

# The GF Eclipse Plugin

## An IDE for grammar development in GF



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<http://www.grammaticalframework.org/eclipse/>

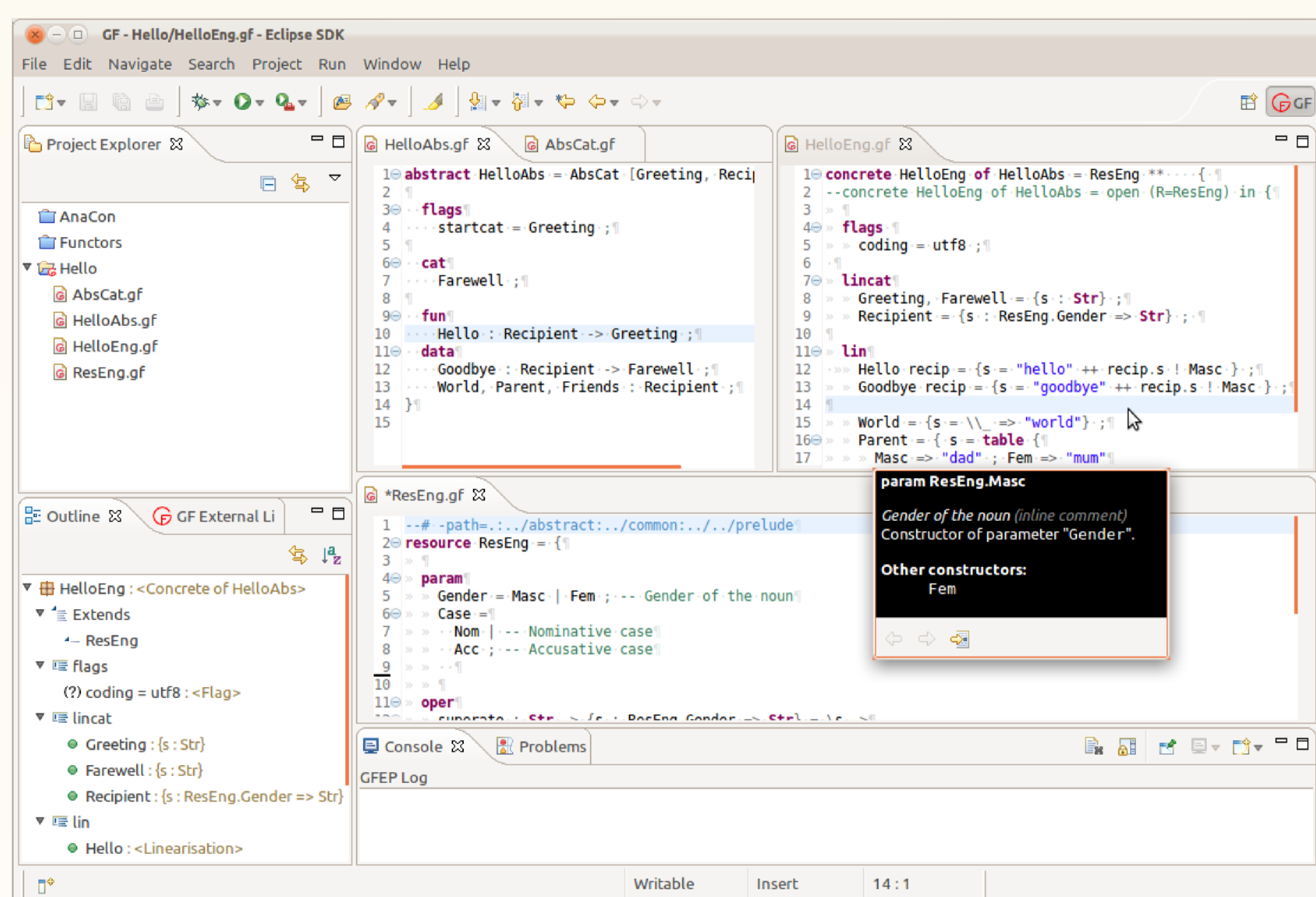


### The Grammatical Framework

GF is a special-purpose framework for writing multilingual grammars targeting multiple parallel languages simultaneously. It provides a functional programming language for declarative grammar writing, where meaning-preserving translation is automatically provided as a composition of parsing and generation via the abstract syntax, which works as an interlingua. The Resource Grammar Library (RGL), implemented in GF, encodes the basic linguistic details such as inflectional morphology and syntactic combination functions for over 20 languages.

