

# Writing BETTER code with NetBeans

Mark Stephens  
IDRsolutions

# Who is talking...

- Entrepreneur and founder of UK based software company IDR solutions
- Using Java since 1997 and have used Vi, JBuilder, VisualCafe, Eclipse, IDEA, NetBeans
- Work with PDF, HTML5, SVG in Java and JavaFX
- Day job - a Java PDF library and PDF2HTML5/SVG converter
- I have a History degree...

*Ask me about NetBeans, JavaFX, Java, HTML5, SVG, PDF,  
or anything which happened before 1500AD*





# My talk will cover...

- NetBeans is not just for Java
- All the Java tools you will ever need.
- Debugging code with NetBeans
- NetBeans and Ant (I might mention Maven)
- Automated Testing with NetBeans
- Tips for writing better code quicker with NetBeans
- Other Code quality plugins
- Something about cats



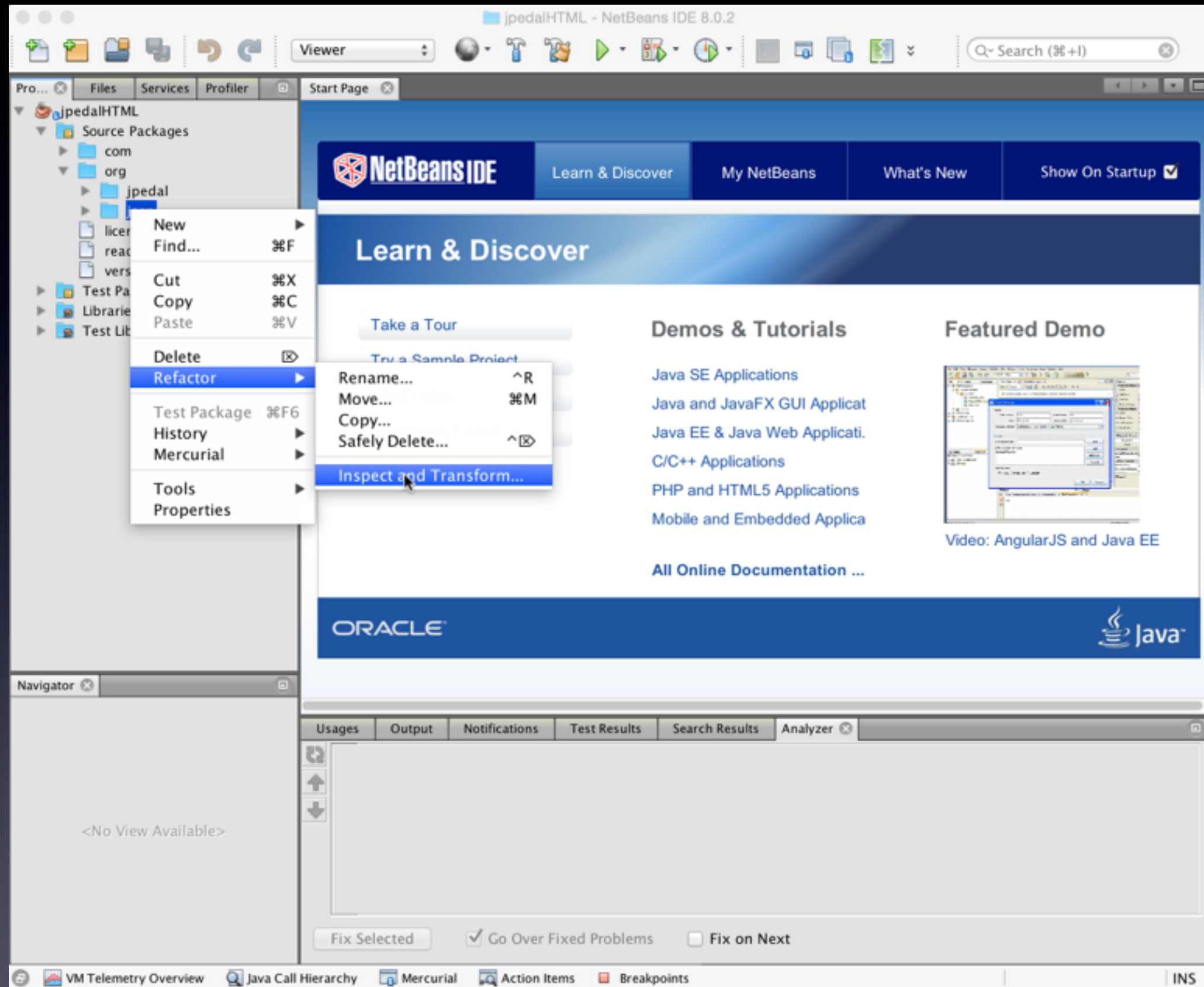


# What is better code?

- Faster to write
- Faster to run
- Less 'buggy'
- Looks likes Mark Reinhold wrote it
- Makes sense to a 7 year old
- Easy to maintain
- More fun to write
- Shorter
- More verbose
- Simpler
- I know it when I see it...



# Context matters





# The NetBeans 'family'

NetBeans IDE 8.0.2 Download

8.0.1 | 8.0.2 | Development | Archive

Email address (optional):

Subscribe to newsletters: ☒ Monthly ☐ Weekly

☒ NetBeans can contact me at this address

IDE Language: English Platform: Mac OS X

Note: Greyed out technologies are not supported for this platform.

Supported technologies *	Java SE	Java EE	C/C++	HTML5 & PHP	All
NetBeans Platform SDK	•	•			•
Java SE	•	•			•
Java FX	•	•			•
Java EE		•			•
Java ME					—
HTML5		•		•	•
Java Card™ 3 Connected					—
C/C++			•		•
Groovy					•
PHP				•	•
Bundled servers					
GlassFish Server Open Source Edition 4.1		•			•
Apache Tomcat 8.0.15		•			•

Download Download Download Download Download

Free, 105 MB Free, 222 MB Free, 72 MB Free, 72 MB Free, 243 MB

\* You can add or remove packs later using the IDE's Plugin Manager (Tools | Plugins).

Java 7 and later versions are required for installing and running the PHP and C/C++ NetBeans Bundles. You can download the [latest Java](#) at [java.com](#).

JDK 7 and later versions are required for installing and running the Java SE, Java EE and All NetBeans Bundles. You can download [standalone JDK](#) or download the latest [JDK with NetBeans IDE Java SE bundle](#).

