LuaEclipse

Lua IDE for the Eclipse Platform

Danilo Tuler de Oliveira
tuler@ideais.com.br

Ideais
eai solutions

Lua

- “Lua is a powerful light-weight programming language designed for extending applications. Lua is also frequently used as a general-purpose, stand-alone language.”

- http://www.lua.org
- http://lua-users.org/wiki/

Ideais
eai solutions

Eclipse

- “Eclipse is a kind of universal tool platform - an open extensible IDE for anything and nothing in particular.”
- http://www.eclipse.org

Ideais
eai solutions

Motivation

- Lua support for Eclipse users
  - Java/Lua integration
  - C/C++/Lua integration
- Lua IDE for Lua users

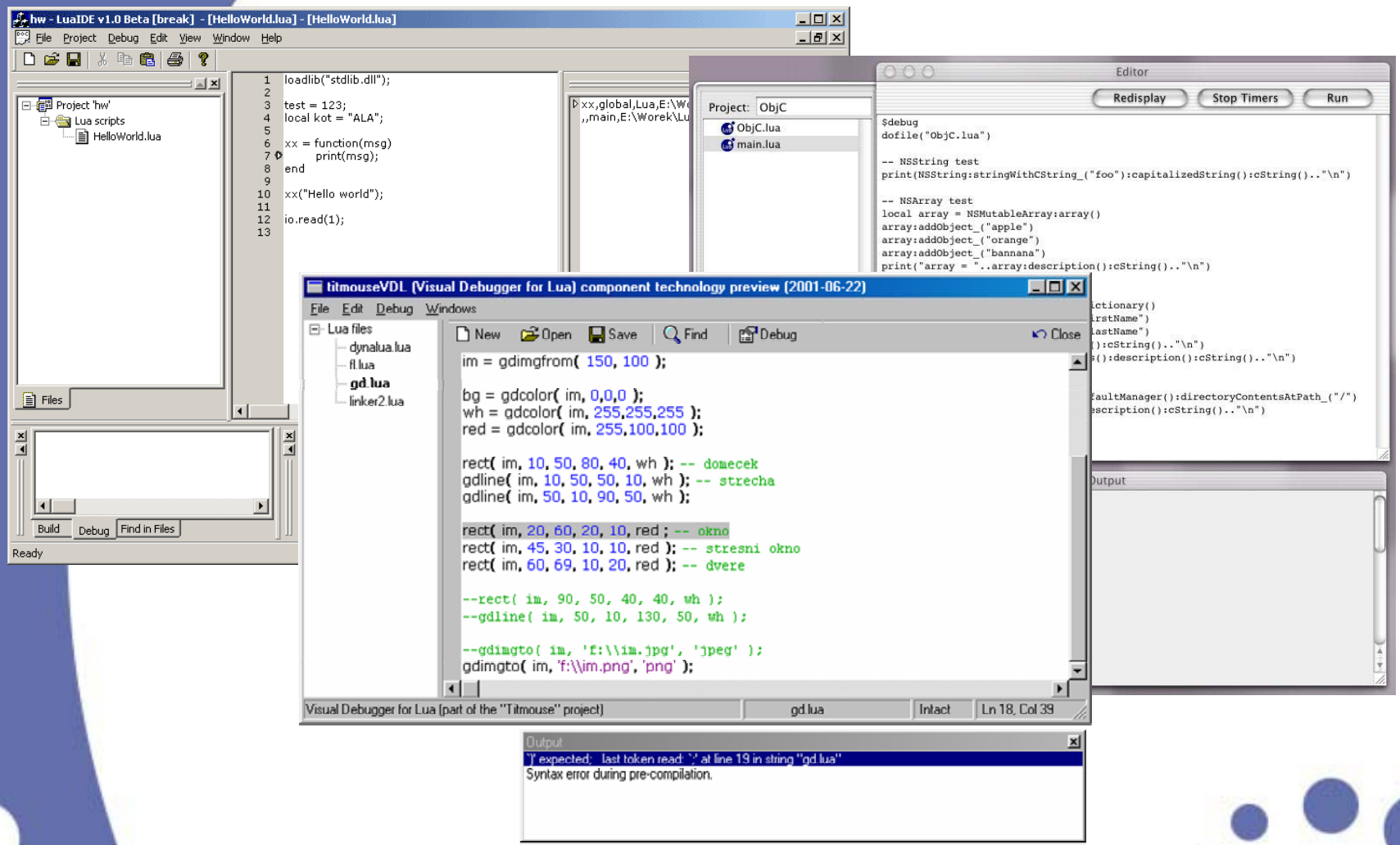
Ideais
eai solutions

Alternatives

- Editor support
  - VIM, SciTE, Emacs, Jed, MED, Nedit, TextPad, etc...
- IDEs
  - LuaDev (Mac OS X)
  - Stella (Mac OS)
  - Titmouse (windows, linux under development)
  - LuaIDE
  - wxLua (wxWindows binding)

Ideais
eai solutions

Alternatives



Ideais
eai solutions

Features

0.5
- Syntax highlight
- Content Assistant (code completion)
- Wizards
- Launcher (code running)
- Code compiling with markers

1.0
- Integrated documentation

- Free!!!
- Multi-platform (like Lua, Java, LuaJava, Eclipse)

