

Debugging Java with Eclipse



eclipse

3.2

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Northern NJ Java Meetup

Who is Dossy Shiobara?

- Over 15 years of software engineering and system administration experience
- Organizer of the Northern NJ MySQL Meetup
- Leads the AOLserver open source project
- I talk quickly when I'm nervous, slow me down!

Agenda

- What is an IDE?
- What is Eclipse?
- How do I get Eclipse?
- Hello, Cruel World!
- Meet the Debugger
- Questions & Answers

What is an IDE?

- Integrated Development Environment
 - Language-aware editor (syntax highlighting, completion, etc.)
 - Integrated compiler and source code management
 - Refactoring support, automated test integration, runtime debugging

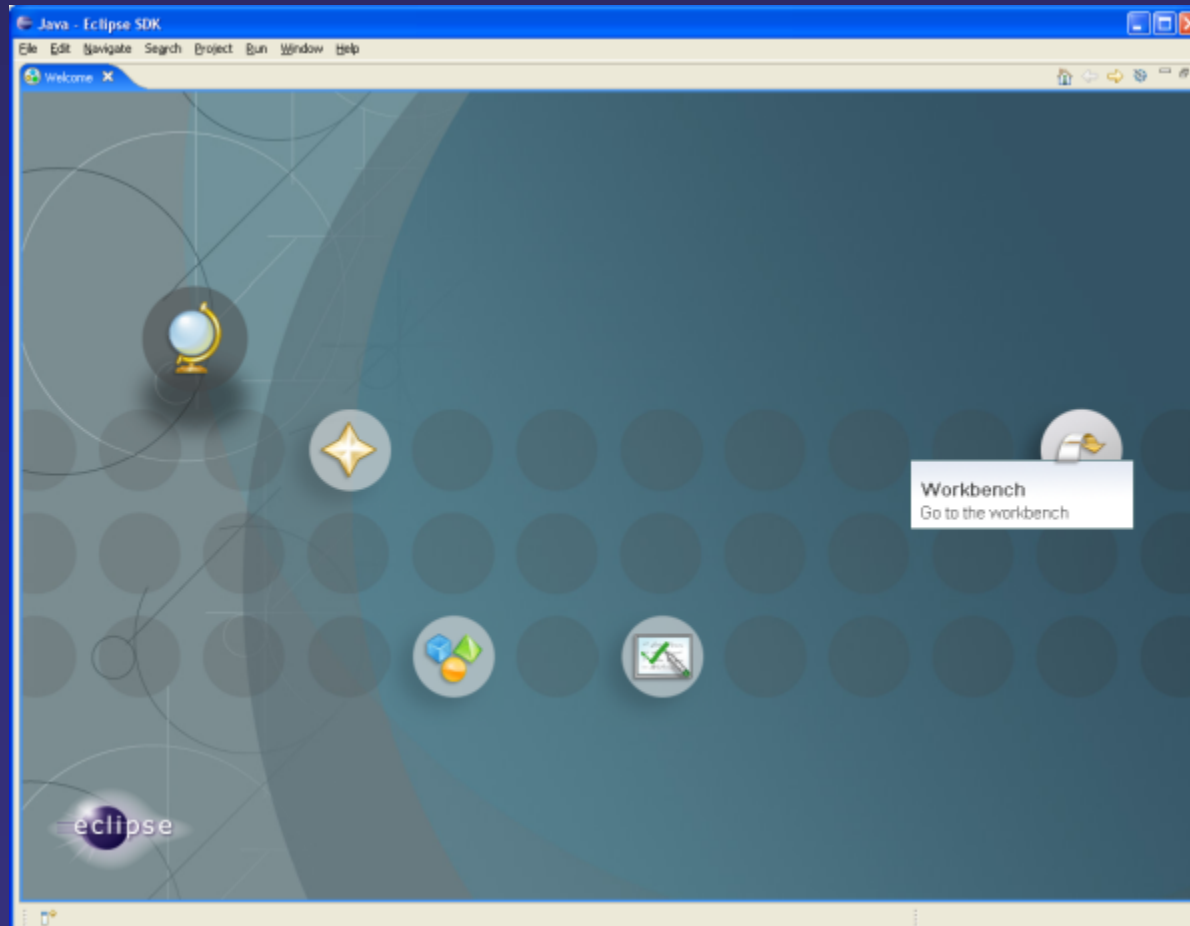
What is Eclipse?