You can start developing applications based on the NetBeans Platform using the NetBeans IDE for Java SE. Learn more about the [NetBeans Platform](#). NetBeans source code and binary builds without bundled runtimes are also available in [zip file format](#). See also [instructions on how to build the IDE from sources or installation instructions](#).

**Important Legal Information:**

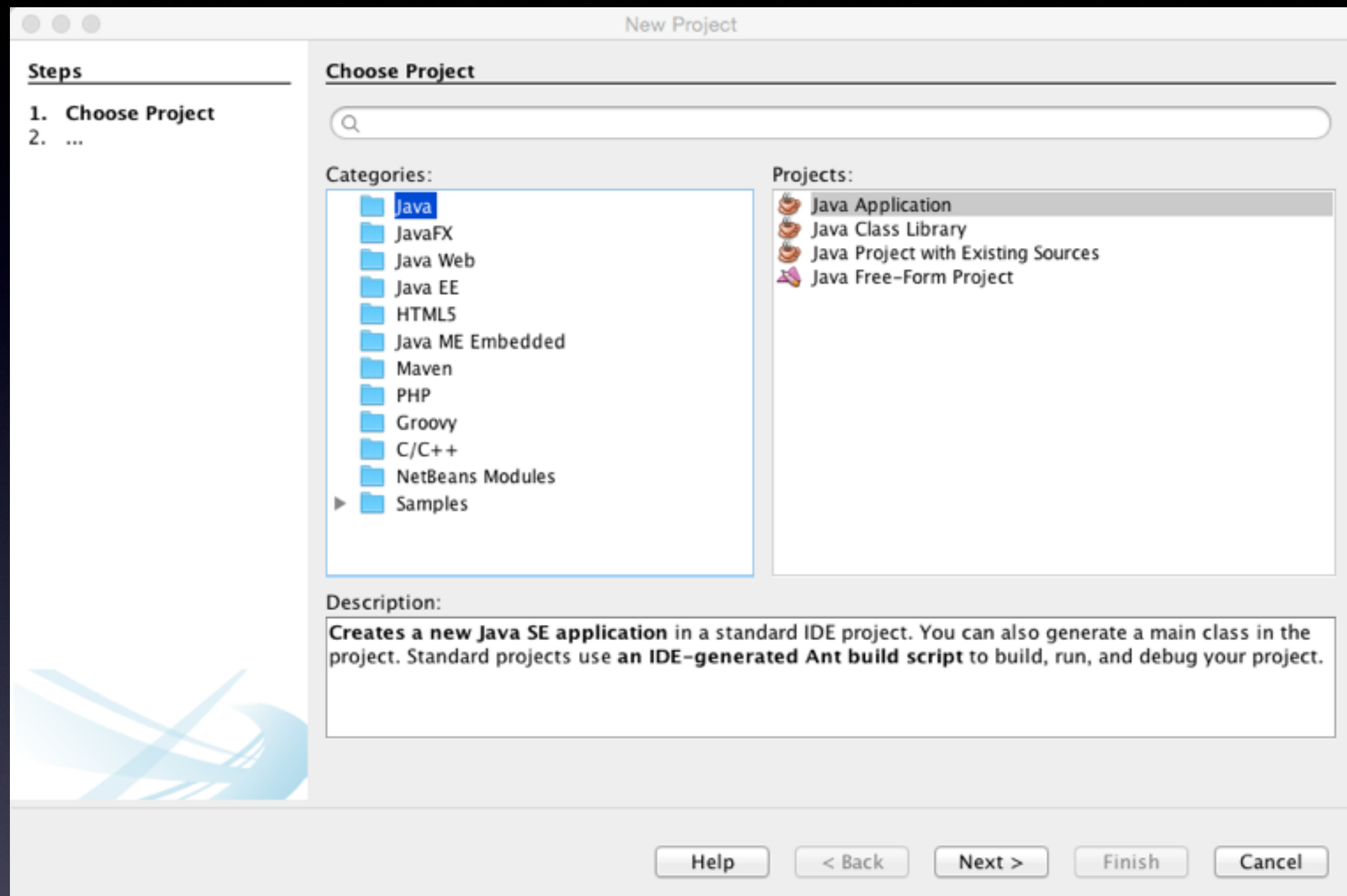
NetBeans Community Distributions are available under a Dual License consisting of the [Common Development and Distribution License \(CDDL\) v1.0](#) and [GNU General Public License \(GPL\) v2](#). Such distributions include additional components under separate licenses identified in the [License file](#). See the [Third Party License file](#) for external components included in NetBeans and their associated licenses.