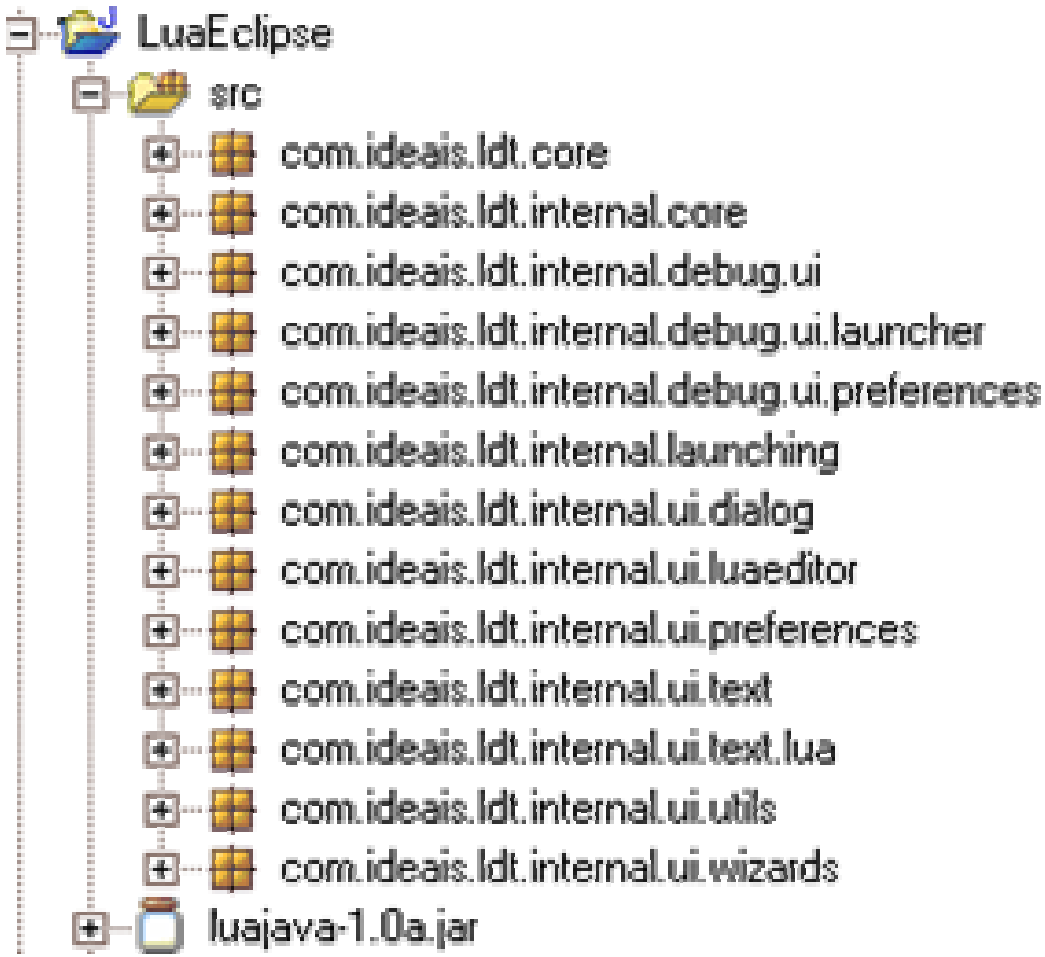
Ideais
eai solutions

Architecture

- LDT (Lua Development Tools)
  - separate funcionality from UI
- LuaEclipse = Eclipse + LDT

