

March, 2003

Advisor Answers

Use Code References to search in a project

Visual FoxPro 8.0

Q: I am often interested in searching all the source code in a VFP project for a certain text string (a file or procedure name, for example). I am not sure how to do this. I know how to search the source of a particular module, but I'm not sure how I can search every module in the project.

–Scott Mabey (via Advisor.COM)

A: I originally answered this question in the October, 2001 issue of FoxPro Advisor. In that column, I talked about using the Project object and its Files collection to look at every file in the project. I provided a simple utility to do the task.

It looks like Microsoft was paying attention to people's need for such a facility. One of several new developer tools in VFP 8 provides searching within a project and much more.

The Code References tool is capable of searching all files in a directory tree, as well as all files in a project. It can even search only those files in the project that are in the directory tree of the project file (so you can omit framework or other common files from the search). Once you perform a search, you can open any file found in its native editor, as well as replace one or more instances of the search string with another string. The tool can also produce a report of the searches performed, and you can send the search results to a variety of other formats, including a table, HTML and XML.

You start Code References by choosing it from the Tools menu or by choosing Look Up Reference from the context menu in any code editing window. The first time you start the tool, and any time you call it from the context menu, the Look Up Reference dialog (Figure 1) appears first. If anything is highlighted in the editing window, it's automatically put in the Look for dropdown.

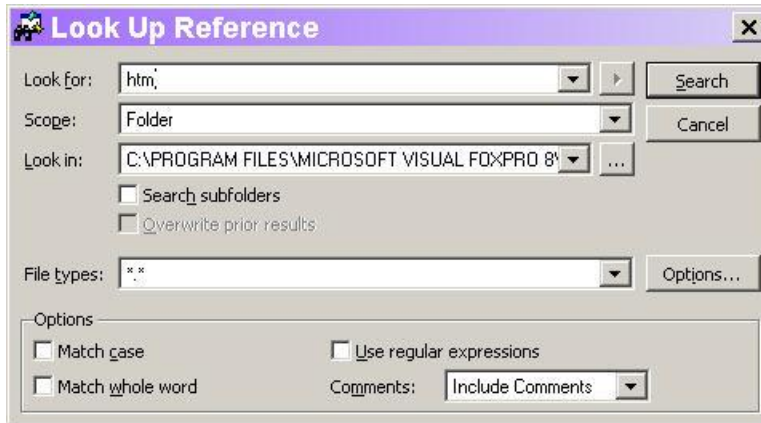


Figure 1 Searching in code—The Look Up Reference dialog lets you indicate what to search for and where.

If any projects are open when you start the tool, it assumes you want to search in the active project. In that case, the Scope dropdown shows "Entire project" and the name of the project, and the Look in dropdown is disabled.

The Look Up Reference dialog has a variety of options. I don't have space here to discuss them all, so I'll just mention a couple that make the tool really powerful.

When you check Use regular expressions, the arrow button next to the Look for dropdown is enabled. It provides a menu of regular expression operators to help you build the search expressions. (Regular expressions provide a syntax for searching using a variety of wildcard characters.)

The Comments dropdown lets you decide how to handle comments in the search. You can search including comments, search excluding comments or search only comments.

When you click the Search button, the tool searches in whatever files you've specified. When the search is complete, the Code References window (Figure 2) opens to show you the search results.

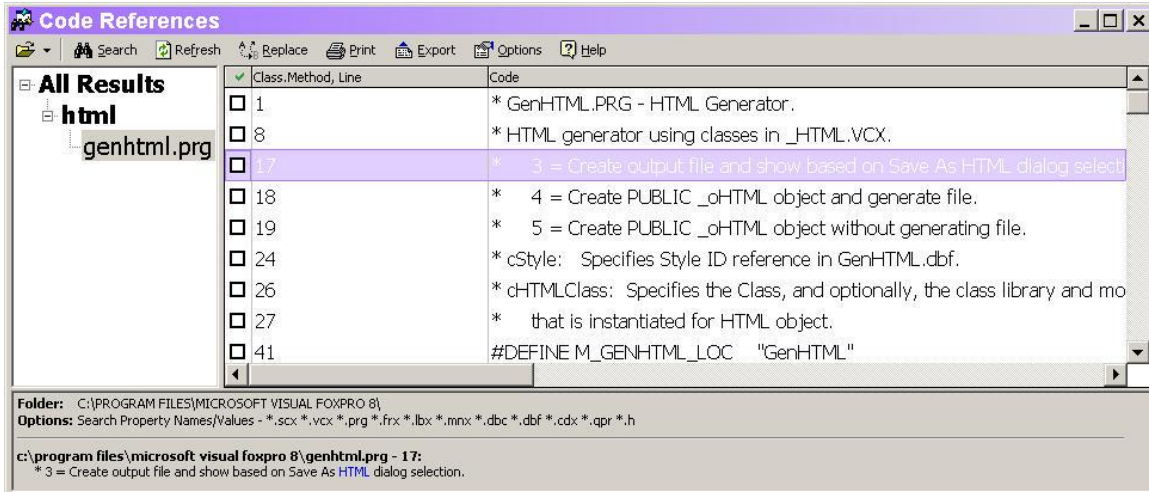


Figure 2 Code References—This window shows you the searches you've performed and their results.

This window is divided into several panes. The left pane lists all the searches you've performed in the current project or in folders (at any time, you see one project or all folder searches). The right pane shows the details of found items. As you drill into a search in the left pane, you see the individual files where the search string was found.

Click on a file in the left pane and the right pane shows only the matches for that file. Double-click a file in the left pane to open it, using the appropriate editor. (This works even for non-VFP files, opening the appropriate application.) Double-click on a match in the right pane and the file opens with that match highlighted.

Code References also offers replace capability. Check one or more items in the right pane and then choose Replace from the button bar or the context menu. The dialog shown in Figure 3 appears. Specify the replacement string and options, and click Replace to begin replacements.

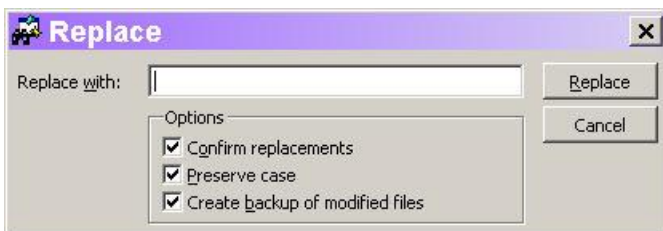


Figure 3 Replacing matched items—When you choose Replace, this dialog appears to let you specify the replacement string.

The Code References tool isn't capable of changing things like property values; if the list of checked items includes anything it can't replace, you get a warning before the Replace dialog. If Confirm replacements is checked, a confirmation dialog appears for each item to be replaced.

When all the replacements have been processed, a replacement log is added to the left pane of the Code References window. For each checked item, the log shows the original text and, if it was replaced, the new text. If the item couldn't be replaced, the log shows the change that should be made manually. If you chose to skip the item in the confirmation dialog, the log indicates that.

Code References also provides the engine for a new item on the context menu in code editing windows. View Definition takes the highlighted string and searches for the point in code where it was defined. It's an easy way to find out where a class, constant or variable was defined, or to quickly get to the code for a method or function.

Code References has many more capabilities, including some ways for you to extend its functionality. It's worth spending a couple of hours (or even days) experimenting with this great new tool.

-Tamar