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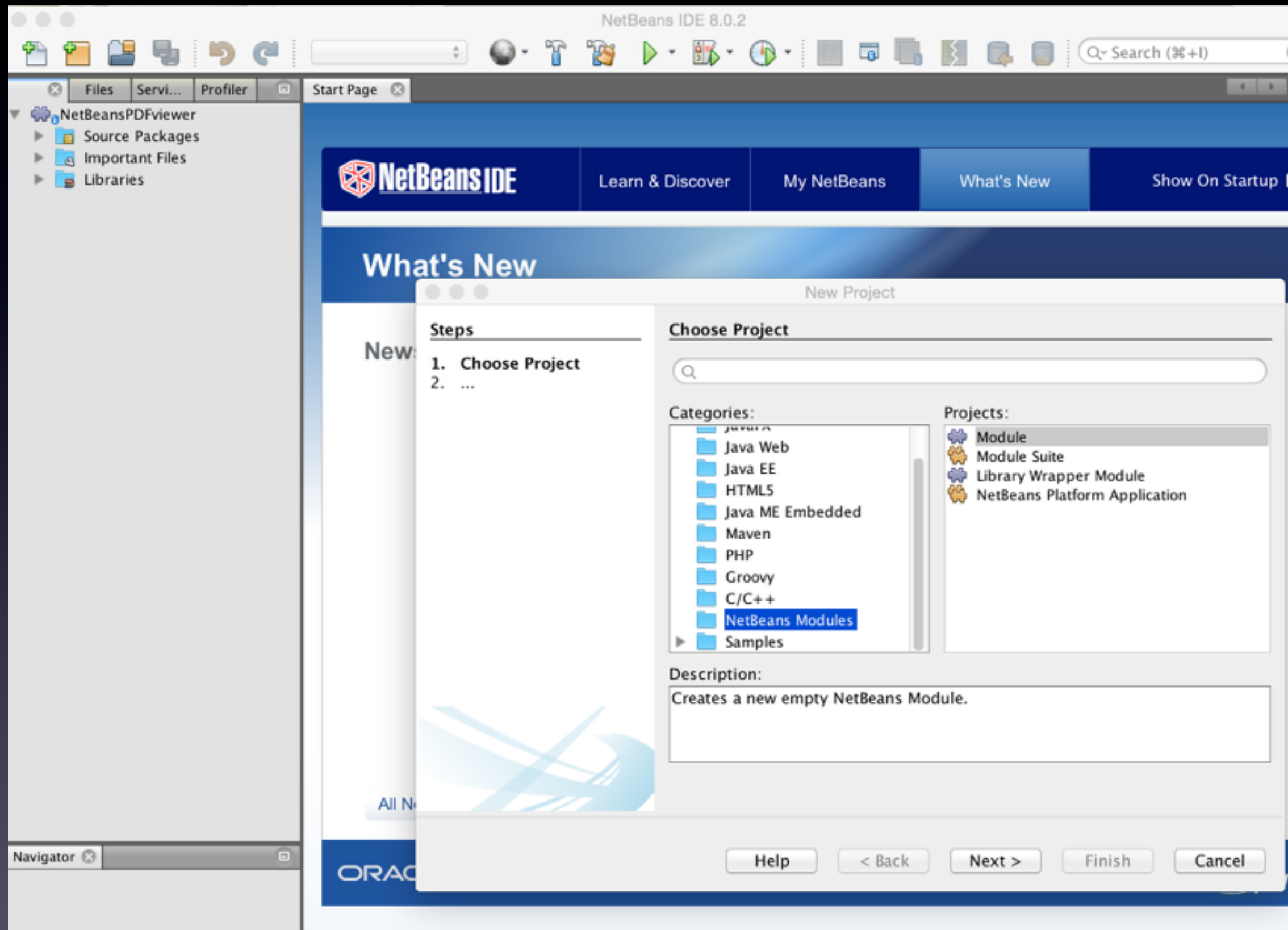
IDE, SDK, Framework or Platform?

# NetBeans Projects



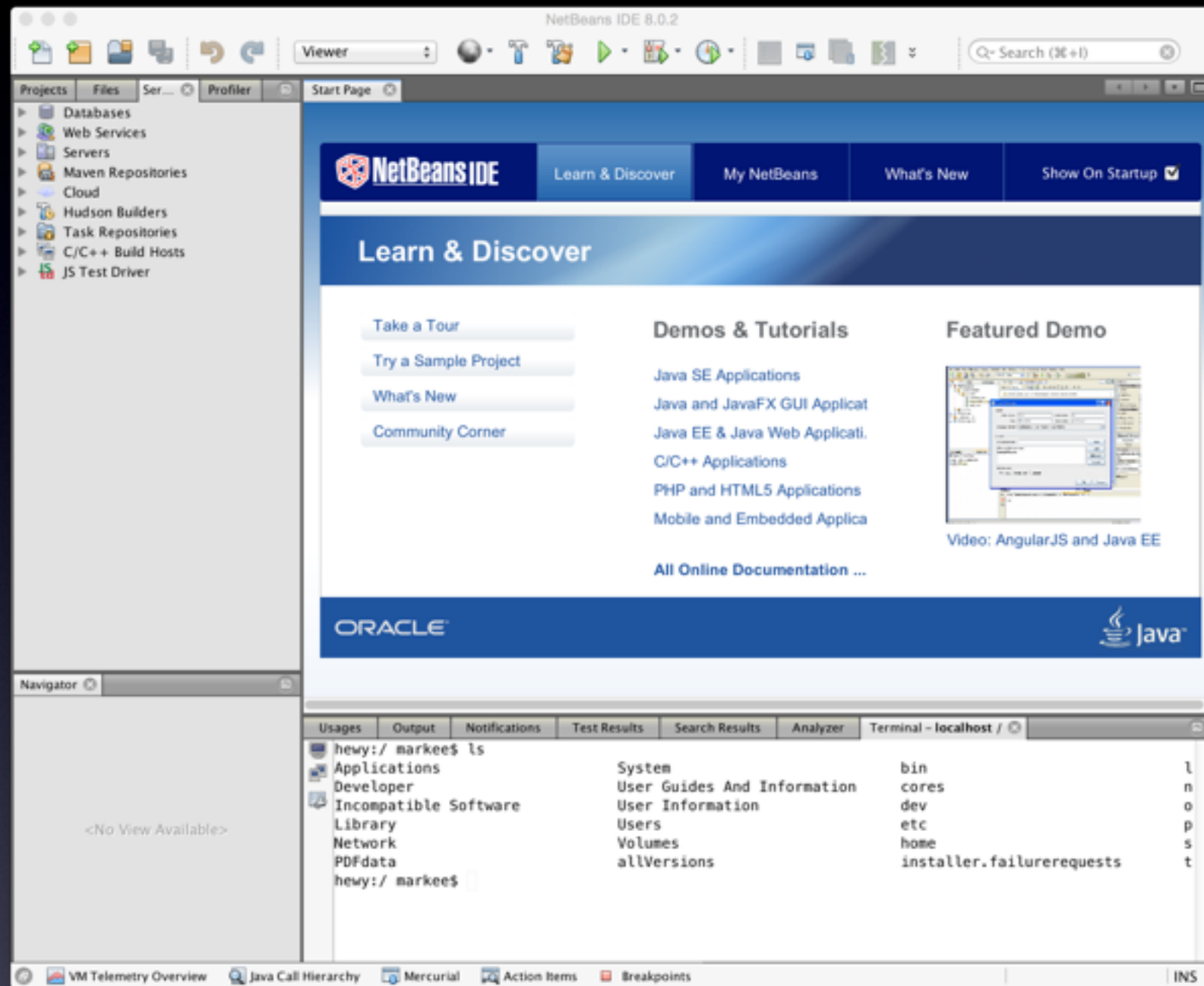
You can have multiple projects all open at once  
Add other languages with Plugins (ie Android)...