Ideais
eai solutions

Implementation



Ideais
eai solutions

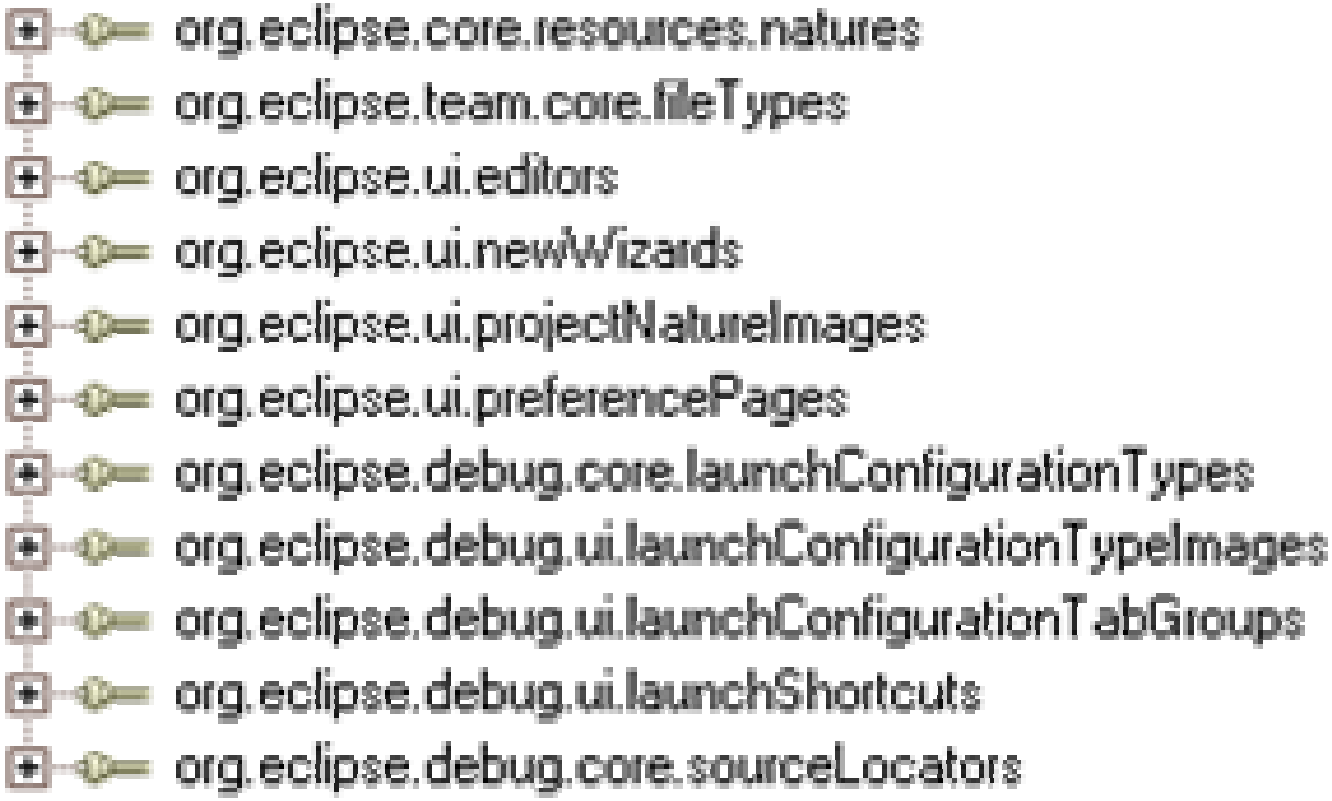
LuaJava

- A script tool for Java. Allows:
  - scripts written in Lua to manipulate components developed in Java
  - run Lua code from Java
  - implement a Java interface using Lua

- http://www.ideais.com.br/luajava/
- Not released yet

Ideais
eai solutions

Extension Points



Ideais
eai solutions

Syntax highlight

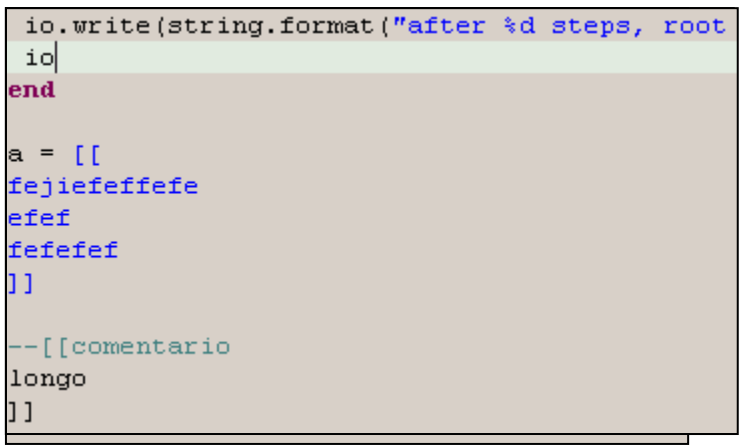
- Rule-based lexical analysis
  - Multi-line comment
  - Comment
