

GF Eclipse Plugin

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How do we write GF grammars?

Text editor + console

- Editor modes for Emacs, Gedit, Geany
- Syntax highlighting, rudimentary auto-completion

but...

- Not tailored for GF

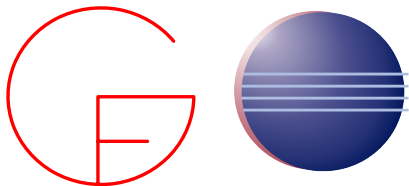
Web IDE

- Great for jumping right in
- No installation/compilation, always up-to-date
- Storage in the cloud
- Controlled environment

but...

- Limited module inheritance
- Impractical for large projects

The GF Eclipse Plugin (GFEP)



- Work Package 2:
Grammar Developer's Tools
- Version 1.4.0 (yesterday!)
- Uses Xtext framework
- September 2011 – present

Why Eclipse?

- Leverage existing IDE features
- Syntax errors & semantic warnings
- Inline documentation
- Context-sensitive suggestions
- Wizards, code snippets
- Code completion, formatting
- Navigate external libraries
- Run code and test suites directly from IDE

Approach

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

Target audience

- All levels of GF development
- People who like IDEs

Requirements

- GF \geq 3.3.3
- Eclipse \geq 3.6

Installation

- Use Eclipse update site URL:
`http://www.grammaticalframework.org/eclipse/release/`
- Open GF perspective

Example

Foods grammar

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

Example

- Automatic building
- Unresolved names
- Jump to definition
- External libraries

Treebank testing

- 1 Create a treebank
- 2 Compile grammar and linearize trees
- 3 Manually correct and save as *Gold Standard*
- 4 For each change, repeat (2) and compare against (3)

We can now do this directly in the plugin!

Naming convention:

- `abc.trees`
- `abc.trees.out`
- `abc.trees.gold`

Example

Let's add a new language

- 1 Clone from English to Dutch
- 2 Change some strings
- 3 Create gold standard
- 4 Test against it, iterate

GFEP **does**:

- leverage useful IDE features
- give you errors and warnings as you type
- help you navigate local and external cross-references
- ease the development-test cycle

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GFEP **doesn't**:

- type-check its suggestions
- write your grammars for you
- expose any models, bindings or APIs

We need feedback!

Please report bugs and request features.

Links

Web www.grammaticalframework.org/eclipse

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

Bug tracker [github.com/GrammaticalFramework/gf-eclipse-plugin/
issues](https://github.com/GrammaticalFramework/gf-eclipse-plugin/issues)

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