# Plugin Projects





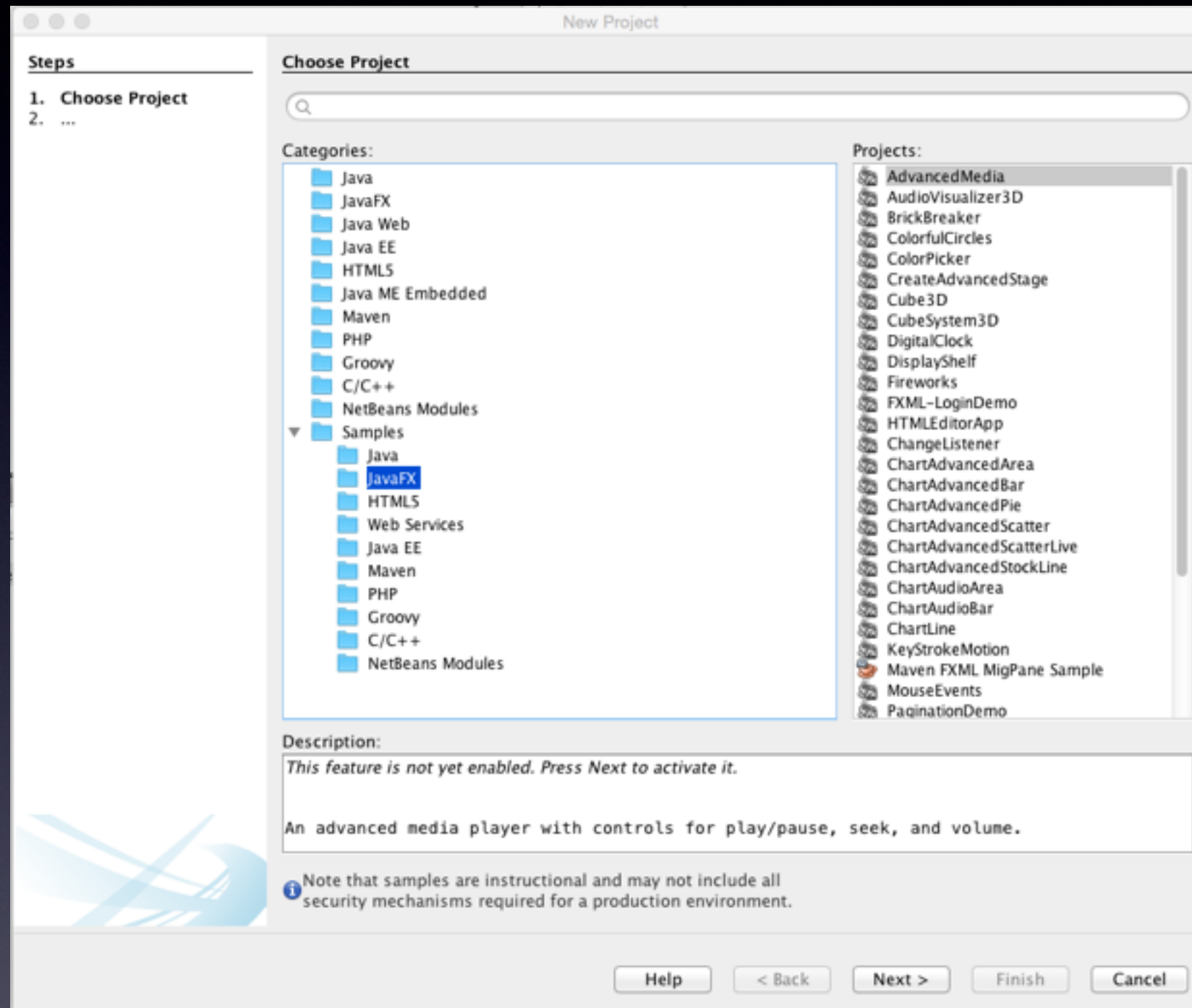
# You can live inside NetBeans



Integration to Start Page, services, plugins, even a shell...

# Good artists copy, great artists steal!

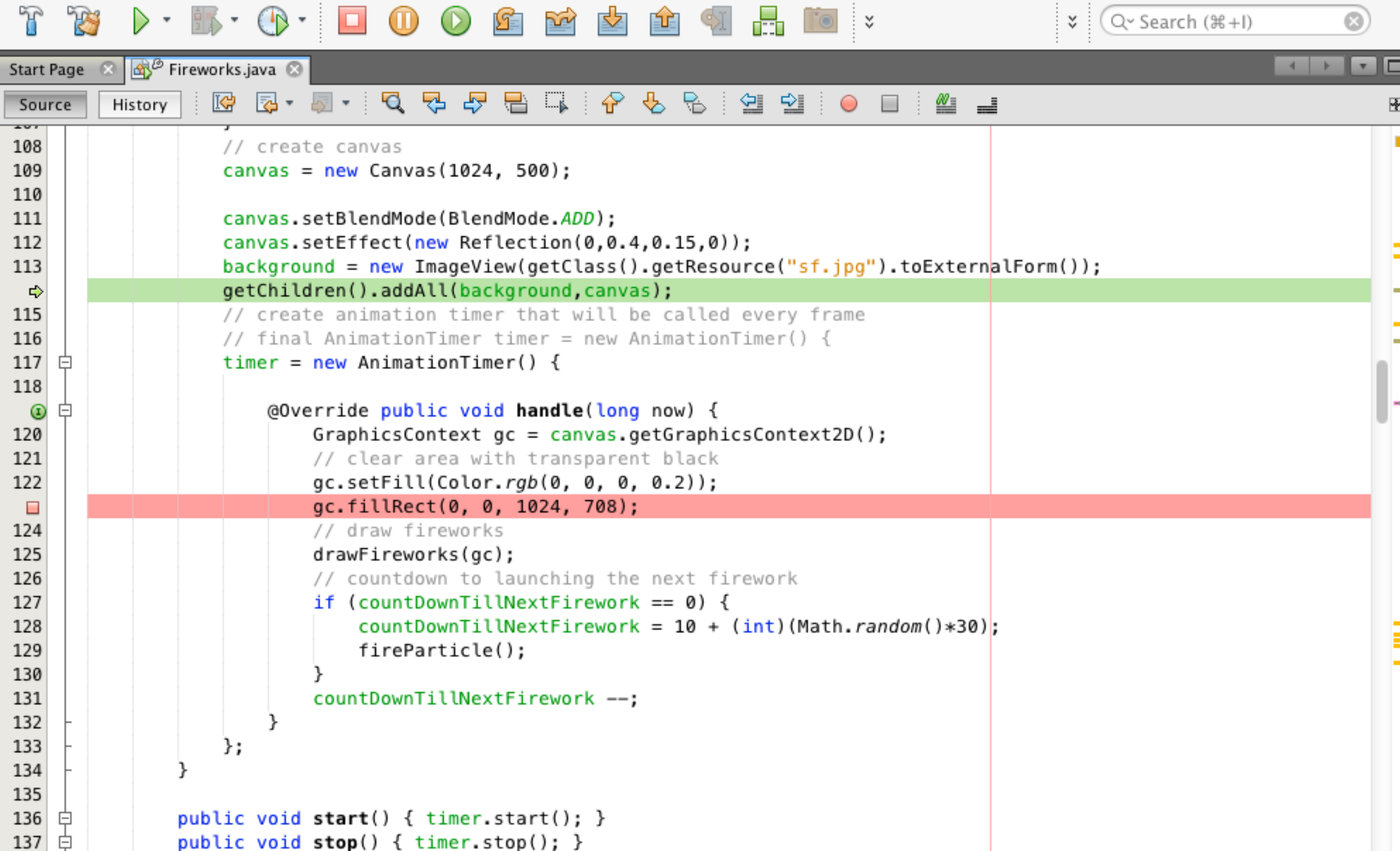
*Quote from Pablo Picasso Mark Stephens*