  - Three types of string (“ ”, ‘ ’, [[ ]])
  - keywords

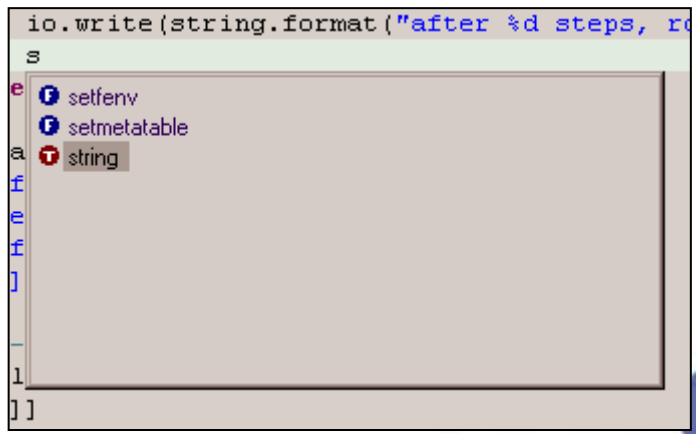
```
-- find root of f in the inverval [a,b]. needs f(a)*f(b)<0
function solve(f,a,b)
 n=0
 local z,e=bisect(f,a,b,f(a),f(b))
 io.write(string.format("after %d steps, root is %.17g\n",n,z))
end
```

Ideais
eai solutions

Content Assistant

- Use of LuaJava
- Online Lua evaluation of expressions
- Use of static LuaState
- Images show data types
  - table, function, string, numbers
- Can be activated anytime, anywhere