- Java application
- IDE framework extended through plugin architecture (JDT, PDT, CDT, etc.)
- Much more than just an IDE
- Open source through the Eclipse Foundation, licensed with the Eclipse Public License (EPL)

How do I get Eclipse?

- <http://www.eclipse.org/>
- <http://download.eclipse.org/eclipse/downloads>
- Current release: 3.2.1
- Requires Java JDK 1.4.2 or higher (not included!)
- Builds available for: Windows, Linux, Solaris, AIX, HP-UX, MacOS X

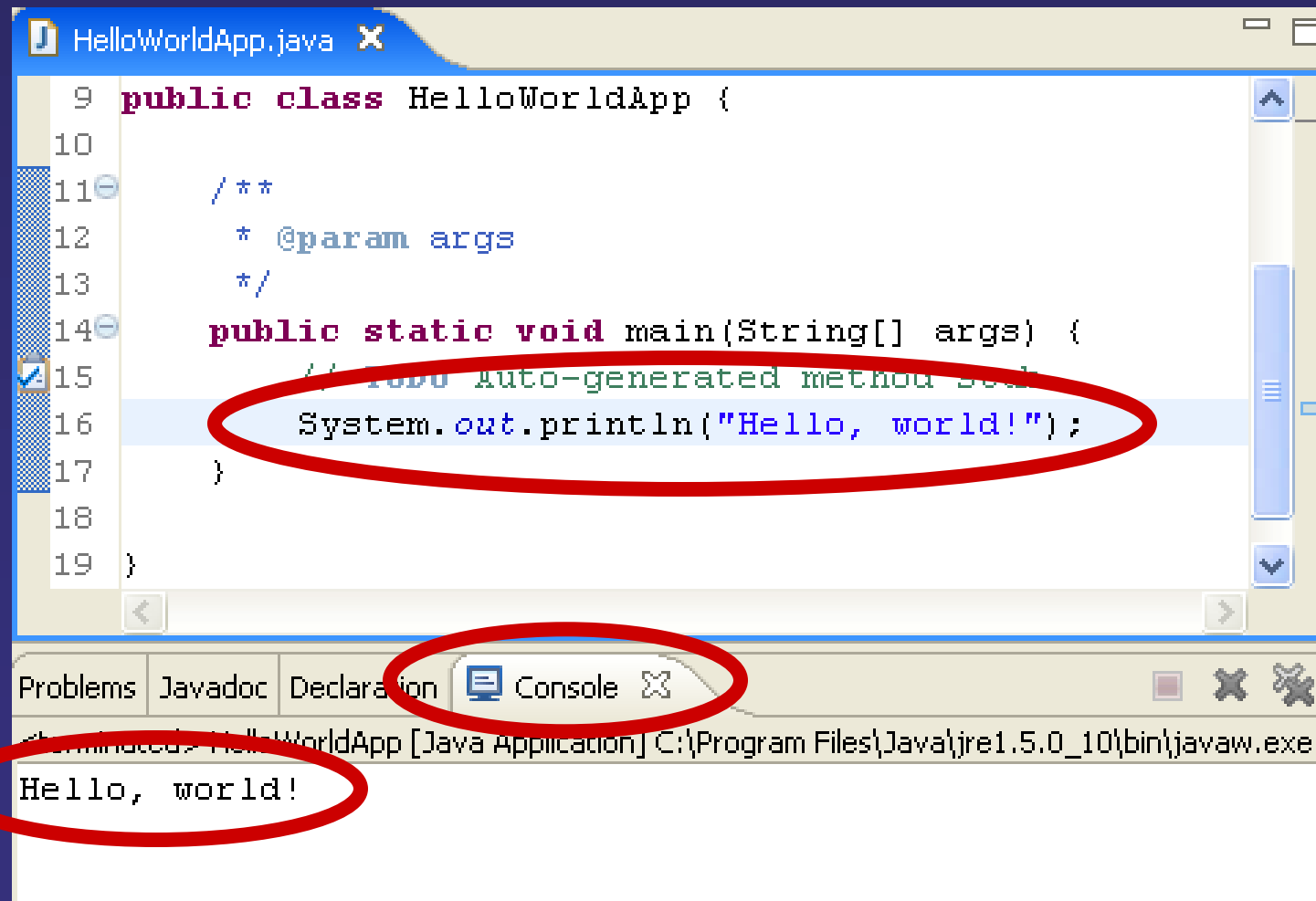
Welcome to Eclipse



Hello, world!