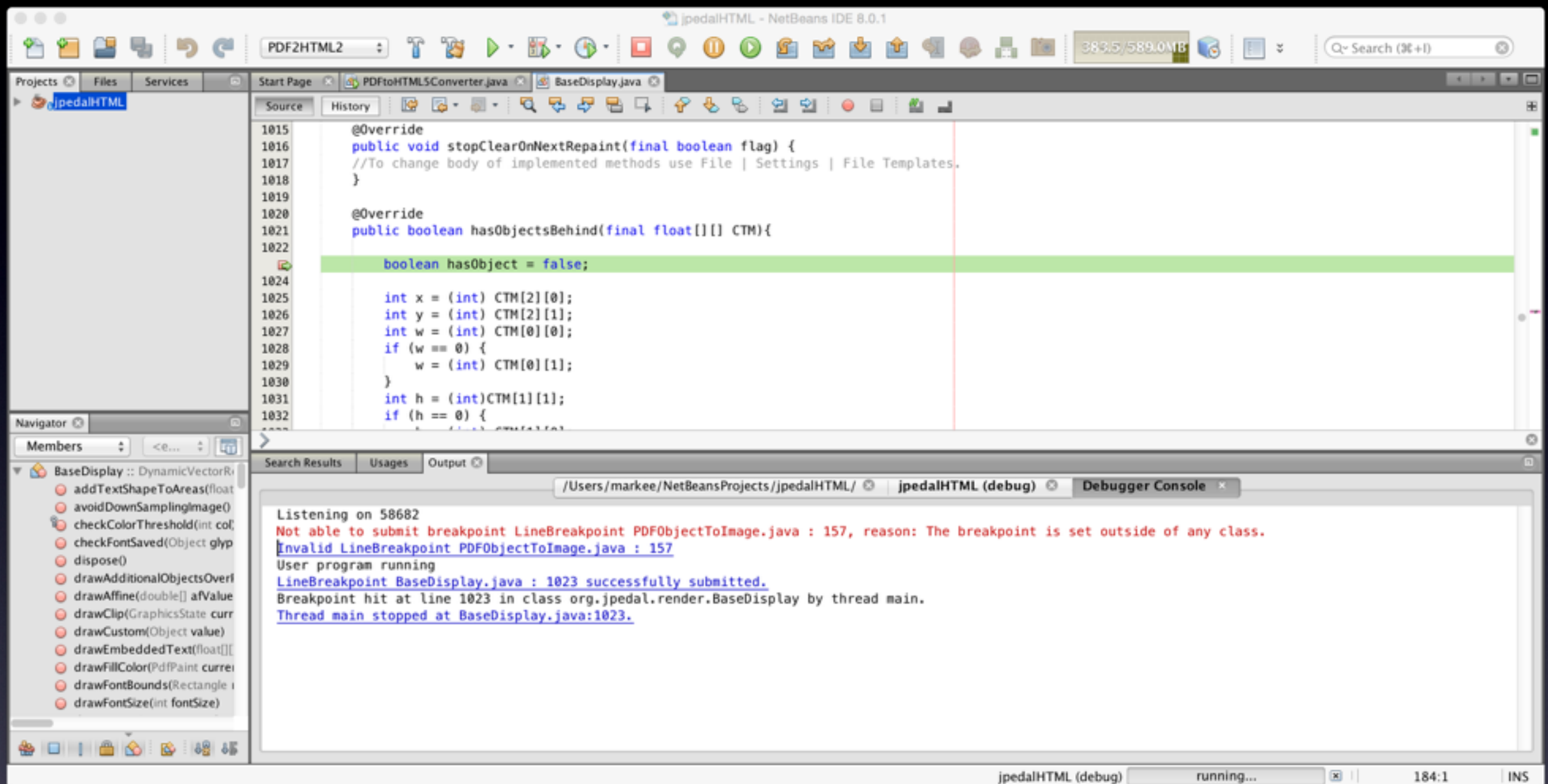
# Debugging code

Fireworks - NetBeans IDE 8.0.2



```
108 // create canvas
109 canvas = new Canvas(1024, 500);
110
111 canvas.setBlendMode(BlendMode.ADD);
112 canvas.setEffect(new Reflection(0,0.4,0.15,0));
113 background = new ImageView(getClass().getResource("sf.jpg").toExternalForm());
114 children.addAll(background, canvas);
115 // create animation timer that will be called every frame
116 // final AnimationTimer timer = new AnimationTimer() {
117 timer = new AnimationTimer() {
118
119     @Override public void handle(long now) {
120         GraphicsContext gc = canvas.getGraphicsContext2D();
121         // clear area with transparent black
122         gc.setFill(Color.rgb(0, 0, 0, 0.2));
123         gc.fillRect(0, 0, 1024, 708);
124         // draw fireworks
125         drawFireworks(gc);
126         // countdown to launching the next firework
127         if (countDownTillNextFirework == 0) {
128             countDownTillNextFirework = 10 + (int)(Math.random()*30);
129             fireParticle();
130         }
131         countDownTillNextFirework --;
132     }
133 };
134
135 public void start() { timer.start(); }
136 public void stop() { timer.stop(); }
```

