999) .

. .

Eclipse IDE

1. Java8 (1.8.0_91)
2. Eclipse (JavaScript)
3. 2.5.4

Eclipse

1.
2. `Help` > `Eclipse Marketplace`
3. `Find Scala`
4. Scala IDE

sbteclipse

1. `.\project\ plugins.sbt`

2. eclipse `plugins.sbt`

   addSbtPlugin ("com.typesafe.sbteclipse"% "sbteclipse-plugin"% "4.0.0")

3. `cd C:\play\play-scala` . .

1. Eclipse `File` > `Import` .
2. `Existing Projects into Workspace` .
3.

Eclipse IDE .

IDE : https://riptutorial.com/ko/playframework/topic/4437/--ide-

8:

Examples

- Java, Play 2.4,2.5

. Play , HTTP , , . . Play . *fakeApplication* . *fakeApplication* *WithApplication* .

API .

```
Helpers.running(Application application, final Runnable block);
Helpers.fakeApplication();
```

.

```
public class TestController extends WithApplication {
 @Test
 public void testSomething() {
     Helpers.running(Helpers.fakeApplication(), () -> {
         // put test stuff
         // put asserts
     });
 }
}
```

.

```
 import static play.test.Helpers.fakeApplication;
 import static play.test.Helpers.running;
 ...
 @Test
 public void testSomething() {
      running(fakeApplication(), () -> {
           // put test stuff
           // put asserts
       });
 }
```

}

URL . Java . Play . *Call* . .

API .

```
Result result = Helpers.route(Helpers.fakeRequest(Call action));
```

1. :

```
GET /conference/:confId    controllers.ConferenceController.getConfId(confId: String)
POST /conference/:confId/participant
controllers.ConferenceController.addParticipant(confId:String)
```

2. :

```
controllers.routes.ConferenceController.getConfId(conferenceId)
controllers.routes.ConferenceController.addParticipant(conferenceId)
```

3. *getConfId* **GET** . .

```
Result result =
Helpers.route(Helpers.fakeRequest(controllers.routes.ConferenceController.getConfId(conferenceId)
```

4. *addParticipant* **POST** . . .

```
ParticipantDetails inputData = DataSimulator.createParticipantDetails();
Call action = controllers.routes.ConferenceController.addParticipant(conferenceId);
Result result = route(Helpers.fakeRequest(action).bodyJson(Json.toJson(inputData));
```

PowerMock

.

```
@RunWith(PowerMockRunner.class)
@PowerMockIgnore({"javax.management.*", "javax.crypto.*"})
public class TestController extends WithApplication {
....
```

RequestBuilder .

```
RequestBuilder fakeRequest = Helpers.fakeRequest(action);
```

addParticipant .

```
RequestBuilder mockActionRequest =
Helpers.fakeRequest(controllers.routes.ConferenceController.addParticipant(conferenceId));
```

:

```
Result result = Helpers.route(mockActionRequest);
```

:

```
@Test
public void testLoginOK() {
 running(fakeApplication(), () -> {
```

```
      ///*whatever mocking*/Mockito.when(...).thenReturn(...);
      RequestBuilder mockActionRequest = Helpers.fakeRequest(
           controllers.routes.LoginController.loginAdmin());
      Result result = route(mockActionRequest);
      assertEquals(OK, result.status());
 });
}
```

JSON

T . .

1:

```
public static <T> RequestBuilder fakeRequestWithJson(T input, String method, String url) {
  JsonNode jsonNode = Json.toJson(input);
  RequestBuilder fakeRequest = Helpers.fakeRequest(method, url).bodyJson(jsonNode);
  System.out.println("Created fakeRequest="+fakeRequest +",
body="+fakeRequest.body().asJson());
  return fakeRequest;
}
```

2 :

```
public static <T> RequestBuilder fakeActionRequestWithJson(Call action, T input) {
  JsonNode jsonNode = Json.toJson(input);
  RequestBuilder fakeRequest = Helpers.fakeRequest(action).bodyJson(jsonNode);
  System.out.println("Created fakeRequest="+fakeRequest +",
body="+fakeRequest.body().asJson());
  return fakeRequest;
}
```

:

```
public static final String BASIC_AUTH_VALUE = "dummy@com.com:12345";
public static RequestBuilder fakeActionRequestWithBaseAuthHeader(Call action) {
  String encoded = Base64.getEncoder().encodeToString(BASIC_AUTH_VALUE.getBytes());
  RequestBuilder fakeRequest =
Helpers.fakeRequest(action).header(Http.HeaderNames.AUTHORIZATION,
                                              "Basic " + encoded);
  System.out.println("Created fakeRequest="+fakeRequest.toString() );
  return fakeRequest;
}
```