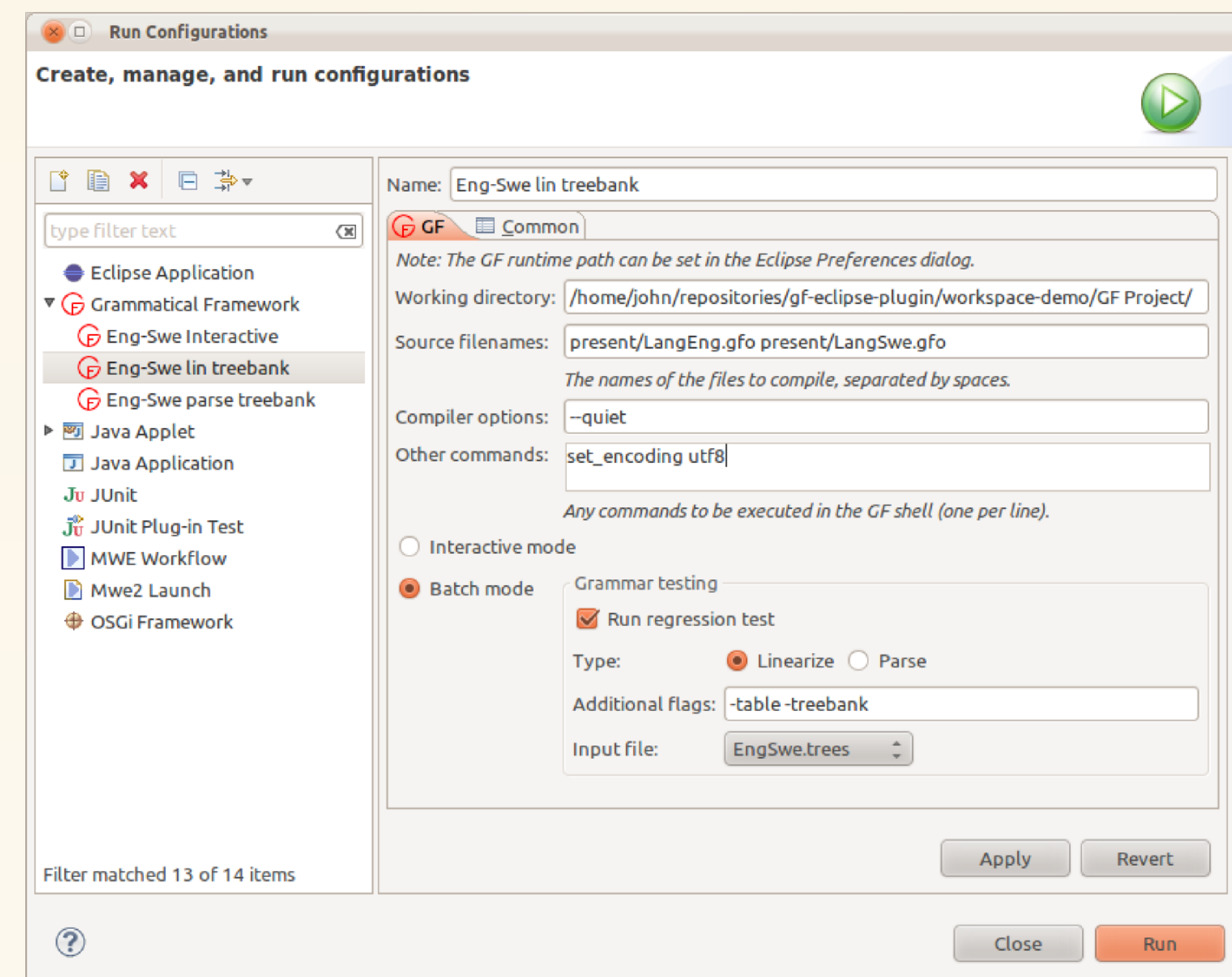
### The GF Eclipse Plugin

Built on top of the Eclipse Platform, this IDE for GF aims to provide powerful, modern development tools to replace the traditional text editor and console-based approach to grammar writing. In doing so, we hope to make developing such grammars more efficient, reduce the barrier to entry of GF and encourage new users and uses of the RGL and the framework itself.



### The Eclipse Platform

We implemented this desktop IDE as an Eclipse plugin for various reasons: (i) it runs in Java and thus platform independent, (ii) it is open-source, well documented and fully extendable, (iii) it is popular as a standalone IDE and a base for domain-specific applications.



### Features

- **Syntax error** detection and **semantic warnings**.
- **Module outlining**, allowing quick navigation within source files.
- **Identifier resolution** for local and inter-module cross-references.
- Inline **contextual documentation** including type information and listing of overloaded forms.
- **Wizards** and code generation tools.
- **Launch configurations**, allowing saving of multiple GF compilation configurations and run-time scripts.
- An **automatic builder** which type-checks modules as you write, using GF in the background.
- Support for **treebank-based regression test management**, for testing the grammar's linearisation and parsing performance against a gold standard.

Result	Language	Parameters	Input
✓	LangSwe	s Sg Indef Nom	doctor_N
✓	LangSwe	s Sg Indef Gen	doctor_N
✓	LangSwe	s Sg Def Nom	doctor_N
✓	LangSwe	s Sg Def Gen	doctor_N

### Evaluation

The plugin is primarily aimed at developers familiar with IDEs but not necessarily GF. As part of the MOLTO project, an evaluation of the plugin will be carried out by an Eclipse-based software company adopting GF in their products. User feedback and log data will be used to improve the IDE towards maturity.



[www.molto-project.eu](http://www.molto-project.eu)

### MOLTO: Multilingual On-Line Translation

A European project which aims to translate texts between multiple languages in real time with high quality, using GF as its primary technology for precise interlingua based translation. This work has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no. FP7-ICT-247914.