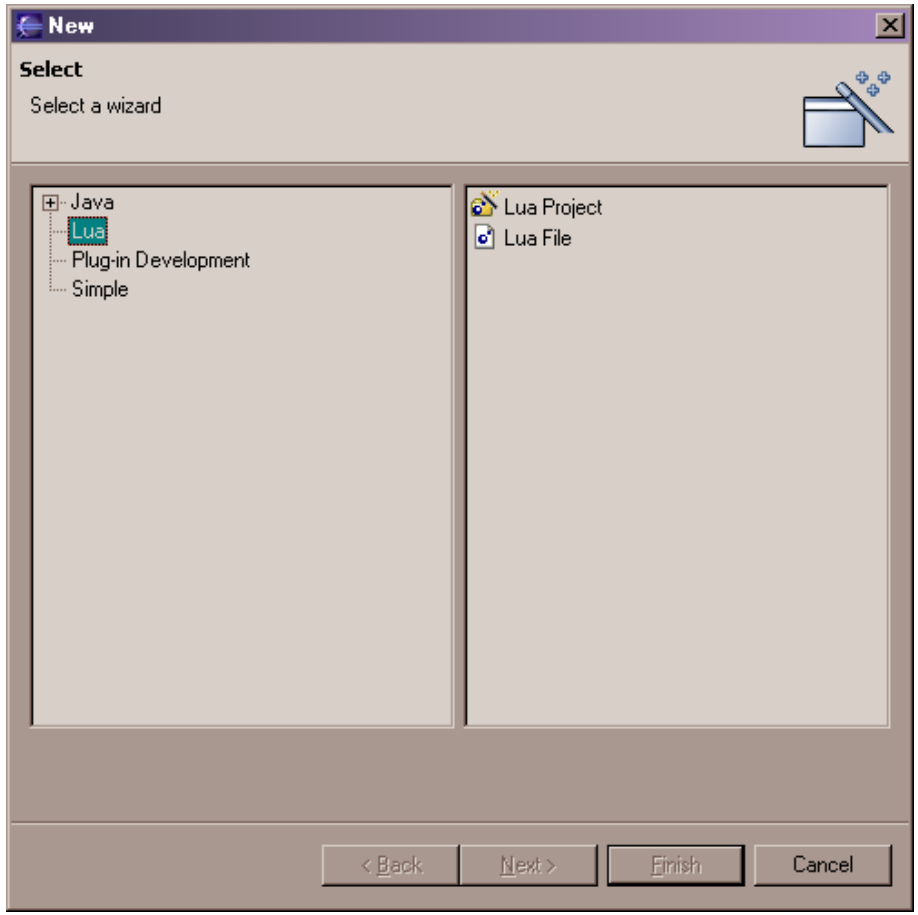




Ideais
eai solutions

Wizards

- Lua Project
- Lua File



Ideais
eai solutions

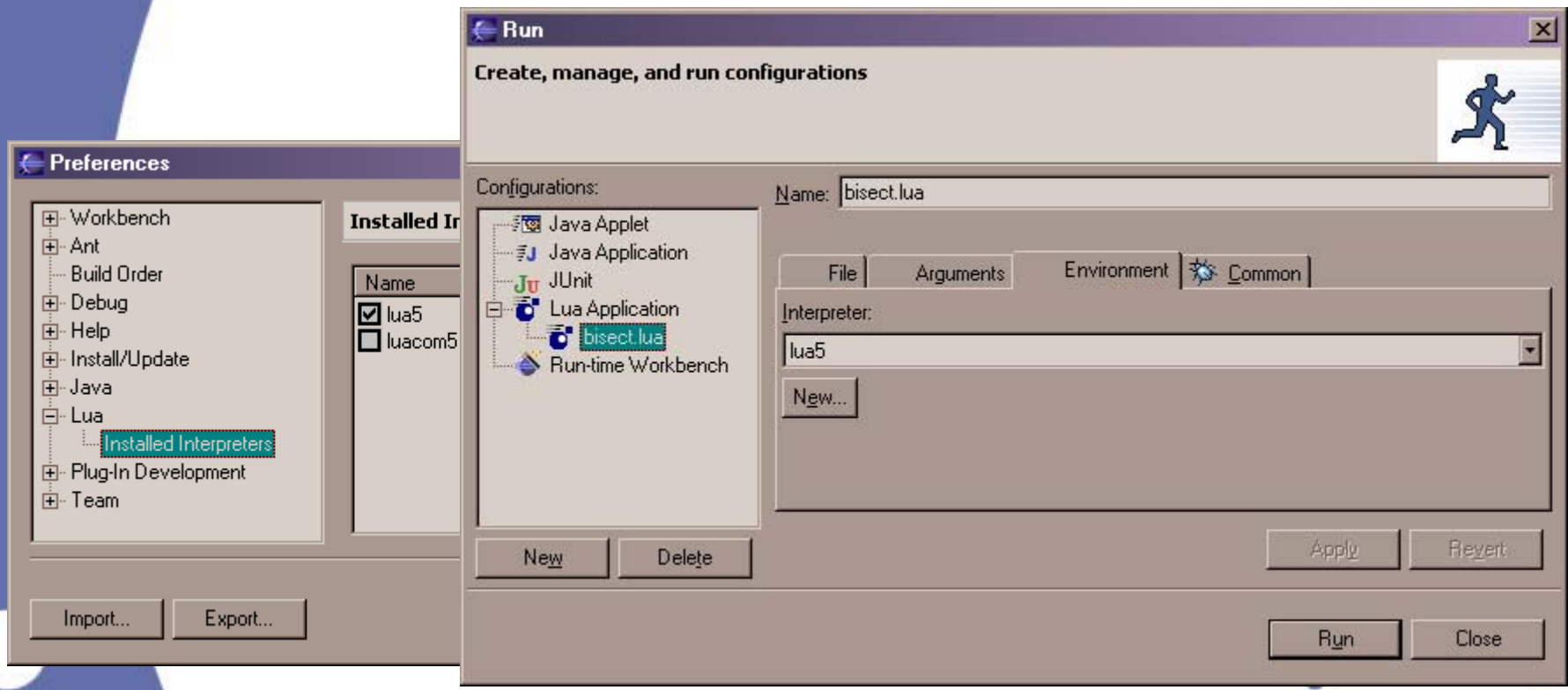
Launcher

- Use LuaJava?
- Use of external Lua interpreter
- Several interpreters due to Lua extension nature
