Chapter 37

Steam IDE: Using the Editor

IN THIS CHAPTER

- Executing a selection of code
- Understanding errors
- Understanding the IDE menu

WATER SOURCE CODE IS TYPICALLY STORED in a text file. Any text editor from Notepad to Emacs could be used to edit the code. That said, the Steam IDE from Clear Methods is specifically designed for editing Water code. The Water language has a number of features that makes it ideally suited for a highly interactive development environment. This chapter is a brief overview of some of the features of the Steam IDE.

Executing Selections of Code

You can highlight any Water expression (or multiple expressions) in the source code pane, and then click Execute to run the selected Water code. Pressing Alt+E is the shortcut keyboard equivalent for the Execute button.

When an error occurs, a selection is highlighted in the source code editor.

Highlighting a Water expression

Figure 37-1 shows a highlighted Water expression. You can easily select any nested or top-level Water expression by double-clicking at the start or end of an expression. An entire Water Path can be selected by using this technique. This is a very useful technique to verify the correct syntax for a Water expression. If there is a syntactically invalid Water expression, then the expression will not be automatically selected. If you manually select an expression that has a syntax error and press Execute, the upper-right pane will describe how to fix the syntax error.

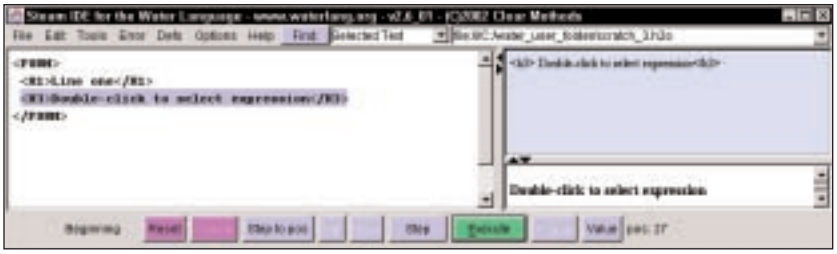

Figure 37-1: Shows a highlighted expression that was just executed

Chapter 38 on Water Debug describes the use of the object inspector.

Displaying an error

Getting errors is a normal part of the development process. When executing Water code, there are two different kinds of errors. If the ConciseXML parser can't understand the structure of the code, you will get a syntax error. For any syntax error, the IDE will highlight the beginning of the tag that wasn't matched and return an error message that helps you identify the error. Figure 37-2 shows what the screen looks like when a syntax error occurs.

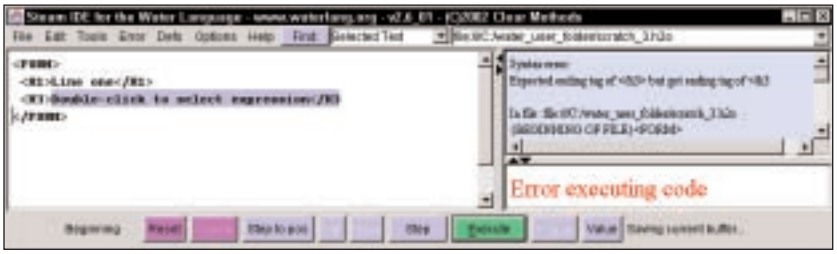

Figure 37-2: The screen of the IDE after a syntax error has just occurred.

If the Water code was successfully parsed, then the execution runtime phase begins. An error that occurs during this phase is a runtime error. When the error occurs, the specific expression that errored is highlighted in the source code, and an error message appears in the upper-right pane. The error menu lets you jump between different levels in the stack in which the error occurred.

Understanding the Menus

The Steam IDE has an editor pane that can switch between multiple files. By convention, Water files have an `.h2o` extension. When the IDE is started for the first time or every time you select File→New, a `scratch.h2o` file is created. If the scratch file already exists, it creates a new name such as `scratch_2.h2o`. The name of the current file is shown in the upper-right corner. The following are the important menu items in the IDE:

- **Rename**: Use File→Rename to change the name of the file from within the IDE.
- **Save As**: Use File→Save As if you want to create another copy of the current file under a different name.
- **Recent Files**: A pull-down list of files is available in the upper-right corner. The recently viewed files are shown in the order in which they were last viewed.
- **Auto-save**: The IDE has an auto-save function that can be selected from the File menu. When auto-save is enabled, the file is saved every time you switch files or press Execute.
- **Execute file**: To execute a particular file, choose File→Execute file to locate the file. The file will not be opened for editing.
- **Find Definition**: You can highlight the name of a method or class and easily jump to the file and the position within the file that has the definition.
- **Show Results in the Browser**: If this check box is checked, the output from the execution will be shown in a real browser window.
- **Defs menu**: This menu shows the names of all the methods and classes.

Summary

This chapter gave a brief overview of the Steam IDE for developing Water programs. The chapter described the two types of errors that can occur and how the IDE selects the specific expression that gave the error. The Water language is highly dynamic and the Steam IDE supports a number of features, such as incremental execution, to take advantage of Water's dynamism. A standard file-based, version-control system can be used with the Steam IDE to manage Water source files.