:

```
public static final String FAKE_SESSION_ID = "12345";
public static RequestBuilder fakeActionRequestWithSession(Call action) {
  RequestBuilder fakeRequest = RequestBuilder fakeRequest =
Helpers.fakeRequest(action).session("sessionId", FAKE_SESSION_ID);
  System.out.println("Created fakeRequest="+fakeRequest.toString() );
  return fakeRequest;
}
```

Play *Session* *HashMap <String, String>* . .

```
public static Http.Session fakeSession() {
  return new Http.Session(new HashMap<String, String>());
}
```

: https://riptutorial.com/ko/playframework/topic/6192/-

9:

Examples

`build.sbt` , MySQL PostGreSQL :

```
 "mysql" % "mysql-connector-java" % "5.1.20",
 "org.postgresql" % "postgresql" % "9.3-1100-jdbc4",
 "com.typesafe.slick" %% "slick" % "3.1.1",
 "com.typesafe.play" %% "play-slick" % "1.1.1"
```

`application.conf` .

```
mydb.driverjava="slick.driver.MySQLDriver$"
mydb.driver="com.mysql.jdbc.Driver"
mydb.url="jdbc:mysql://hostaddress:3306/dbname?zeroDateTimeBehavior=convertToNull"
mydb.user="username"
mydb.password="password"
```

RDBMS .

```
package mypackage

import slick.driver.MySQLDriver
import slick.driver.PostgresDriver

object SlickDBDriver{
  val env = "something here"
  val driver = env match{
    case "postGreCondition" => PostgresDriver
    case _                  => MySQLDriver
  }
}
```

:

```
import mypackage.SlickDBDriver.driver.api._
import slick.lifted.{TableQuery, Tag}
import slick.model.ForeignKeyAction

case class MyModel(
  id: Option[Long],
  name: String
) extends Unique


class MyModelDB(tag: Tag) extends IndexedTable[MyModel](tag, "my_table"){
  def id              = column[Long]("id", O.PrimaryKey, O.AutoInc)
  def name            = column[String]("name")

  def * = (id.? , name) <> ((MyModel.apply _).tupled, MyModel.unapply _)
}
```

```
class MyModelCrud{
   import play.api.Play.current

   val dbConfig = DatabaseConfigProvider.get[JdbcProfile](Play.current)
   val db =  dbConfig.db

   val query = TableQuery[MyModelDB]

   // SELECT * FROM my_table;
   def list = db.run{query.result}
}
```

DDL

SQL . .

`val table = TableQuery[MyModel]` (SQL - DDL) .

```
import mypackage.SlickDBDriver.driver.api._
table.schema.createStatements
```

: https://riptutorial.com/ko/playframework/topic/4604/

10: -

- MyClassUsingAnother @Inject () (myOtherClassInjected : MyOtherClass) {(...)}
- @ MyClassThatShouldBeASingleton (...)

Examples

:

```
import javax.inject._
@Singleton
class BurgersRepository {
    // implementation goes here
}
```

.

```
import javax.inject._
class FastFoodService @Inject() (burgersRepository: BurgersRepository){
    // implementation goes here
    // burgersRepository can be used
}
```

. FastFoodService .

```
import javax.inject._
import play.api.mvc._
@Singleton
class EatingController @Inject() (fastFoodService: FastFoodService) extends Controller {
    // implementation goes here
    // fastFoodService can be used
}
```

Play

WSClient Configuration . .

```
class ComplexService @Inject()(
  configuration: Configuration,
  wsClient: WSClient,
  applicationLifecycle: ApplicationLifecycle,
  cacheApi: CacheApi,
  actorSystem: ActorSystem,
  executionContext: ExecutionContext
  ) {
  // Implementation goes here
  // you can use all the injected classes :
  //
  // configuration to read your .conf files
  // wsClient to make HTTP requests
  // applicationLifecycle to register stuff to do when the app shutdowns
```

```
  // cacheApi to use a cache system
  // actorSystem to use AKKA
  // executionContext to work with Futures
}
```

ExecutionContext . .

```
class ComplexService @Inject()(
  configuration: Configuration,
  wsClient: WSClient
  )(implicit executionContext: ExecutionContext) {
  // Implementation goes here
  // you can still use the injected classes
  // and executionContext is imported as an implicit argument for the whole class
}
```