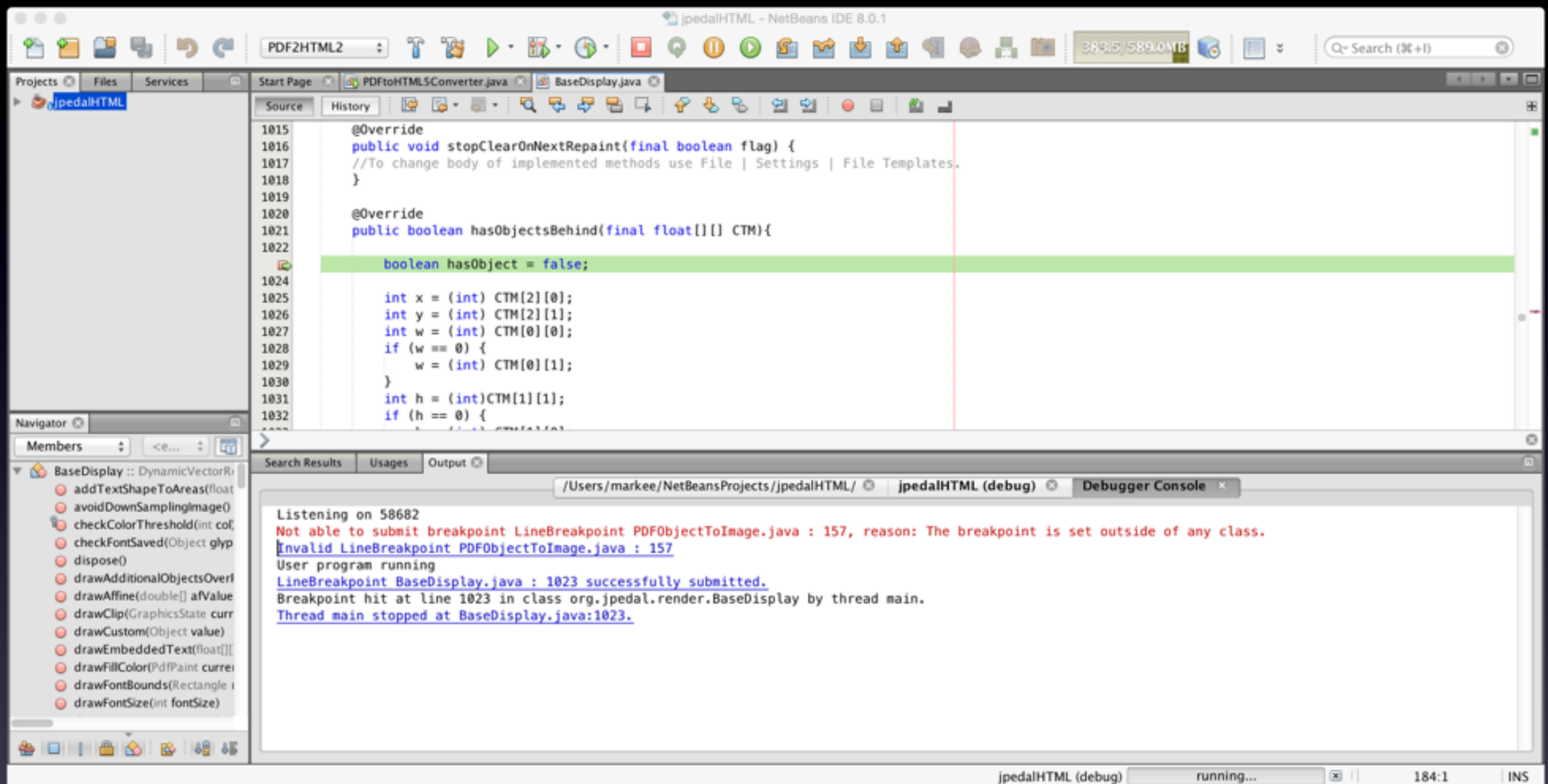
# Version control



Note the toolbar is configurable....