  - Lua
  - LuaSocket
  - LuaCOM
  - MyLuaInterpreter
- No standard full featured Lua binaries (LuaCheia)
- Configurable Lua Interpreter

Ideais
eai solutions

Laucher Configuration

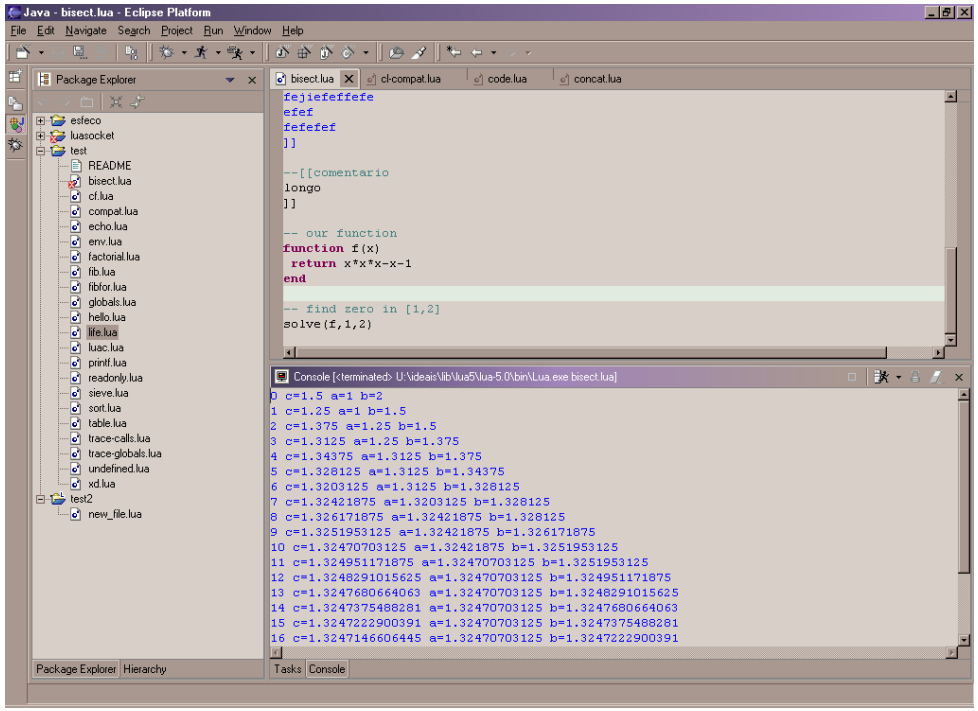
- Installed Interpreters
- Run As Lua Application