. . .

```
import com.google.inject.AbstractModule
// Play will automatically use any class called `Module` that is in the root package
class Module extends AbstractModule {

  override def configure() = {
    // Here you can put your customisation code.
    // The annotations are still used, but you can override or complete them.

    // Bind a class to a manual instantiation of it
    // i.e. the FunkService needs not to have any annotation, but can still
    // be injected in other classes
    bind(classOf[FunkService]).toInstance(new FunkService)

    // Bind an interface to a class implementing it
    // i.e. the DiscoService interface can be injected into another class
    // the DiscoServiceImplementation is the concrete class that will
    // be actually injected.
    bind(classOf[DiscoService]).to(classOf[DiscoServiceImplementation])

    // Bind a class to itself, but instantiates it when the application starts
    // Useful to executes code on startup
    bind(classOf[HouseMusicService]).asEagerSingleton()
  }

}
```

- : https://riptutorial.com/ko/playframework/topic/3020/----

11: - Java

Examples

Guice - 2.4, 2.5

Guice Play (**DI**) . Guice Play .

Play API

Play 2.5 API **DI** . , *Configuration* , *JPAApi* , *CacheApi* .

Play API-s , Play . *@Inject* . , *Configuration* .

```
@Inject
private Configuration configuration;
```

:

```
private Configuration configuration;
@Inject
public MyController(Configuration configuration) {
    this.configuration = configuration;
}
```

DI *@Inject* .

DI *Play.current (). injector ()* . , *Configuration* .

```
private Configuration configuration =
Play.current().injector().instanceOf(Configuration.class);
```

@ImplementedBy Guice .

@ImplementedBy

@ImplementedBy . facade .

1. *CacheProvider* .

   ```
   @ImplementedBy(RunTimeCacheProvider.class)
   public interface CacheProvider {
      CacheApi getCache();
   }
   ```

2.

RunTimeCacheProvider .

```
public class RunTimeCacheProvider implements CacheProvider {
   @Inject
   private CacheApi appCache;
   @Override
   public public CacheApi getCache() {
     return appCache;
   }
}
```

: *appCache* *RunTimeCacheProvider* .

3. *@Inject* .

```
public class HomeController extends Controller {
  @Inject
  private CacheProvider cacheProvider;
  ...
  public Result getCacheData() {
        Object cacheData = cacheProvider.getCache().get("DEMO-KEY");
        return ok(String.format("Cache content:%s", cacheData));
  }
```

@ImplementedBy . *CacheProvider* *RunTimeCacheProvider* . . .
@ImplementedBy . **Guice** .

Module .

```
import com.google.inject.AbstractModule;
public class Module extends AbstractModule {
  @Override
  protected void configure() {
      // bindings are here
  }
}
```

: configure . .

CacheProvider *RunTimeCacheProvider* .

1. *CacheProvider* *@ImplementedBy* .

```
public interface CacheProvider {
  CacheApi getCache();
}
```

2. .

```
public class Module extends AbstractModule {
  @Override
  protected void configure() {
    bind(CacheProvider.class).to(RunTimeCacheProvider.class);
```

```
  }
}
```

Play

RunTimeCacheProvider *JUnit* ( ). , *CacheProvider* . .

.

1. *FakeCache* *CacheApi* (-).
2. *FakeCacheProvider* *CacheProvider* .

```
public class FakeCacheProvider implements CacheProvider {
  private final CacheApi fakeCache = new FakeCache();
  @Override
  public CacheApi getCache() {
    return fakeCache;
  }
}
```

2. .

```
public class Module extends AbstractModule {
  private final Environment environment;
  public Module(Environment environment, Configuration configuration) {
    this.environment = environment;
  }
  @Override
  protected void configure() {
     if (environment.isTest() ) {
      bind(CacheProvider.class).to(FakeCacheProvider.class);
    }
    else {
      bind(CacheProvider.class).to(RuntimeCacheProvider.class);
    }
  }
}
```

. . . .

. . OnStartupModule .

```
package modules;
import com.google.inject.AbstractModule;
public class OnStartupModule extends AbstractModule {
   @Override
   protected void configure() {
       ...
   }
}
```

Play . *OnStartupModule* *application.conf* .

```
play.modules.enabled += "modules.OnStartupModule"
```

- Java : https://riptutorial.com/ko/playframework/topic/6060/----java

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3	Java - JSON	Salem
4	JSON -	Anton, asch, implicitdef, John, Salem
5	WSClient	implicitdef, John, Salem
6		JulienD
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11	- Java	asch