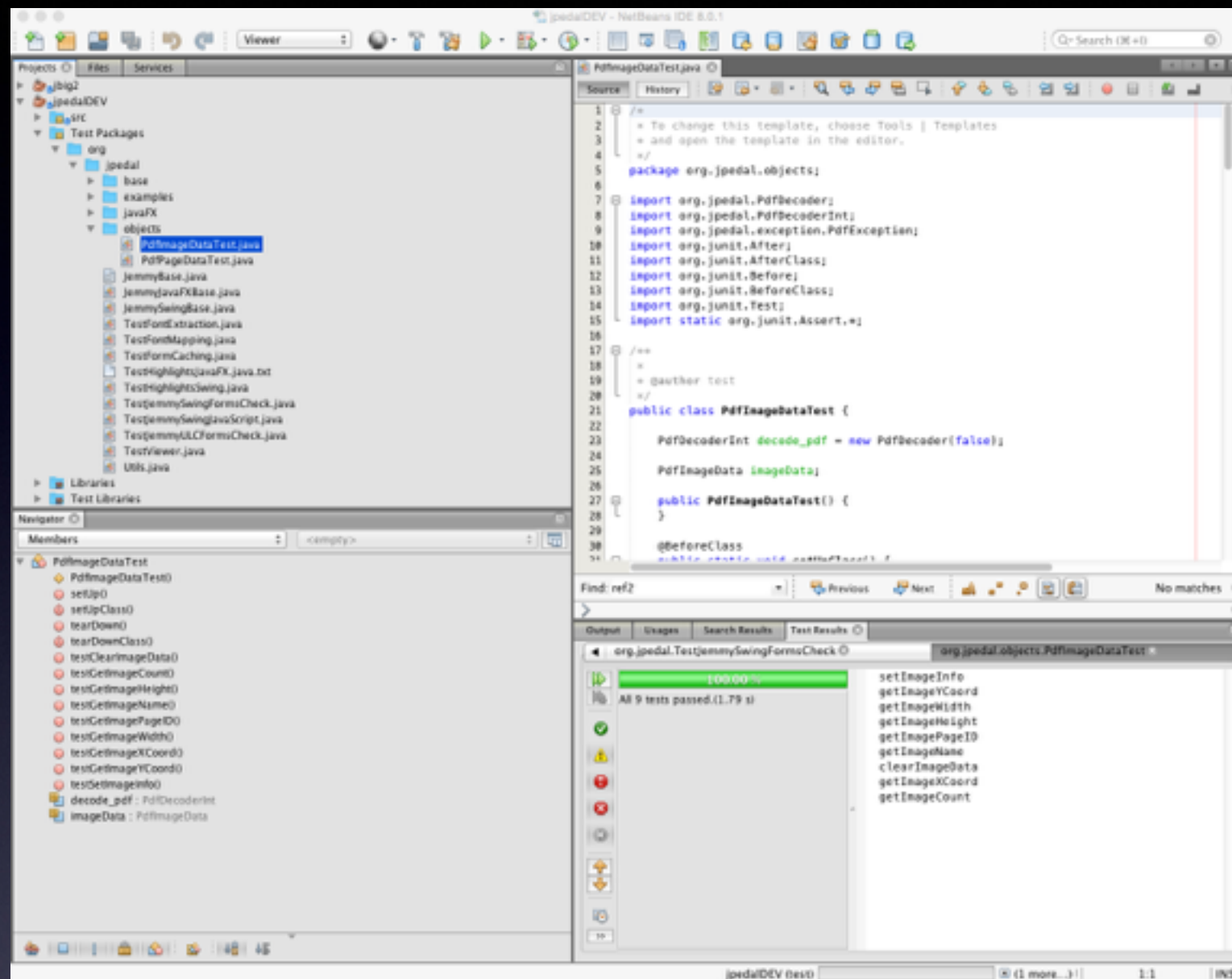


# NetBeans and Ant



NetBeans is an Ant wrapper...

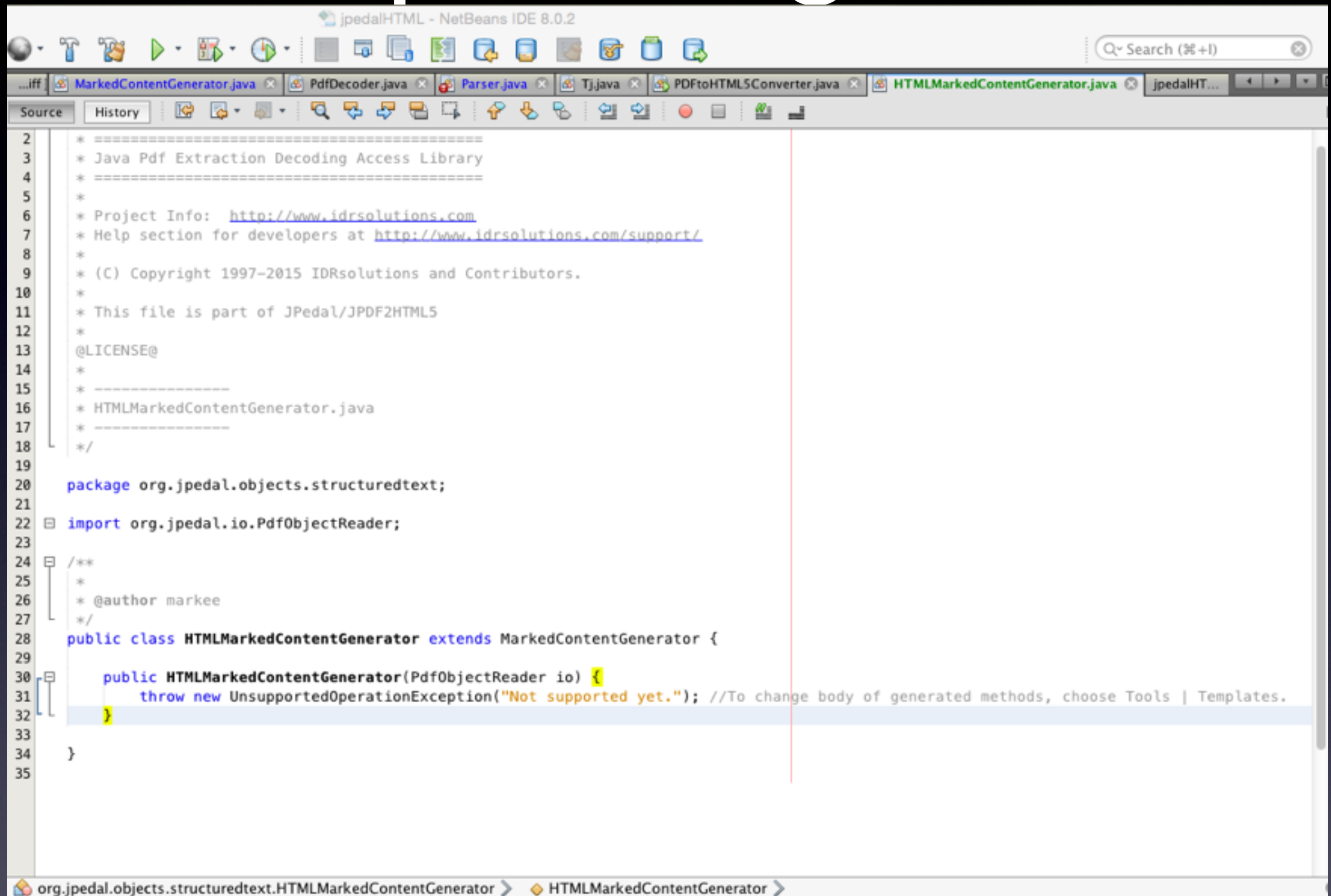
# Testing your code



JUnit/Jemmy tests easy to create/run in NetBeans and script for Continuous Integration