Ideais
eai solutions

Running code

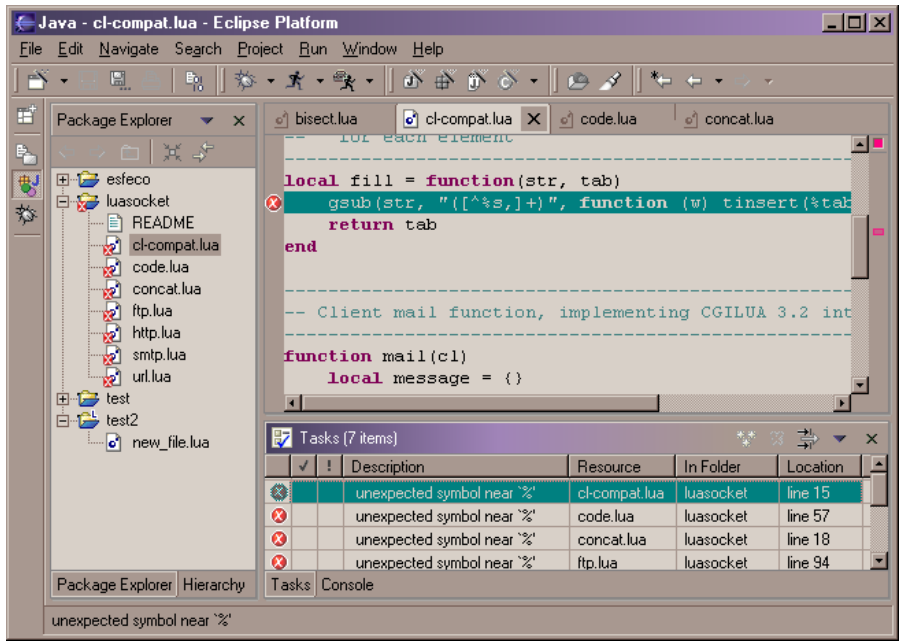
- Separate process
  - `Runtime.getRuntime().exec`
- Standard output is sent to Eclipse Console



Ideais
eai solutions

Compiling/Markers

- IResourceChangeListener
- Code is “compiled” using LuaJava
- Capture compile error, not runtime error
- Error message is parsed to create marker



Ideais
eai solutions

Future features

- Content Tip
- Content Format
- Runtime Content Assistant
- Debugger

Ideais
eai solutions

Distribution

- LDT source code
- LDT binaries (Windows and Linux)
- LDT + Eclipse = LuaEclipse
- LDT + Eclipse + JRE

- Sourceforge

- Features
- Online update
- Branding

Ideais
eai solutions

References

- The Java™ Developer's Guide to Eclipse (book)
- http://www.eclipse.org
  - Online documentation
  - Articles
  - Mailing lists
- JDT source code (Java Development Tools)
- RDT source code (Ruby Development Tools)

Ideais
eai solutions

Contact

- http://www.ideais.com.br/luaeclipse/
- http://www.sourceforge.net/projects/luaeclipse/

- tuler@ideais.com.br

- Questions?