

GF Eclipse Plugin

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How do we write GF grammars?

Text editor + console

- We have editor modes for Emacs, Gedit, Geany
- Syntax highlighting
- Basic auto-completion

but...

- Separation of writing code and running it
- *GF-ignorant*

Example

Geany

Web IDE

- Good for a *quick start*
- No installation/compilation, always up-to-date
- Storage in the cloud

but...

- Only one module per language
- Impractical for large projects

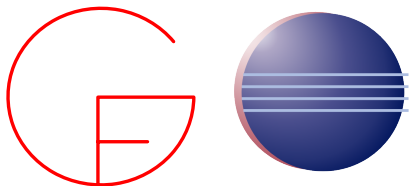
Example

Web IDE

Why Eclipse?

- Leverage existing IDE features
- Syntax errors & semantic warnings
- Inline documentation
- Context-sensitive suggestions
- Wizards & code snippets
- Code completion, formatting
- Refactoring tools
- Navigate libraries without leaving the IDE

The GF Eclipse Plugin (GFEP)



- Work Package 2:
Grammar Developer's Tools
- Version 1.2.3 (yesterday!)
- Uses Xtext framework
- September 2011 – present
- Still a work-in-progress

Approach

- Layer *on top* of GF, not replace it
- Requires GF already installed on system
- Eclipse **project** concept
 - Regular GF files + metadata files
- Eclipse **builder** concept
 - Compiles your GF code as you write it

Target audience?

- GF newbies
- Application grammar developer
- Seasoned Eclipse users

Requirements

- Latest GF from source
- Eclipse 3.7

Installation

- Use Eclipse update site URL:
`http://www.grammaticalframework.org/eclipse/release/`
⇒ *Note about Ubuntu*
- Open GF perspective
- Preferences
 - GF path
 - Syntax highlighting

Example

Foods grammar

- 1 New project from existing sources
- 2 Open/edit some existing files
- 3 Syntax errors, other warnings
- 4 Auto-complete
- 5 Outline view

Example

Launch configurations

- Launch directly into shell
- Interactive or not

Example

- Automatic building
- Unresolved names
- Jump to definition

Example

Let's add a new language! Maybe.. Dutch?

Steps

- 1 Create new modules with wizard
- 2 Copy implementation (from English)
- 3 Code

Example

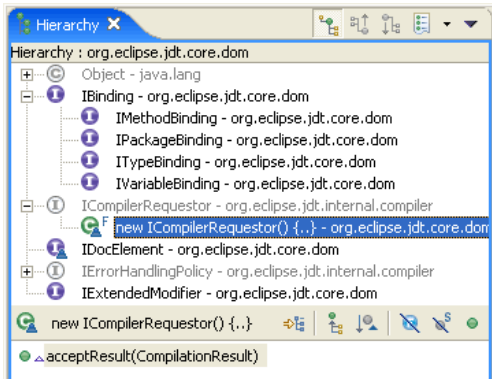
- Jump to RGL source definition

Browsing the RGL

- Library synopsis
`www.grammaticalframework.org/lib/doc/synopsis.html`
- Jumping around source files

Killer feature

Resource Grammar Library browser within IDE
(think Eclipse's **Type Hierarchy** for Java)



GFEP **can**:

- leverage useful IDE features
- give you errors & warnings as you type
- help you navigate local & external cross-references

GFEP can:

- leverage useful IDE features
- give you errors & warnings as you type
- help you navigate local & external cross-references

GFEP doesn't (yet):

- save you as much typing as it could
- have an integrated RGL browser
- provide context-sensitive, type-checked suggestions
- expose any models or APIs
- integrate with anything else

What we hope for GF Eclipse Plugin

- Better parallel-language development tools
- Test suites and treebank management
- Better support for multi-[programming] language projects
- Ontology tool integration
- Whatever else the GF community needs!

Links

Web www.grammaticalframework.org/eclipse

Source github.com/GrammaticalFramework/gf-eclipse-plugin

XText www.eclipse.org/Xtext

Email john.j.camilleri@chalmers.se

We need feedback!

Please report bugs and request features.