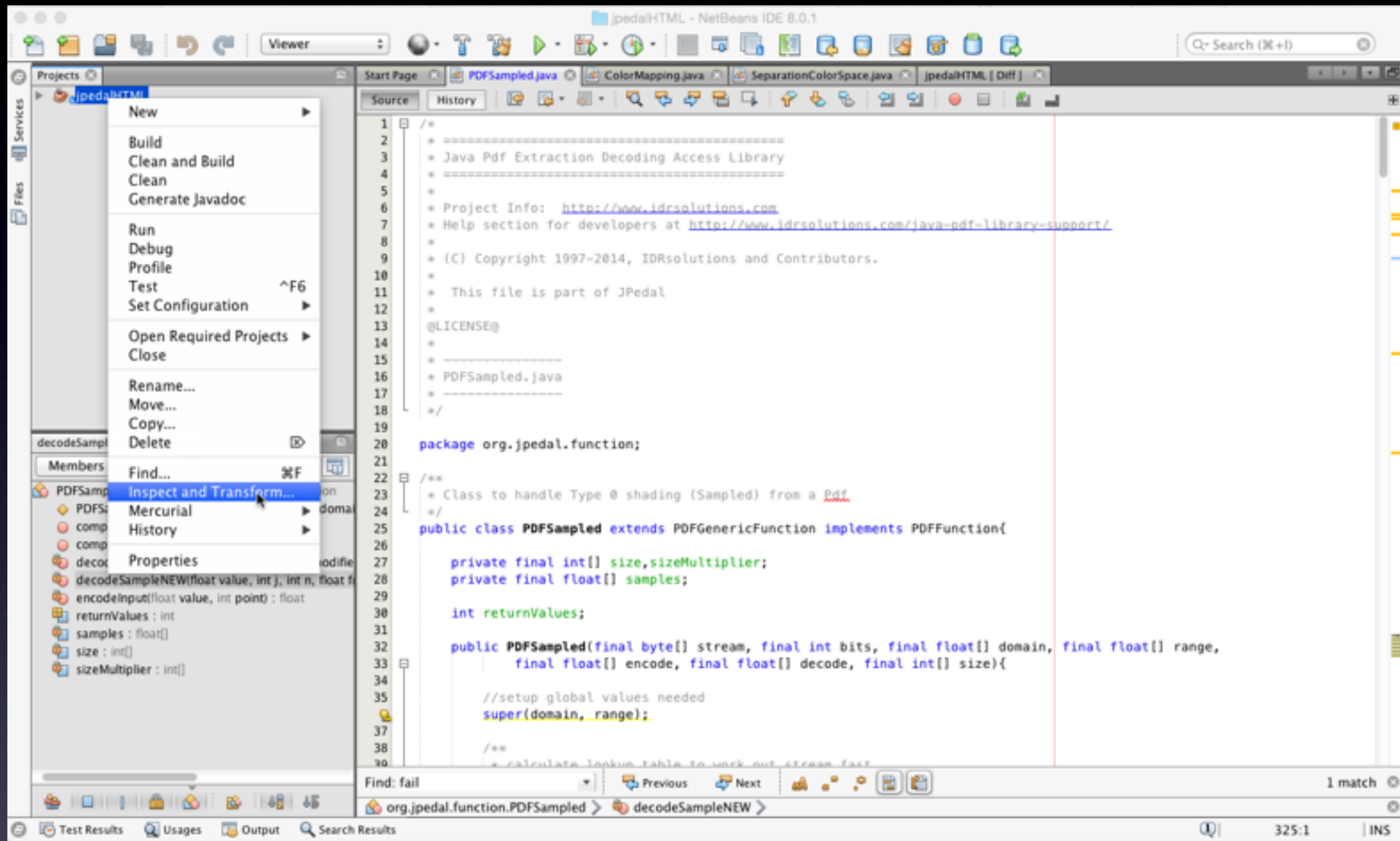
# Help writing code



```
2  * =====
3  * Java Pdf Extraction Decoding Access Library
4  * =====
5  *
6  * Project Info: http://www.idrsolutions.com
7  * Help section for developers at http://www.idrsolutions.com/support/
8  *
9  * (C) Copyright 1997-2015 IDR solutions and Contributors.
10 *
11 * This file is part of JPedal/JPDF2HTML5
12 *
13 @LICENSE@
14 *
15 * -----
16 * HTMLMarkedContentGenerator.java
17 * -----
18 */
19
20 package org.jpdeal.objects.structuredtext;
21
22 import org.jpdeal.io.PdfObjectReader;
23
24 /**
25  *
26  * @author markee
27  */
28 public class HTMLMarkedContentGenerator extends MarkedContentGenerator {
29
30     public HTMLMarkedContentGenerator(PdfObjectReader io) {
31         throw new UnsupportedOperationException("Not supported yet."); //To change body of generated methods, choose Tools | Templates.
32     }
33
34 }
35
```

Lots of little features you often miss

# Inside NetBeans





# Code quality

The screenshot displays the NetBeans IDE interface with the `ImageDecoder.java` file open. The left sidebar shows the project structure for `jpadaDEV`, with the `org.jpada.parser.image` package selected. The bottom-left pane shows the `Members` list for the `ImageDecoder` class, listing various methods like `addMaskObject`, `generateTransformedImage`, and `processImage`.

The main editor window shows the source code of `ImageDecoder.java`, with line numbers 742 to 772 visible. The code includes a `processImage` method that handles image decoding, including color space conversion and mask application.

The bottom-right pane displays the `Action Items` list, which contains 12 quality issues identified by the IDE. These issues are categorized by severity (3 - Avoid really long classes, 3 - This class has too many methods, consider refactoring it, 3 - Avoid long parameter lists, etc.) and provide specific recommendations for improving the code quality.

Description	File	Location
3 - Avoid really long classes.	ImageDecoder.java	.../image/ImageDecoder.java:45
3 - This class has too many methods, consider refactoring it.	ImageDecoder.java	.../image/ImageDecoder.java:45
3 - Avoid long parameter lists.	ImageDecoder.java	.../image/ImageDecoder.java:124
3 - The method <code>setupXObjectColorspace()</code> has an NPath complexity of 340	ImageDecoder.java	.../image/ImageDecoder.java:143
3 - The method <code>processImageXObject()</code> has an NPath complexity of 3888	ImageDecoder.java	.../image/ImageDecoder.java:216
3 - The method <code>generateTransformedImage()</code> has an NPath complexity of 127052	ImageDecoder.java	.../image/ImageDecoder.java:368
3 - Avoid empty if statements	ImageDecoder.java	.../image/ImageDecoder.java:415
3 - These nested if statements could be combined	ImageDecoder.java	.../image/ImageDecoder.java:550
3 - The method <code>generateTransformedImageSingle()</code> has an NPath complexity of 298	ImageDecoder.java	.../image/ImageDecoder.java:586
3 - These nested if statements could be combined	ImageDecoder.java	.../image/ImageDecoder.java:687
3 - Avoid really long methods.	ImageDecoder.java	.../image/ImageDecoder.java:709
3 - Avoid empty if statements	ImageDecoder.java	.../image/ImageDecoder.java:865
3 - Avoid empty if statements	ImageDecoder.java	.../image/ImageDecoder.java:1021

EasyFind - Medium: 22 (in currently edited file)





AWWPIX





# Details and links

<http://www.netbeans.org>

<https://convert.idrsolutions.com>

<https://blog.idrsolutions.com>

Come and chat to me

Blatant plug for my plugin talk...



Happy developing with NetBeans....