- Familiar “Hello, world!” example
- Demonstrates simple Java application
 - Language-aware editor
 - Integrated compiler, Java console, etc.

Was that so hard?



The screenshot shows an IDE window titled "HelloWorldApp.java" with the following code:

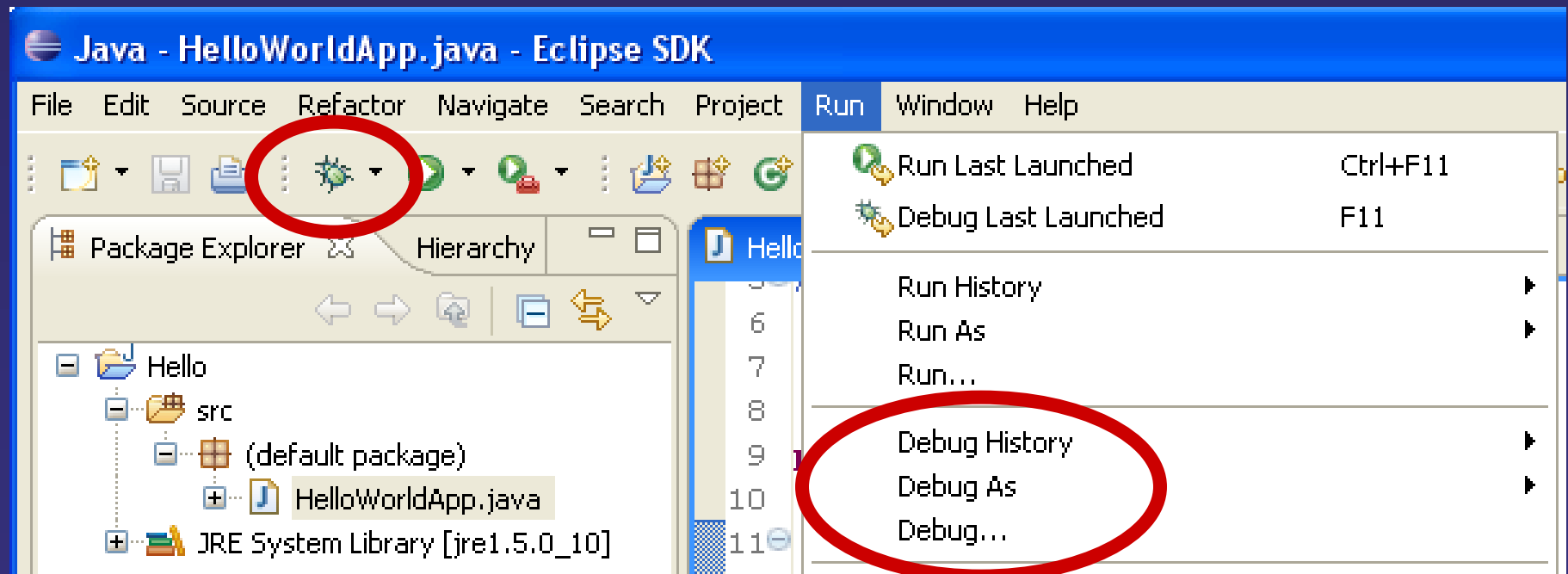
```
9 public class HelloWorldApp {
10
11     /**
12      * @param args
13      */
14     public static void main(String[] args) {
15         // TODO Auto-generated method stub
16         System.out.println("Hello, world!");
17     }
18
19 }
```

The IDE interface includes a "Problems" tab, a "Javadoc" tab, a "Declaration" tab, and a "Console" tab. The "Console" tab is active and displays the output:

```
Hello, world!
```

Red circles highlight the `System.out.println("Hello, world!");` line in the code, the "Console" tab, and the output text "Hello, world!".

Meet the Debugger



Let's write some bugs!

- Division by zero ($x / 0$)
- Set a breakpoint and single-step through code
- Inspect some variables
- Hotswap Bug Fixing: using the Java Platform Debugger Architecture (JPDA) to modify code at runtime. (JVM 1.4+)

Questions?

Thank you!

Slides available at <http://dossy.org/>