



Online Compilation Tool for Graal

Bachelor thesis for Florian Lang

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Graal [1] is an effort to create a new just-in-time compiler for Java that is itself written in Java. It is based on a port of the HotSpot client compiler from C++ to Java.

The fact that it is easy to understand and easy to extend is one of Graal's main value propositions - it should be easy to add support for new features and to use it in different contexts. This project aims to create a web service that allows the user enter Java source code and explore the different compilation stages.

The scope of this project is as follows:

- Create a web site that has multiple panels, one of which allows the user to enter Java source code, while the others show the bytecode and Graal IR representation.
- The Source code editor should use an existing solution to provide convenience features like syntax highlighting.
- Other panels on the web site should be updated as soon as the user stops entering Java Source code.
- The Java Compiler Interface should be used to compile the source to class files.
- A library like asm or bcel should be used to disassemble the class files.
- Graal should be used to generate Graal IR, which is displayed in a textual form.
- Document the problems that were encountered and the changes that were required to overcome them.

The work's progress should be discussed with the supervisor at least every 2 weeks. Please note the guidelines of the Institute for System Software when preparing the written thesis.

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[1] <http://openjdk.java.net/projects/graal/>