

ICTSkills Studio (2015)

Play Framework: Using Eclipse Debugger

Produced
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Project *donation*

Launch *donation* from within Eclipse

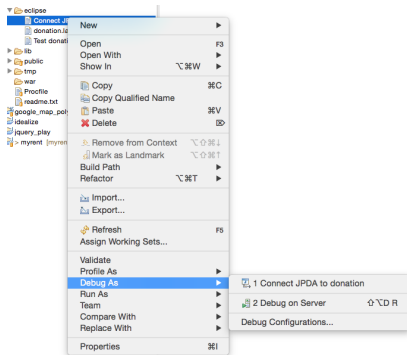
- Ensure application name in file *application.conf* is *donation*.
- Ensure app is not running.
- From terminal in *donation* folder run *play eclipsify*.
- In *donation/eclipse* folder:
 - Select *donation.launch*.
 - In context menu execute:
 - *Run As / donation*
 - Verify in console window server is running.

```
donation [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_45.jdk/Contents/Home/bin/java (18 Jun 2015 14:4
objc[3030]: Class JavaLaunchHelper is implemented in both /Library/Java/JavaVirtualMachines/
Listening for transport dt_socket at address: 57685
14:45:39,065 INFO ~ Starting /Users/john/repo/ictskills-studio-2015/apps/donation
14:45:39,890 WARN ~ You're running Play! in DEV mode
14:45:39,942 INFO ~ Listening for HTTP on port 9000 (Waiting a first request to start) ...
~ Server is up and running
```

Project *donation*

Launch debugger

- Once server is running select *Connect JPDA to donation.launch*
 - In context menu execute *Debug as | Connect JPDA to donation*



Project *donation*

Use breakpoints to inspect code where required

- Place breakpoints where required in controller & model code.
- Browse to localhost:9000
- Perform some action, for example, *sign in*, whose execution path contains breakpoint.
- Perspective changes from Java to Debug.
- Program halts at breakpoint. Use function keys or icons to:
 - F5 : Step into
 - F6 : Step over
 - F7 : Return from method
 - F8: Run to next breakpoint.

Project *donation*

Use breakpoints to inspect code where required

The screenshot displays an IDE interface with three main panels:

- Package Explorer:** Shows the project structure. A breakpoint is set at line 56 in the `authenticate` method of `Accounts.java`.
- Variables:** A table showing the current state of variables.

Name	Value
email	"homer@simpson.com" (id=48)
password	"secret" (id=53)
- Accounts.java:** The source code of the `authenticate` method is visible. The breakpoint is located at line 56, which is the line `User user = User.findByEmail(email);`.
- Console:** Displays the application's output. It shows that the server is up and running, and it logs the successful authentication of the user "homer@simpson.com" with the password "secret".

Project *donation*

Here local variable are revealed

Local variables in scope

The image shows a web application interface and its corresponding IDE. The web application has a "Log into your account" form with fields for email and password, and a "Login" button. The IDE shows the `authenticate` method in `Administrator.java`. A breakpoint is set on line 67, and the execution has stopped. The "Variables" window is open, showing the local variables `email`, `password`, and `user` with their respective values.

Web Application Interface:

- Home | Sign Up | Log In
- Log into your account
- Your username is the email you registered with
- Email:
- Password:
- Login button

IDE (Administrator.java):

```
57
58 public static void authenticate(String email, String password)
59 {
60     Logger.info("Attempting to authenticate with " + email + ":" + password);
61     User user = User.findByEmail(email);
62     if ((user != null) && (user.checkPassword(password) == true))
63     {
64         Logger.info("Successful authentication of " + user.firstName + " " + user.lastName);
65         session.put("logged_in_userid", user.id);
66         DonationController.index();
67     }
68 }
69 else
70 {
71     Logger.info("Authentication failed");
72     login();
73 }
74 }
```

Variables Window:

Name	Value
email	"homer@simpson.com" (id=98)
password	"secret" (id=102)
user	User (id=81)

Annotations:

- [1] Press Login (points to the Login button)
- [2] Execution stops at breakpoint set on line 67 (points to line 67 in the IDE)
- [3] Local variable values visible here (points to the Variables window)